

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)	
)	
WATER QUALITY STANDARDS AND)	R08-9 Subdocket D
EFFLUENT LIMITATIONS FOR THE)	(Rulemaking – Water)
CHICAGO AREA WATERWAY SYSTEM)	
AND LOWER DES PLAINES RIVER)	
PROPOSED AMENDMENTS TO 35 ILL.)	
ADM. CODE 301, 302, 303, and 304)	

NOTICE OF FILING

TO:

John Therriault, Clerk
 Illinois Pollution Control Board
 James R. Thompson Center
 100 West Randolph Street, Suite 11-500
 Chicago, IL 60601

Marie Tipsord, Hearing Officer
 Illinois Pollution Control Board
 James R. Thompson Center
 100 West Randolph Street, Suite 11-500
 Chicago, IL 60601

Persons included on the attached Service List

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Pollution Control Board the STEPAN COMPANY'S RESPONSES TO COMMENTS OF OTHER STAKEHOLDERS ON POLLUTION CONTROL BOARD'S PROPOSED RULE, FIRST NOTICE, a copy of which is herewith served upon you.

STEPAN COMPANY

DATE: December 12, 2014

/s/ Thomas W. Dimond
 Thomas W. Dimond

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CERTIFICATE OF SERVICE

I, the undersigned, certify that on this 12th day of December 2014, I have served electronically the attached STEPAN COMPANY'S RESPONSES TO COMMENTS OF OTHER STAKEHOLDERS ON POLLUTION CONTROL BOARD'S PROPOSED RULE, FIRST NOTICE, and NOTICE OF FILING upon the following person:

John Therriault, Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street, Suite 11-500
Chicago, IL 60601

and by U.S. Mail, first class postage prepaid, to the following persons:

Marie Tipsord, Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street, Suite 11-500
Chicago, IL 60601

The participants listed on the attached
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/s/ Thomas W. Dimond

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
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WATER QUALITY STANDARDS AND) R08-9 Subdocket D
EFFLUENT LIMITATIONS FOR THE) (Rulemaking – Water)
CHICAGO AREA WATERWAY SYSTEM)
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PROPOSED AMENDMENTS TO 35 ILL.)
ADM. CODE 301, 302, 303, and 304)

**STEPAN COMPANY'S RESPONSES TO COMMENTS OF OTHER STAKEHOLDERS
ON POLLUTION CONTROL BOARD'S PROPOSED RULE, FIRST NOTICE**

Stepan Company ("Stepan"), by and through its attorneys, Ice Miller LLP, submits the following Responses to Comments of Other Stakeholders on the Pollution Control Board's ("Board") proposed rule, *In the Matter of: 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*, R08-9(D), Proposed Rule, First Notice, Opinion and Order of the Board (Sept. 18, 2014) (hereafter, "*First Notice*").

While Stepan does not agree with all the Board's findings or proposals, we do appreciate the efforts of the Board and its staff in evaluating an enormous record and preparing a *First Notice* proposal with significant explanation of the reasons for its conclusions and proposals. That has been enormously helpful in directing our comments on the proposals.

Stepan has actively participated in this proceeding since its inception. The changes in numeric and narrative water quality criteria proposed by the Illinois Environmental Protection Agency (the "Agency") and those proposed by the Board in the *First Notice* could significantly impact Stepan. In particular, Stepan's Millsdale plant discharges to the water segment commonly referred to in these proceedings as the Upper Dresden Island Pool ("UDIP"), which is a segment of the Lower Des Plaines River ("LDPR"). Changes to the water quality criteria for that segment

could impact the permit conditions applicable to Stepan's discharge. In addition, upstream discharges into the Chicago Area Waterway System ("CAWS") Aquatic Life Use ("ALU") A and B waters will flow downstream to the LDPR and UDIP potentially impacting Stepan's ability to qualify for mixing zones or other options to the imposition of water quality criteria as numeric limits in its discharge permit. Consistent with its participation in these proceedings, Stepan submitted comments on the Board's *First Notice* proposed amendments to the applicable regulations. A number of other participants in this rulemaking filed comments on the *First Notice* as well, and Stepan responds to some of those comments here.

I. Responses to Comments on Proposed Chlorides Criteria

A. Stepan Supports the Agency's Proposal to Establish a Separate Subdocket for Chloride Criteria Issues.

In the *First Notice*, the Board adopted a criterion for chlorides throughout the CAWS and LDPR (500 mg/L), except for site-specific acute (990 mg/L) and chronic (620 mg/L) criteria applicable to the Chicago Sanitary and Ship Canal ("CSSC"). *First Notice*, 232, 246-47. The Agency correctly observes that this approach does not address the real cause of chloride issues in the CAWS and LDPR. Comments of the Illinois Environmental Protection Agency on the Illinois Pollution Control Board's Subdocket D First Notice Opinion, Public Comment 1415, 7-11 (Nov. 21, 2014) (hereafter, "*Agency PC 1415*"). As the hearing testimony amply demonstrated, that cause is the widespread use of salt for de-icing roads during winter months. *First Notice*, 201. Indeed, even in the CSSC, evidence in the record demonstrates that exceedances of the proposed site-specific chronic criterion and acute criterion may occur. *See e.g. First Notice*, 185 and 196 (acknowledging that exceedances are likely and that no solution to road de-icing impacts on water quality is feasible in the foreseeable future); Agency Statement of Reasons, Attachment W, Table 8 (Oct. 26, 2007) (2005 and 2006 chloride data collected by the

MWRD showing a maximum chloride reading of 671 mg/L at Location 92 in the CSSC); Pre-filed Testimony of James E. Huff, P.E., Attachment 2 (Nov. 22, 2013) (chloride data in the CSSC showing 20 exceedances of the proposed site-specific chronic criterion, including 4 consecutive results in February 2008, and 2 exceedances of the proposed site-specific acute criterion). For these reasons, the Agency and other participants have requested that the Board open a separate subdocket to address chloride criteria issues. The Agency specifically requests that the Board open a separate subdocket and retain the 1,500 mg/L total dissolved solids criterion until new chloride criteria are adopted and/or that the Board adopt a two-year delayed effective date for the 500 mg/L criterion. *Agency PC 1415*, 11.

Although the Board stated that the record contained sufficient information to adopt chloride water quality criteria, Stepan respectfully disagrees. In this instance, ample testimony shows the criteria proposed by the Agency and by the Board in the *First Notice* cannot be complied with for reasons that are almost entirely beyond the control of the Agency or the dischargers to whom the criteria may be applied. Indeed, the Board acknowledged that “as long as it snows and water freezes on the roadways in this highly urbanized watershed, chloride will continue to be used for road safety in the foreseeable future.” *First Notice*, 197. The Illinois courts have held that the Board may adopt technology-forcing standards in certain circumstances. But, the validity of such standards depends, in part, on the availability of variances or other site-specific or discharger-specific relief. *Granite City Div. of National Steel Co. v. Illinois Pollution Control Board*, 155 Ill. 2d 149, 183 (1993). Further, a standard for which there is no foreseeable means of compliance is valid only if “absolutely necessary to protect the public . . .” *Id. quoting Monsanto Co. v. Pollution Control Bd.*, 67 Ill. 2d 276, 293

(1977). In the absence of the possibility of such relief, the Board's authority to adopt standards with which compliance is not technically feasible is, at best, unclear.

In this proceeding, the Board has acknowledged that the availability of variances under the Illinois Environmental Protection Act for chlorides (or indeed for any pollutant) is "problematic" in light of the new, stringent requirements of the United States Environmental Protection Agency ("USEPA") for variances. *First Notice*, 216. Presumably, USEPA would apply the same requirements to adjusted standards or site-specific rules, as those are in the nature of variances under the federal scheme. Specifically as to chloride variances, the Board recognized that "it is unclear how the NPDES permitted point-source dischargers that participated in this subdocket would implement an effective compliance plan or show feasible progress when the exceedances of the proposed chloride water quality standards would be due to [sic] mainly to dischargers who discharge only storm water, such as non-point sources and municipal separate storm sewer systems." *Id.*, 197. Moreover, the Board has failed to explain, or even consider, why a 500 mg/L criteria for chloride is "absolutely necessary" to protect the public. The lack of any absolute necessity for this criteria at this time is especially true given the Agency's on-going efforts to obtain a water body wide variance. In this light, all three proposed chloride water quality criteria could well be overturned on appeal and the creation of a subdocket to more fully consider these issues is surely the wisest course.

Stepan can understand the Board's reluctance to open a new subdocket and extend the length of this already unprecedented rulemaking. But, that reluctance must be weighed against the likelihood that the proposed chloride criteria will be overturned on appeal, will impose irrational and unjustified burdens on NPDES dischargers who are not the cause of the chloride problem, and will do nothing to materially improve the winter chloride conditions of the CAWS

and LDPR. Considering all the circumstances and the support of the Agency for an approach that actually will address the problem, the better course is to open the new subdocket and allow the participants and other stakeholders to develop an approach that will improve chloride conditions.

B. The Site-Specific Chloride Criteria Proposed for the CSSC Should Not Be Extended to All CAWS Waters.

While Stepan has concerns that the higher site-specific chloride criteria proposed by the Board for the CSSC may impact the ability of downstream waters to comply with the proposed general chloride criterion, it does not oppose the site-specific chloride criteria proposed for the CSSC. The proposed site-specific criteria do not provide an enforcement shield to upstream dischargers who may be contributing to a violation of proposed criteria applicable to downstream waters. *Cf. In the Matter of: Petition of Commonwealth Edison Company for Adjusted Standard from 35 Ill. Adm. Code 302.211(d) and (e)*, AS 96-10, (Oct. 3, 1996) (granting an adjusted standard from General Use thermal criteria for discharges into waters then designated for Secondary Contact and Indigenous Aquatic Life uses).

The Metropolitan Water Reclamation District of Greater Chicago (“MWRD”) comments that the proposed site-specific chloride criteria for the CSSC should be applied to all CAWS waters. Metropolitan Water Reclamation District of Greater Chicago’s Comments on First Notice Opinion and Order, Public Comment 1416, 1-2 (Nov. 21, 2014) (hereafter, “*MWRD PC 1416*”). Expanding the applicability of the proposed site-specific chloride criteria would only exacerbate the potential chloride impacts of upstream dischargers on the LDPR and other downstream waters. Accordingly, Stepan opposes this proposed extension of the site-specific criteria.

II. Response to Comments on Proposed Temperature Criteria

A. Stepan Supports Midwest Generation's Proposal for a Subdocket to Address Thermal Criteria for the CAWS and LDPR waters.

As with chloride criteria issues, the hearing testimony and subsequent comments have not led to a satisfactory resolution of what thermal criteria are appropriate for the waters of the CAWS and the LDPR. Midwest Generation has proposed the creation of a separate subdocket to further address the appropriate thermal criteria for the CAWS and LDPR waters. Midwest Generation, L.L.C.'s Comments on the Illinois Pollution Control Board's First Notice and Opinion in Subdocket D, Public Comment 1418, 34-36 (Nov. 21, 2014) (hereafter, "*MG PC 1418*"). While the reasons for taking this approach are different than for chlorides, Stepan agrees that the Board should establish a separate subdocket for thermal issues and retain the current numeric thermal criteria in Section 302.408 until the completion of proceedings in that subdocket.

The establishment of appropriate thermal criteria for the UDIP is an issue with particular repercussions for Stepan. As Stepan's expert witnesses testified, complying with the Agency's proposed thermal criteria is projected to require capital costs of \$1,640,000 and annual operating costs of \$1,300,000. Hearing Ex. 318, 8. Even the Board's proposed 60° F criterion for the winter months of December through March is lower than the range of temperatures necessary to maintain a healthy biomass (activated sludge) for the reduction of biological oxygen demand in its effluent. Hearing Ex. 318, 4 (for effective biological treatment, wastewater temperatures should be consistently above 70° F). Thus, even the Board's proposed numeric criteria will require substantial capital and operating expenditures to achieve compliance, especially during the winter months.

From the *First Notice*, it is readily apparent that the Board proposed grafting the General Use (“GU”) numeric thermal criteria onto the other criteria for the UDIP, CAWS ALU A and ALU B waters as a last resort. In the Subdocket (D) hearings and pre-*First Notice* comments, not a single participant favored applying the GU numeric temperature criteria to the CAWS and LDPR waters. The Agency and the Environmental Groups advocated generally lower criteria; Midwest Generation and others, including Stepan, advocated generally higher thermal criteria than the GU numbers.

Stepan concurs with the decision not to adopt the proposals of the Agency and the Environmental Groups. The Board acknowledged that “significant concerns” were raised as to the “methodology and science” underlying those thermal proposals. *First Notice*, 205. In contrast, the Board’s objections to Midwest Generation’s proposals are actually not supported by the record. For example, the concern that the *in situ* collection of fish species was in thermally impacted waters, *First Notice*, 210, apparently misunderstands the evidence. In fact, the collection evidence relied upon by Midwest Generation included areas below the I-55 bridge, which comply with GU thermal criteria and are not thermally impacted. *MG PC 1418*, 12-13. Those collections demonstrated the absence of significant populations of thermally sensitive species, such as white sucker and walleye, from the LDPR below the I-55 bridge. *Id.* That evidence, in turn, supports the conclusion that those fish species would not be expected in the UDIP, above the I-55 bridge, for reasons other than its thermal condition and supports the exclusion of those species from a UDIP representative species list. Thus, the Board’s proffered reasons for rejecting Midwest Generation’s proposals are inconsistent with the record. And, that also undermines the Board’s basis for adopting the GU numeric criteria, for which no supporting evidence was presented.

The Board may not be required to support its conclusions with any “given quantum of evidence,” *Granite City Div. of National Steel Co.*, 155 Ill. 2d at 180, but that does not mean it can justify a regulation based on reasoning that is contradicted by the evidence of record. Indeed, when an agency “offers an explanation for its decision which runs counter to the evidence before the agency, or which is so implausible that it could not be ascribed to a difference in view or the product of agency expertise,” the agency action is arbitrary and capricious and invalid. *See Waste Mgmt. of Illinois, Inc. v. Pollution Control Bd.*, 231 Ill. App. 3d 278, 284-85 (1st Dist. 1992) quoting *Greer v. Illinois Housing Development Authority*, 122 Ill. 2d 462, 505-06 (1988). Thus, the proposed application of the GU numeric criteria to the CAWS and LDPR waters may well be arbitrary and capricious.

The Board’s proposal of numeric temperature criteria for the UDIP that are generally the same as those applicable to GU waters is also inconsistent with many of the Board’s statements on the aquatic life potential and uses of the UDIP. In designating a distinct ALU for the UDIP, the Board found “that the UDIP cannot fully meet the CWA [Clean Water Act] [aquatic life] goal.” *In the Matter of: 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*, R08-9(C), Proposed Rule, Second Notice, Opinion and Order of the Board, 55 (Nov. 21, 2013). Indeed, the Board’s decision to adopt the distinct definition of UDIP Aquatic Life Use Waters, 35 Ill. Adm. Code 303.230, rather than including it as a GU water made “clear that the Board’s decision is that the UDIP does not presently fully attain the CWA aquatic use goal.” *Id.* The Board also rejected the temperature criteria proposed by the Agency and the Environmental Groups because they “would result in the application of more stringent

standards to waters designated for the protection of lower aquatic life use than the General Use waters,” which “would be inappropriate.” *First Notice*, 204.

The same reasoning that makes the Agency’s and the Environmental Groups’ numeric thermal proposals inappropriate also makes application of the GU numeric thermal criteria inappropriate for the UDIP. The Board has acknowledged that the aquatic life in the UDIP (and the CAWS ALU A and B waters, too) is lower and does not have the same potential as GU waters. In that context, it does not make sense to apply the same thermal criteria to the CAWS and LDPR waters as apply to GU waters. While the Board has expressed some concern that long-term thermal discharges may be impacting aquatic life in the CAWS and the LDPR, *First Notice*, 210, it cited no evidence to support that conclusion. Beyond the lack of evidence for the Board’s concern, the record actually contains evidence that the thermal conditions in the UDIP are not impacting the aquatic life species that choose to inhabit the UDIP. The thermally sensitive species identified by the Board as being of concern, white sucker and walleye, have not even established resident populations in the GU waters immediately downstream of the I-55 bridge and the UDIP, which are not thermally impacted. *See* Midwest Generation L.L.C.’s Post-Hearing Comments, Public Comment 1403, Attachment D, Table 1E (Apr. 30, 2014) (hereafter “*MG PC 1403*”) (over 9 years, EA reported the collection of only 11 white sucker and one walleye in the Lower Dresden Pool). The logical conclusion from this data is that temperature is not the limiting factor for these fish to occupy the UDIP in significant populations.

Stepan understands the Board’s reticence at adopting thermal criteria that were not the subject of testimony or cross-examination. *First Notice*, 210. But, that concern applies equally to the application of the GU thermal criteria to the CAWS and LDPR waters, which was also not the subject of testimony or cross-examination. The coincidence of the timing of the Edison

Mission Energy (“EME”) bankruptcy and the sale of the Midwest Generation plants to NRG Energy with the Board’s hearings in Subdocket (D), *see MG PC 1418*, 2-3, is unfortunate. That coincidence has as much to do with the Board’s division of this rulemaking into subdockets and the order in which those subdockets were addressed as EME’s bankruptcy. No one is to blame for the unfortunate coincidence of timing, but it is hardly a reason for the Board to grasp at a default set of thermal criteria that received no support at hearing. The Board is under no deadline or imperative to adopt new thermal criteria, and even without new thermal criteria, the remainder of the Board’s *First Notice* proposal will significantly strengthen the water quality criteria applicable to the CAWS and the LDPR.

The better course is to send the participants back to the drawing board to better support their proposals. The Agency and Environmental Groups may try to bolster the scientific evidence that the Board found wanting, and Midwest Generation and possibly others may likewise provide additional support for their proposals and have them subject to cross-examination. As we said with regard to chlorides, the Board’s reluctance to extend this rulemaking is understandable. But, in fairness, it should be acknowledged that Subdocket (C) only became active in October 2010 and Subdocket (D) only truly became active in May 2013 with the Agency’s submission of a revised regulatory proposal. In that context, opening a new subdocket so that the Board can adopt well-supported thermal criteria rather than unsupported, default criteria makes abundant sense.

An additional reason to open a new subdocket is the lack of any effective regulatory relief for Stepan and other dischargers with thermal issues. Mixing zones, variances or other site-specific or discharger-specific relief is just as likely to be unavailable for temperature as for chlorides. The Environmental Groups speculate that Midwest Generation’s closures of Crawford

and Fisk and the announced changes to Will County and Joliet operations will obviate the compliance concerns of Stepan, ExxonMobil and other downstream dischargers. *See* Environmental Groups' First Notice Comments, Public Comment 1422, 4 (Nov. 21, 2014) (hereafter, "*EGs' PC 1422*"). This is an uneducated guess that would only be made by a participant with no real skin in the game. If the Environmental Groups were responsible for complying with these thermal criteria, they could not be so cavalier. Beyond that, the Environmental Groups' speculation is contradicted by the comments of Midwest Generation which state that they still expect operations at Will County and/or Joliet to have difficulty complying with the GU numeric criteria proposed by the Board. *MG PC 1418*, 3.

What is most frustrating about this speculation is that the Environmental Groups' commitment to lower thermal criteria is, in reality, not very great and inherently biased. When it comes to the thermal characteristics of the single largest discharger to the CAWS and LDPR, the Environmental Groups' position is that the "MWRD should not have to cool its effluent" *EGs' PC 1422*, 3. But, when it comes to all other dischargers (apparently even other municipal dischargers), the Environmental Groups recommend thermal criteria that would require massive investments to cool the discharges below the MWRD discharge temperatures. Nothing in the Clean Water Act sanctions such an approach. The record before the Board does not establish that it is "absolute necessary," *Granite City Div. of National Steel Co.*, above, to make the GU numeric criteria apply to the CAWS or the LDPR to protect the public. Indeed, the Environmental Groups' concession that MWRD need not cool its effluent fairly establishes that no necessity exists at all. This is yet another reason why a separate subdocket is warranted to address the thermal criteria for the CAWS and LDPR waters.

B. The Proposal to Include the Narrative GU Criteria As Applicable to the CAWS and LDPR Waters Should Either Be Rejected or the Narrative Criteria Should Be Modified to Reflect the Effluent-Dominated Nature of the CAWS and LDPR Waters and to Entirely Parallel the GU Criteria.

The Agency, Region 5 and the Environmental Groups asked the Board to augment the numeric thermal criteria proposed for the CAWS and LDPR waters with narrative criteria equivalent to the GU narrative criteria at 35 Ill. Adm. Code 302.211 (b) – (d). In brief, the GU narrative criteria sought by these participants prohibit “abnormal temperature changes that may adversely affect aquatic life” (302.211(b)), require the maintenance of “normal daily and seasonal temperature fluctuations which existed” before thermal discharges “due to other than natural causes” (302.211(c)), and limit the maximum temperature rise “above natural temperatures” to 5° F (302.211(d)). This position assumes that the CAWS and LDPR waters have been designated as GU waters, which is simply not true and thus the position should be rejected.

The addition of these GU narrative criteria to the thermal criteria for the CAWS and LDPR waters is inconsistent with the Board’s finding that these waters are effluent-dominated. *See e.g. In the Matter of: 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, R08-9(C), Proposed Rule, First Notice, Opinion and Order of the Board, 38, 211 (Feb. 21, 2013).* These three narrative criteria applicable to GU waters are all worded with the understanding that they apply to natural water bodies that have “normal . . . temperature fluctuations” or “natural temperatures.” That is not the case with the CAWS and LDPR waters. The effluent-dominated waters of the CAWS and LDPR are the opposite of natural waters – particularly as regards thermal characteristics. There are no “natural temperatures” or “normal daily and seasonal temperature fluctuations.” There is only the rather consistent discharge of

treated wastewater by the MWRD which sets the CAWS and LDPR thermal regime. *See* Agency Statement of Reasons, Attachment A at 2-81 (Use Attainability Analysis sponsored by the Agency for the LDPR found the temperature of effluents determines the base temperature of the river more so than it having a natural temperature). And, this distinction is recognized in the use designations for the CAWS and LDPR waters. *See e.g.* 35 Ill. Adm. Code 303.230(a) (UDIP waters are capable of supporting aquatic life “adaptive to the unique flow conditions necessary to maintain navigational use and upstream flood control functions of the waterway system”); 35 Ill. Adm. Code 303.235(b) (CAWS ALU B waters capable of supporting aquatic life “adaptive to unique physical conditions and modifications of long duration, including artificially constructed channels consisting of vertical sheet-pile, concrete and rip-rap walls designed to support commercial navigation, flood control, and drainage functions in deep draft, steep-walled shipping channels.”) For this reason, there is no factual support in the record for the Board to apply these narrative criteria to the CAWS and LDPR waters. Moreover, the speculation that the numeric thermal criteria proposed in the *First Notice* could not be approved by USEPA ignores the distinction the Board has drawn between GU waters and the aquatic life uses for the UDIP, CAWS ALU A and CAWS ALU B waters.

Stepan wants to make clear that application of the GU narrative criteria is unjustified and unsupported by the record and would be arbitrary and capricious. Stepan does not support the inclusion of those narrative criteria. Nonetheless, if the Board determines to add these narrative criteria to proposed Section 302.408, there are certain changes that should be considered. First, the GU numeric criteria apply “at representative locations in the main river . . .” 35 Ill. Adm. Code 302.211(e). If the GU narrative criteria are to be made applicable to the CAWS and LDPR, then proposed Section 302.408(b) must also be modified to include parallel language to

that quoted above from 302.211(e). So, proposed Section 302.408(b) would need to be modified to say “Water temperature at representative locations in the main river shall not exceed the maximum limits in the applicable table in subsections (~~bc~~), (~~ed~~) and (~~de~~)¹, below . . .” Second, language in each of the narrative criteria must be changed to recognize that not all CAWS and LDPR waters have identical ALUs and to delete concepts such as “natural temperatures,” which do not apply. Language should be substituted consistent with the effluent-dominated nature of the CAWS and LDPR waters and the aquatic life use designations previously adopted by the Board. So, for example, the Board might modify the GU narrative criteria in a manner similar to the following:

- b) There shall be no abnormal temperature changes that may adversely affect aquatic life for the aquatic life use designated in Part 303 unless caused by natural conditions.
- c) The normal daily and seasonal temperature fluctuations which existed before the addition of heat due to other than natural causes shall be maintained.
- d) The maximum temperature rise above ~~natural~~ ambient temperatures shall not exceed 2.8° C (5° F).

Again, Stepan does not advocate the application of such narrative criteria, even as modified above, to the CAWS and LDPR waters, but offers these suggestions to the Board if it decides to proceed notwithstanding Stepan’s opposition.

C. The Board Should Retain the Excursion Hours Provisions Associated with the Proposed Numeric Thermal Criteria.

Proposed Section 302.408(b) includes an excursion hours provision that allows the numeric criteria specified in the tables in the following subsections to be exceeded not more than one percent of the hours during any 12-month period ending with any month. *First Notice*, 234.

¹ As Stepan has commented elsewhere, the subsection references in proposed Section 302.408(b) need to be corrected for the addition of subpart (a) regarding Bubbly Creek.

Region 5's position on this excursion hour provision is unclear. It opposed the inclusion of the excursion hour provision in the Agency's regulatory proposal, at least where excursions would be above the upper incipient lethal temperature ("UILT"). United States Environmental Protection Agency, Region 5, Specific Comments on the Subdocket D First Notice for Water Quality Standards in the Chicago Area Waterway System and Lower Des Plaines River, Public Comment 1414, 4 (Nov. 20, 2014) (hereafter, "*Region 5 PC 1414*") (incorporating Region 5's Public Comment 1404, Enclosure 1 at 2 (Apr. 30, 2014)). Yet, it said nothing directly about proposed Section 302.408(b) or the equivalent excursion hour provision in the GU numeric criteria, *see* 35 Ill. Adm. Code 302.211(e), on which proposed Section 302.408(b) was based. The Environmental Groups oppose the excursion hours over summer maximums in either the Agency proposal or the current GU thermal criteria (and Stepan assumes by extension the proposed Section 302.408 numeric criteria). *EGs' PC 1422*, 4.

The ability of fish to avoid short-term exceedances of even maximum limits has been well-established in the testimony and other evidence before the Board. *See e.g. First Notice*, 50, 101, and 149. This supports the inclusion of an excursion hours provision as a general matter. The Agency has also generally supported excursion hours provisions for the same reasons. Moreover, there is some uncertainty as to what the UILT is for any particular designated water use – both because different water uses imply different representative species and because the UILT for any given species is uncertain. *See e.g. First Notice*, 162 (noting that fish species were collected in the field at temperatures in excess of the upper avoidance and lethal temperatures recommended by Mr. Yoder). The fact that fish species were collected in the field at temperatures in excess of predicted UILTs calls into question the validity of the data relied upon to estimate the UILT. While Stepan would prefer the creation of a new subdocket to further

consider the appropriate thermal criteria for the CAWS and LDPR waters, if the Board proceeds to Second Notice with the numeric criteria in proposed Section 302.408, then there is ample justification in the record for including an excursion hours provision.

III. Stepan Supports the Board's Proposed Section 309.141(i) With Some Clarifying Amendments.

A. Proposed Section 309.141(i) Should Be Expanded to Apply to any Pollutant and to Authorize Best Management Practices if Authorized By Clean Water Act Section 304(e).

Several participants comment that proposed Section 309.141(i) should not be limited to chlorides but should apply to any pollutant. This would be consistent with 40 C.F.R. 122.44(k), which the Board used as the template for the proposed Section 309.141(i), and Stepan supports that modification to the proposed section.

In addition, the federal best management practices ("BMP") provision contains a clause allowing BMPs as permit conditions if authorized under Clean Water Act Section 304(e) as to toxic pollutants or hazardous substances from ancillary industrial activities. 40 C.F.R. 122.44(k)(1). Stepan suggests that proposed Section 309.141(i) should be modified to include corresponding language authorizing the Agency to use BMPs if authorized by Clean Water Act Section 304(e). This would make the proposed Section 309.141(i) fully consistent with the federal regulation. This may be particularly important for industrial dischargers that have combined wastewater and storm water discharges. As proposed by the Board, Section 309.141(i) allows BMPs if authorized by Clean Water Act Section 402(p), which could be interpreted to apply only to discharges composed entirely of storm water. Including a subsection in proposed Section 309.141(i) referencing the authority under Clean Water Act 304(e) would alleviate that potential limitation and provide relief for discharges of combined wastewater and storm water.

Each of the changes described above could be made to Section 309.141(i), as proposed by the Board, or as proposed to be modified by Citgo. *See* Comments of Lemont Refinery With Respect to First Notice Opinion and Order of September 18, 2014, Public Comment 1417, 6-7 (Nov. 21, 2014).

IV. Responses to Comments on Proposed Section 302.407 Regarding Criteria for Specific Chemical Constituents.

A. Copper: Comments Advocating Use of USEPA's 2007 National Criteria Document to Set Criteria for the CAWS and LDPR Should be Rejected.

Both Region 5 and the Environmental Groups ask the Board to rely on USEPA's 2007 national criteria document ("NCD") and its biotic ligand model ("BLM") to adopt acute and chronic criteria for copper. As the Agency correctly observes, it does not have all the necessary data to use the BLM and believes that implementation of use of the BLM on a state-wide basis is more appropriate. *Agency PC 1415*, 5. As proposed by the Agency and now the Board in the *First Notice*, the copper criteria for the CAWS and the LDPR would be based on the same hardness-formula used in USEPA's 1995 NCD for copper. This also continues to be the basis for the GU copper criteria in Illinois. Stepan concurs with the Agency that the copper criteria for the CAWS and the LDPR should be based on the same NCD as currently provides the basis for the GU criteria and should not be based on an untried model for which the Agency does not have complete supporting data.

B. Cyanide: Comments Advocating A Lower Chronic Criterion Are Unsupported by the Evidence.

The Environmental Groups "question," *EGs' PC 1422*, 8, the chronic water quality criterion of 10 µg/L proposed by the Agency and by the Board in the *First Notice* because it was calculated excluding rainbow trout from the site-specific species list. Region 5 raised no objection to the proposed chronic cyanide criterion. *Region 5 PC 1414*. Further, the exclusion

of rainbow trout from a site-specific species list for the ALU A, ALU B and UDIP waters is amply justified. In developing site-specific species lists for these waters, neither Mr. Yoder nor the Agency included rainbow trout. *See* Exhibit 15, Table 1; Exhibit 2, 11-12 (Pre-Filed Testimony of Scott Twait). While we have not reviewed every exhibit with fish collection data, none that we have reviewed (e.g., Exhibit 28 and *MG PC 1403*, Attachment D, Tables 1E and 1F) mention the collection of rainbow trout in the CAWS or LDPR (or even nearby downstream waters) and we do not recall concerns being raised at hearings regarding the need to protect for rainbow trout in the CAWS or LDPR. Accordingly, the Environmental Groups' concern about the derivation of the proposed chronic cyanide criterion is unfounded, and the *First Notice* proposed value should be adopted.

C. Benzene: Comments Advocating Use of USEPA's 2002 or 2014 National Criteria Document to Set the Human Health Criterion for the CAWS and LDPR Should be Rejected.

The Agency proposed and the Board proposed in the *First Notice* a human health criterion for benzene of 310 µg/L, noting that none of the CAWS or LDPR waters are designated as public water supplies. *First Notice*, 19, 232. This criterion is the same as applies to GU waters. *See* 35 Ill. Adm. Code 302.208(f). The Environmental Groups comment that the human health numeric criterion for benzene should be either 51 µg/L or 23 µg/L based on USEPA's 2002 or 2014 NCDs, respectively. While Region 5 had initially raised similar concerns, those were not raised in its comments prior to the *First Notice*. *First Notice*, 177. The Environmental Groups did not raise these issues at hearing or even in their *pre-First Notice* comments. *See* Environmental Groups' Post-Hearing Comments on Subdocket D, Public Comment 1407 (April 30, 2014) and Environmental Groups' Response to Post Hearing Comment on Subdocket D, Public Comment 1412 (May 14, 2014). Raising these issues in response to the *First Notice* does not provide the Board an adequate justification to change the proposed criterion in the *First*

Notice. Further, there is no adequate justification for adopting a criterion for the CAWS and LDPR waters that is more stringent than the criterion applied to GU waters. If the benzene human health criterion should be revised based on recent NCDs, then it should be undertaken on a state-wide basis.

D. Selenium: Comments Advocating A Lower Criterion Are Based on Uncertain Science and Should Not Be Adopted Given the Imminent Issuance of Further National Guidance.

The Agency proposed and the Board also proposed in the *First Notice* a selenium criterion of 1.0 mg/L. *First Notice*, 232. This is identical to the criterion applicable to GU waters. 35 Ill. Adm. Code 302.208(g). Region 5 asked the Board to set a criterion of 0.005 mg/L total recoverable selenium based on USEPA's 1987 NCD. *Region 5 PC 1414*, 5. The Environmental Groups observed that USEPA will publish a new selenium NCD in 2015, but did not ask the Board to adopt the criterion suggested by Region 5. Instead, the Environmental Groups suggested that the Agency should begin measuring selenium in water bodies throughout the state, plan on introducing a proposal in 2016 and carefully review selenium discharges under current anti-degradation requirements. *EGs' PC 1422*, 7. Both the Agency and the Board acknowledged the lower national criterion but observed that the science underlying it was in question. *First Notice*, 181. Given these uncertainties and the pending revision of national criterion recommendations for selenium, adopting a criterion for the CAWS and LDPR that is substantially more stringent than that applicable to GU waters is unjustified. If the criterion for selenium is to be revised, the effort should be undertaken on a state-wide basis.

V. Other Toxic Substances: Any Revisions to Proposed Section 302.410 Should Include Language that Recognizes that all CAWS and LDPR Waters Are Not Subject to the Same Designated Uses.

The Board proposed the following heading and introduction language for proposed Section 302.410:

Section 302.410 Substances Toxic to Aquatic Life

Any substance or combination of substances toxic to aquatic life not listed in Section 302.407 shall not be present in amounts toxic or harmful to human health, aquatic life or wildlife; except for South Fork of the South Branch of the Chicago River (Bubbly Creek) where the substance shall not exceed one half of the 96-hour median tolerance limit (96-hour TL_m) for native fish or essential fish food organisms.

First Notice, 236. The function of this proposed section is to make the CAWS and LDPR waters subject to the Procedures for Determining Water Quality Criteria in Part 302, Subpart F that establishes procedures for deriving numeric criteria for pollutants not otherwise specifically listed.

Both the Agency and Region 5 comment on this language. They requested a change to the section title and to other language to more closely parallel Section 302.210, which is the analogous provision applicable to GU waters. They also requested that the first sentence to proposed Section 302.410 be revised to delete the phrase "toxic to aquatic life." *Region 5 PC 1414, 4; Agency PC 1415, 16-18 (items J), R) and T)).* Stepan does not generally object to the changes suggested by the Agency and Region 5, except that they do not specify that the criteria to be derived must take into account the Board's designated use of the waters at issue. Section 302.210, applicable to GU waters, does not have any such language but does not need it because all GU waters are designated for the same uses. In contrast, the waters of the CAWS and LDPR have different human/recreational uses and different ALUs. Water quality criteria to be derived pursuant to proposed Section 302.410 and its incorporation of Subpart F procedures must take into account the differing designated uses of the waters to properly derive criteria. In other words, for any particular toxic substance, the human health criterion for Primary Contact Recreation Waters, 35 Ill. Adm. Code 303.220, could well be different than for Non-Contact Recreation Waters and Non-Recreational Waters, 35 Ill. Adm. Code 303.227, because the two

designated uses protect different levels of human exposure to the water. This distinction between the GU category and the CAWS and LDPR categories requires slightly different regulatory language.

If the Board chooses to retain the basic structure of proposed Section 302.410 in the *First Notice*, then Stepan recommends that it be revised to read as follows (additions to the Board's *First Notice* proposal are double underscored):

Section 302.410 Substances Toxic to Aquatic Life

Any substance or combination of substances toxic to aquatic life not listed in Section 302.407 shall not be present in amounts toxic or harmful to human health, aquatic life or wildlife, taking into account the uses of the water as designated in Part 303; except for South Fork of the South Branch of the Chicago River (Bubbly Creek) where the substance shall not exceed one half of the 96-hour median tolerance limit (96-hour TL_m) for native fish or essential fish food organisms.

If the Board chooses to adopt the changes suggested by the Agency and Region 5, which appear to be identical, then Stepan recommends that the suggested language of the Agency and Region 5 be revised as follows (Agency/Region 5 changes to the Board's *First Notice* are double underscored and in strikethrough; Stepan's additional changes are double underscored in bold and italics):

Section 302.410 ~~Substances Toxic to Aquatic Life~~Other toxic substances

Any substance or combination of substances toxic to aquatic life not listed in Section 302.407 shall not ~~be present in amounts toxic or harmful to human health, aquatic life or wildlife; except for South Fork of the South Branch of the Chicago River (Bubbly Creek) where the substance shall not~~ exceed one half of the 96-hour median tolerance limit (96-hour TL_m) for native fish or essential fish food organisms in the South Fork of the South Branch of the Chicago River (Bubbly Creek). All other Chicago Area Waterway System and Lower Des Plaines River waters as designated in Part 303 shall be free from any substance or combination of substances in concentrations toxic or harmful to human health, or to animal, plant or aquatic life, *taking into account the uses of the water as designated in Part 303*. Individual chemical substances or parameters for which numeric standards are specified in this Subpart are not subject to this Section.

VI. Ammonia: Comments Advocating Use of USEPA's 2013 National Criteria Document to Set the Water Quality Criteria for the CAWS and LDPR Should Be Rejected.

Both Region 5 and the Environmental Groups ask the Board to rely on USEPA's 2013 NCD for ammonia to adopt lower acute and chronic numeric criteria for ammonia than proposed by the Agency and by the Board in the *First Notice*. As the Agency correctly observes, compliance with the acute and chronic criteria derived from the 2013 NCD is a nation-wide problem that caused USEPA to convene a stakeholder's conference to review implementation issues with the 2013 NCD at the end of October 2014. *Agency PC 1415*, 4-5. Moreover, using the 2013 NCD to derive numeric criteria for the CAWS and LDPR would almost certainly impose more stringent criteria for those waters than currently apply to the GU waters, which the Board has repeatedly said would be inappropriate because of the generally lower aquatic life uses in the CAWS and LDPR waters. *See above*, 8. Stepan concurs with the Agency that the ammonia criteria based on the 2013 NCD should be addressed on a state-wide basis and in conjunction with any implementation guidance or NCD modifications arising from the national stakeholders conference.

VII. Region 5 Proposals to Change or Eliminate Sampling Requirements from the CAWS and LDPR Water Quality Criteria Should Be Rejected.

Region 5 comments that the Board should revise a number of particular sections to eliminate language referring to duration and frequency or sampling requirements from the water quality numeric criteria. *Region 5 PC 1414*, 1-2. These comments are essentially the same as previously submitted by Region 5, *see First Notice*, 111-112; Region 5 Public Comment 1404, Enclosure 1, 6-7, and Stepan previously responded to these comments explaining why none of them were justified or supported by USEPA guidance or other considerations. *First Notice*, 165-67; Response of Stepan Company to Subdocket D Comments of Other Stakeholders, Public

Comment 1411, 15-19 (hereafter, “*Stepan PC 1411*”). The Board did not adopt any of Region 5’s suggestions as to proposed Sections 302.407(b) (sampling related to chronic criteria) or 302.407(c)² (sampling for human health criteria). Stepan supports the Board’s decision not to adopt the Region 5 suggestions because (1) the changes would introduce inconsistencies between the proposed rules for the CAWS and LDPR and essentially identical existing rules applicable to GU and/or Lake Michigan Basin waters; (2) the elimination of sampling requirements from water quality criteria is not supported by USEPA guidance; and (3) other states within Region 5 also include sampling requirements in their water quality criteria. *Stepan PC 1411*, 15-19, including n. 3.

Region 5 also presses its argument that the sampling period specified in proposed Section 302.407(b) should be “any period of four days” rather than “any period of at least four days,” as proposed by the Board (and as applies to GU waters, *see* 35 Ill. Adm. Code 302.208(b)). Region 5’s preference for restricting the sampling period to four days is puzzling, and the Agency provided no support for such a change in its testimony. The Board is amply justified in rejecting this proposal because of the lack of an explanation for the change and because it would introduce an inconsistency between the otherwise essentially identical requirements applicable to GU and to CAWS and LDPR waters.

In the latest comments, Region 5 also argues for the deletion of proposed Section 302.405(e)(3) (sampling requirements for dissolved oxygen) for essentially the same reasons. In prior comments, Region 5 had mentioned 302.405(e)(3)³ but had not made a specific proposal. *See Stepan PC 1411*, 22. Region 5’s arguments for deleting proposed subsection (e)(3) are not

² USEPA seems to have erroneously referred to this as Section 302.407(d). *Region 5 PC 1414*, 2. The language attributed to subsection (d) actually appears in proposed Section 302.407(c).

³ Section 302.405(e)(3) in the Board’s *First Notice* had been Section 302.405(c)(3) in the Agency’s proposed language that was the basis for the prior public comments.

supported for the same reasons as noted above in connection with proposed Sections 302.407(b) and (c). In particular, proposed Section 302.405(e)(3) is identical to the dissolved oxygen assessment requirements applicable to GU waters, *see* 35 Ill. Adm. Code 302.206(d)(3), which were adopted in 2008. Thus, Region 5's comment provides no coherent justification for deleting subsection (3) from proposed Section 302.405(e).

Region 5 also argued for the elimination of the last two sentences of proposed Sections 302.412(d)(2) and (3) related to ammonia. *Region 5 PC 1414, 2*. Those sentences essentially require sampling representative of a 30-day average. As with Region 5's requests described above in this section, adopting Region 5's suggestion would make the proposed rules for the CAWS and LDPR different from their GU counterparts. The last two sentences in proposed Sections 302.412(d)(2) and (3) are identical, except for cross-references, to the GU criteria for ammonia at 35 Ill. Adm. Code 302.212(c)(2) and (3).

As to all the Region 5 changes discussed in this Section VII, any change to this aspect of the criteria should be undertaken on a state-wide basis with a more detailed explanation of the reason and significance of the change.

VIII. Miscellaneous Other Comments

As to proposed Section 302.408(e), Stepan observed in its initial comments on the *First Notice* that the cross-reference to subsection (a) should be to subsection (b). Stepan Company's Comments on Pollution Control Board's Proposed Rule, First Notice, Public Comment 1419, 4-5 (Nov. 21, 2014). In addition, if retained, proposed Section 302.408(e) should be further revised to correct the reference to 35 Ill. Adm. Code 303.237. *See also Agency PC 1415, 16* (in agreement). There is no Section 303.237 and that reference should be to the definition of UDIP Aquatic Life Use waters, which is at 35 Ill. Adm. Code 303.230. Accordingly, if retained, proposed Section 302.408(e) should be amended to substitute a reference to 35 Ill. Adm. Code

303.230 for the reference to 35 Ill. Adm. Code 303.237 and to substitute a reference to subsection (b) for the reference to subsection (a).

CONCLUSION

Stepan appreciates the efforts of the Board and its staff to review the proposals and extensive record presented in Subdocket D and the opportunity to review and respond to the comments of other stakeholders on the Board's *First Notice*. Stepan disagrees with some of the Board's conclusions and proposals in the *First Notice* related to the appropriate numeric criteria to be applied to the Upper Dresden Island Pool and reserves the right to challenge those numeric criteria if finally adopted by the Board. Stepan requests that the Board consider its responses to the comments of other participants as set forth above.

STEPAN COMPANY

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