

**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  
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 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 RESPONSE OF STEPAN COMPANY TO SUBDOCKET D  
 COMMENTS OF OTHER STAKEHOLDERS, a copy of which is herewith served upon you.

STEPAN COMPANY

DATE: May 14, 2014

/s/ Thomas W. Dimond  
 \_\_\_\_\_  
 Thomas W. Dimond

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**CERTIFICATE OF SERVICE**

I, the undersigned, certify that on this 14th day of May 2014, I have served electronically the attached RESPONSE OF STEPAN COMPANY TO SUBDOCKET D COMMENTS OF OTHER STAKEHOLDERS, 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  
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The participants listed on the attached  
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/s/ Thomas W. Dimond  
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**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

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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 )

**RESPONSE OF STEPAN COMPANY  
TO SUBDOCKET D COMMENTS OF OTHER STAKEHOLDERS**

Stepan Company ("Stepan") appreciates the opportunity to provide this Response to Subdocket D Comments of other Stakeholders to the Illinois Pollution Control Board ("Board") in Subdocket D of this regulatory proceeding on proposed water quality criteria and standards for the Chicago Area Waterway System ("CAWS") and Lower Des Plaines River ("LDPR").

**I. Introduction**

In accordance with the order of the Hearing Officer, a number of stakeholders filed public comments ("PCs") on April 30 related to the Subdocket D issues. A number of the comments relate to matters impacting the proposed water quality criteria for the Upper Dresden Island Pool ("UDIP"), which is the receiving water for Stepan's Millsdale plant discharges. The following represents Stepan's responses to these PCs. In general, we will cite to the comments by the sequential number assigned to each PC by the Board and using a parenthetical to identify the stakeholder who submitted the PC when it is not clear from the text.

**II. The Temperature Alternatives Proposed by Midwest Generation Are Scientifically Supported and Take Into Account the Actual Condition of the UDIP.**

In its comments, Stepan argued that the Illinois Environmental Protection Agency's ("Agency") proposed thermal standards were lacking in scientific basis because they were more

stringent than General Use temperature criteria that apply to waters of higher biologic condition and potential. PC 1405, 8-12. As alternatives, Stepan argued that applying either the General Use numeric criteria or the Adjusted Standard 96-10 temperature criteria, while perhaps not a perfect fit, were at least more justified than the Agency's proposed criteria.

Midwest Generation presents two additional approaches to establishing temperature criteria for the UDIP prepared by EA Engineering, Science and Technology, Inc. ("EA"). The 2007 EA report (Hearing Exhibit 368) contains significant scientific support for its proposed standards for the UDIP. The report makes the following significant points:

- United States Environmental Protection Agency ("EPA") guidance on deriving numeric criteria emphasizes the importance of high quality field studies.
- The database approach of Midwest Biodiversity Institute and Chris Yoder ignores field data, and his particular database has important inaccuracies. In fact, in many instances the data in Mr. Yoder's database has been demonstrated by EA to be inaccurate or unsupported by the literature cited by Mr. Yoder. Exhibit 368, 10-11; PC 1403, Attachment A.
- By looking at its own sampling data, EA demonstrated that many fish species were found in the field at temperatures in excess of the upper avoidance and even lethal temperatures posited by Mr. Yoder's database. Exhibit 368, 13. For example, EA collected white sucker in the field at 32°C even though Mr. Yoder reported upper lethal and upper avoidance temperatures for that species of 31.5°C and 28.7°C. *Compare* Exhibit 368, 13 *with* Exhibit 15, Appendix Table 1F, p 64. This real-world data demonstrates that the temperature limits derived from Mr. Yoder's database are not a sound scientific basis for setting water quality standards.
- Statistical analyses of the IWBmod (the index of well being, modified) and the species richness component of the IBI (index of biotic integrity) for 814 sampling events over more than a decade of fish sampling in the Dresden Pool, which includes the UDIP, demonstrate that the fish community in the UDIP is not significantly impacted until temperatures exceed 90°F. EA applied two different statistical approaches to the data producing essentially similar results. Exhibit 368, 6-8.

Based on these and other analyses, EA proposed that thermal criteria for the UDIP be set at a monthly average of 90°F with a maximum daily average temperature of 93°F. These proposals are well-supported by over a decade of high quality field data that EPA guidance favors.

Accordingly, adopting water criteria for the UDIP based on this EA proposal would be consistent with the Clean Water Act and EPA would have no basis to disapprove it. *See* Section VII, below.

Likewise, the EA 2003 report contains important analyses and comparisons of the historic fish sample data for the UDIP and the General Use waters below the I-55 bridge.

Important findings from this work included the following:

- Catch rates of important fish species were not materially different between the Dresden Pool (the General Use waters below the I-55 bridge) and the Secondary Contact waters of the UDIP. This suggests that the Secondary Contact standards for temperature had no material impact on the fish community. PC 1403, Attachment D, 43 and Table 3.
- Ohio EPA IBI scores for fish in the General Use waters below the I-55 bridge are only marginally better than those in the UDIP and the small differences are primarily attributable to off-channel areas present below the bridge. *Id.*, Attachment D, 44-45 and Figures 4-6.

Based on our review of the various temperature proposals for the UDIP, we would rank them as follows:

1. The EA 2007 proposal of a 90°F monthly average criteria with a 93°F maximum daily average, which is scientifically supported by substantial field data and analyses and would maintain a balanced, indigenous aquatic life community.
2. The EA 2003 proposal of daily maximums and period averages. *See* PC 1403, Attachment D, 65-66 and Table 5.
3. The AS96-10 standards currently applicable at the I-55 bridge, which the Board has previously found to be protective of the environment. PC1405, 7.
4. The General Use numeric standards at 302.211(e), but without the related narrative standards for natural and seasonal temperatures, which are not scientifically justified as shown by the EA field data or relevant to an effluent-dominated waterway.

The proposals of Region 5 and the Environmental Groups are not scientifically supported as detailed in the following sections.

**III. The Temperature Criteria Supported by the Agency, Region 5 and the Environmental Groups Are Lacking in Scientific Basis.**

A. The Agency and Region 5 Proposal Lacks Scientific Justification.

Both the Agency and the EPA-Region 5 ("Region 5") suggest that the temperature criteria for the UDIP should be equal to the Agency-proposed criteria for waters that the Board has designated as aquatic life use A ("ALU-A"). The temperature criteria proposed for ALU-A are more stringent than the General Use numeric standards. As Stepan pointed out in its initial comments, adopting those numeric criteria for the UDIP would disregard the logical approach of adopting less stringent criteria for lower quality waters – an approach the Agency followed for non-temperature criteria. Thus, applying the ALU-A criteria to the UDIP would be arbitrary and capricious. Region 5 offers no scientific justification for its position, only its recommendation. *See* PC 1404, 8. The Agency offers a little more – but really a very little. *See* PC 1401 (seven pages on temperature which only describe the Agency's proposal with no citations to specific hearing testimony or supporting scientific evidence). The Agency's post-hearing comments were nothing more than a restatement of its nearly seven-year old Statement of Reasons and ignored all the evidence brought forth at hearing that undermined the basis for its proposal.

Key among that evidence was the evidence that Chris Yoder's vaunted temperature "model" was seriously flawed. For starters, it is not a model. In usual environmental parlance, a model is a set of mathematical equations that attempt to accurately predict real world conditions based on data inputs and scientifically known or approximated relationships. Mr. Yoder's approach to deriving thermal criteria uses no equations. His – let's generously call it a method -- is really just a database of literature-derived values (mostly from laboratory experiments) of temperature-related impacts to various fish species. It is not even a very good database. It has never been quality assured, and as EA pointed out to the Agency as long ago as 2007, Mr.

Yoder's database has numerous errors. *See* Exhibit 386, 11; *see also* PC 1403 (Midwest Generation), Attachment A.

In fact, one of its most significant data points for setting criteria in the UDIP, the upper incipient lethal temperature ("UILT") for the white sucker species, is now reported by EA not even to be found in the literature article that Mr. Yoder cited. PC 1403 (Midwest Generation), § IV.B.1, pps 13-14. Moreover, the only scientific article that Mr. Yoder produced to attempt to support his UILT value for white sucker indicates that the test fish were acclimated at temperatures of 15 and 21°C. Exhibit 24, p. 1019. These acclimation temperatures are lower than the range Mr. Yoder testified would be appropriate for deriving acute thermal values for the UDIP, *see* HT 1/30/08, 223, and so the UILT values from Exhibit 24 are not appropriate for use in setting acute thermal values in this rulemaking. Given the importance of this single value, it is particularly disturbing that the Agency blindly relied on Region 5's hired gun, Mr. Yoder, and never conducted any independent review of his sources. HT 3/12/08, 10 (Mr. Twait stating the Agency looked at no chronic effects data; it relied on Mr. Yoder) and 71 (Mr. Smogor stating that he did not review any data on white sucker other than Mr. Yoder's report).

Beyond the error's in Mr. Yoder's database, his method of using it to derive thermal water quality criteria is not in accordance with EPA guidance. That guidance indicates that criteria should be set to protect the aquatic community, as a whole, not "all species at all times". *See* Pre-Filed Testimony of Lial F. Tischler, 37-38 (quoting Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and their Uses, Office of Research and Development, USEPA, PB85-227049 (Jan. 1985)). In furtherance of this approach, EPA guidance indicates that criteria should be set so as to protect 95% of a representative community. *Id.* Mr. Yoder's approach violates this principle by deriving a criteria based on a single, most-sensitive species.

Mr. Yoder also made questionable judgments about what species to designate as representative of the UDIP. He included the white sucker, even though it represents merely 0.05% of the fish in the UDIP and the 5-mile stretch below the I-55 bridge, only the 40<sup>th</sup> most common species. *See* Exhibit 367 (summarizing fish sampling data for over a decade). Similarly, other cool water species included by Mr. Yoder in his list, e.g., the northern pike and walleye, are rarely found in the UDIP, *id.* (5 northern pike and 10 walleye caught in over a decade, collectively about 0.01%), the 5-mile stretch below the I-55 bridge classified as General Use, *see* Exhibit 19, Table 1 (1 northern pike and 1 walleye collected from 1994-2002, collectively 0.004%) or even in the General Use waters downstream of the Dresden lock and dam. *See* Exhibit 19, Table 2 (3 northern pike and 1 walleye collected in 6 years or a collective 0.026%). The undisputed fact that these species are so rarely found in General Use waters below the UDIP demonstrates that it is not the temperatures in the UDIP that are the limiting factor. Given how infrequently these species are found in the UDIP, and even in the General Use waters downstream of the UDIP, including them as representative species for the UDIP has no scientific basis. *See also* PC 1403 (Midwest Generation), § IV.B. 2 at pps 16-17.

If corrected for improper inclusion of representative species and failure to apply EPA's 95<sup>th</sup> percentile approach, Mr. Yoder's method, while still suspect, produces a more reasonable result. By eliminating white sucker, northern pike and walleye, a representative species list of 24 emerges in which the three most sensitive species on the lethal endpoint, emerald shiner, bluntnose minnow and freshwater drum, are also considered by EA to be representative species for the UDIP. *See* PC 1403 (Midwest Generation), Attachment D, 41. Protecting to the 95<sup>th</sup> percentile would base the acute criteria on the 23<sup>rd</sup> most sensitive species, which would be the bluntnose minnow at 32.4°C. *See* Exhibit 15, Appendix Table 1F (page 64) (column for the UILT). Through Mr. Yoder's method, as followed by the Agency, that value would convert to a

daily maximum of 90.3°F and a summer period average of 86.7°F. Those values are still lower than appears necessary to actually protect the species in the UDIP, *see* Section II above, but they are at least not as overly restrictive as those proposed by the Agency and Region 5 based on Mr. Yoder's faulty assumptions and data.

Beyond this specific evidence undermining Mr. Yoder's conclusions, there are the broader concerns about how EPA's and Region 5's control and direction of his work, and that of the Agency, influenced the outcome. Even though his work was supposed to help the Agency adopt water quality standards for Illinois, Mr. Yoder and Region 5 apparently had a number of communications and meetings that excluded the Agency. *See* Exhibit 37, email dated Mar. 18, 2004 from Peter Howe (EPA) to Linda Holst (EPA) copied to other EPA personnel but to no one at the Agency (Howe thanking Holst for setting up February 23, 2004 meeting with Mr. Yoder and noting that he had lowered his previous recommended temperature criteria). Other emails indicate that Region 5 felt it needed to "concur" with Mr. Yoder's recommendations before they could be finalized, that Region 5 had already identified "preferred temperatures," and that Region 5 staff wanted to protect certain "cool water species." *Id.*, email dated Nov. 20, 2003 from Peter Howe (EPA) to Allen Melcer (EPA) again copied to others at EPA but to no one at the Agency. It also seems that Region 5 was more concerned with the effect of Mr. Yoder's work on water quality standards in other states than with adopting scientifically-based standards for Illinois. *Id.*, email dated July 9, 2004 from Peter Howe (EPA) to Allen Melcer (EPA) (stating that "these temperatures [*sic*] [i.e., those in Mr. Yoder's report] would create chaos in other thermal proceedings underway and could bring into question existing temperature standards throughout the Region and nationally"). These emails further undermine the credibility of Mr. Yoder's work and demonstrate its lack of scientific basis on key points.

The Agency's and Region 5's proposed non-summer period averages also suffer from significant shortcomings. While the Agency indicated that it intended to set the non-summer period averages to reflect normal seasonal variations, *Agency Statement of Reasons ("SOR")*, 83; Exhibit 2, 13 (Prefiled Testimony of Scott Twait), they chose an unjustified and unsupported background station that does not reflect background for the UDIP. *See* PC 1405 (Stepan), 13-14. Further, by setting the proposed period averages exactly at what the Agency believes the background is, they effected a significantly tougher numeric temperature standard than applies to General Use waters in Illinois. *See* 35 Ill. Adm. Code 302.211(d) (maximum temperature rise over background limited to 5°F). To avoid being more restrictive than General Use, any non-summer period average limitation for the UDIP or other CAWS water should be at least the background temperature plus 5°F.

Both Region 5, PC 1404, 2, and the Environmental Groups, PC 1407, 8-9, oppose the Agency's proposed 2% annual allowed excursion hours (up to 3.6°F) for the proposed daily maximum temperatures. The Agency supported this excursion provision by noting that fish species readily avoid short-term temperature increases, and the studies by EA demonstrate that fish are found in the field at temperatures that exceed supposed UILT and upper avoidance values taken from literature and laboratory test conditions. Exhibit 368, 12-13. Region 5 offers no scientific response. It merely "questions" the scientific basis for the Agency's conclusion, which is hardly enough for Region 5 to disapprove the Agency proposal. *See* Section VII, below.

The Environmental Groups at least argue that excursions above the daily maximums could harm fish, but they do so relying on the same faulty analyses and data of Mr. Yoder while ignoring real world data showing that fish acclimate and survive at temperatures above those predicted in laboratory experiments. They also complain that if all 2% of the hours were used

consecutively, then fish could be exposed to temperatures above the daily maximum for as much as 7.3 consecutive days. PC 1407, 6. While the Agency's proposed excursion hours rule is appropriate and scientifically justified, one way to partially address the concern of the Environmental Groups would be to revise the excursion provision so that it applies to 2% of the hours in any month. That would limit the potential consecutive hours of exceedance of the maximum temperatures to 29.8 hours (i.e., if the exceedance occurred at the end of one 31-day month and stretched into the next 31-day month).

B. The Environmental Groups' Proposal Is Even More Extreme and Lacking in Scientific Justification.

The Environmental Groups proposed thermal standards for the UDIP that are even more extreme than those advocated by the government agencies. Their proposal is entirely lacking in scientific justification. Neither Illinois law nor the Clean Water Act justifies such an approach.

The Environmental Groups first make an inapt comparison between the proposed temperature criteria for the CAWS and LDPR segments and the existing criteria for the Ohio River. This comparison is justified, so they say, because "no one claims the Ohio River, which has numerous dams, much barge traffic and horrible chemicals coming from W.Va., is anything like a pristine water . . ." PC 1407, 6. With the hope that the Environmental Groups have paid their libel insurance premiums, it should be said that the State of Ohio disagrees. Ohio describes its namesake river as "designated warmwater habitat, public water supply, agricultural water supply, industrial water supply and bathing waters, and will meet the most stringent criteria set forth in, or derived in accordance with , this rule . . ." O.A.C. § 3745-1-32 (emphasis supplied). Thus, the Ohio River is more like Illinois' public and food processing water supply waters. It certainly cannot be compared to waters that either do not meet the Clean Water Act goals, 35 Ill.

Adm. Code 303.235(a)(2) and (b)(2) (ALU-A and ALU-B waters) or (at least by the Agency's reckoning) barely attain them. HT, 4/23/08, 33-34.

The Environmental Groups' first and most egregious error comes in suggesting a daily maximum temperature for the UDIP of 85.1°F. The fundamental problem is that their proposal is based on the discredited work of Mr. Yoder. The Environmental Groups call him an "expert." He did not check his literature sources and could not produce literature sources backing up some of his key data. He apparently used data collected under acclimation conditions that he admits were not appropriate for the waters at issue. He ignored massive amounts of field data because his paymaster did not want that reviewed, HT 1/30/08, 84-85, and he cannot explain replicable procedures by which his method can be applied. *See* PC 1403 (Midwest Generation), § IV.A and B. Those are not the decisions of an expert.

The Environmental Groups' next mistake is applying a 2°C downward adjustment to an already faulty daily maximum limit. Mr. Yoder testified that such an adjustment was merely a rule of thumb for converting an acute thermal limit value to a chronic value. HT 2/1/08, 156-57. The Environmental Groups try to rescue this approach by referencing Colorado's adoption of a 2°C safety factor. But, Colorado's adjustment has no application here because it was applied to UILTs "derived using acclimation temperatures typical of summertime in Colorado above the lower optimum temperature for all species that are expected to be present" and "calculated using the 95<sup>th</sup> percentile of species-specific acute values." PC 1407, Attachment 3, p 1 and Attachment 4, p 6. Mr. Yoder did not use the 95<sup>th</sup> percentile approach. *See* § III above. And, he did not apply his database so as to only use UILTs derived using acclimation temperatures typical of Illinois summers. Quite the opposite, the evidence is that many of the values included in Mr. Yoder's database were from a source where the acclimation temperature was less than the 25-30°C that Mr. Yoder testified was appropriate for the UDIP. *See* PC 1403 (Midwest

Generation), fns. 32 and 41; *see also* Exhibit 24, p. 1019 (article supposedly relied upon by Mr. Yoder for white sucker UILT value indicates test organisms were acclimated at 15 and 21°C).

The Environmental Groups compound the problem when they adjust their daily maximum down by another 2°C to come up with a summertime average temperature. They say this is supported by the testimony of both Mr. Yoder and Mr. Twait, but their citations to the record are only to the testimony of Mr. Yoder<sup>1</sup> and what he said was that the 2°C adjustment was appropriate to convert a UILT acute survival value to a chronic survival value. We found nothing in the record indicating that either Mr. Yoder or Mr. Twait testified that a UILT acute survival value should be subject to a compounded 4°C downward adjustment to protect for chronic survival. And, the 1986 Gold Book does not advocate that approach either. The Environmental Groups also suggest the 4°C adjustment is needed to protect non-survival endpoints predicted by Mr. Yoder. PC 1407, 11. Those endpoint values in his database are just as suspect as the survival endpoints. *See e.g.* PC 1403 (Midwest Generation), § IV.B.1, pps 12-13 (describing a value reported by Mr. Yoder as an optimum value for the eastern sand darter that was nothing more than the temperature of the Canadian stream at the time the specimens were captured). They provide no scientific support for the 4°C downward adjustment.

The Environmental Groups then propose daily maximums and period averages for the non-summer months based on background temperature data from Mr. Yoder's Table 5, Option E. PC 1407, 11-12. These values are based on the Route 83-Cal Sag Channel data, which represents only 18% of the flow to the LDPR and is not a representative background. *See* PC 1405 (Stepan), 13-14. What is worse, the Environmental Groups apparently gave no real consideration to the practical consequences of their proposed criteria for the non-summer

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<sup>1</sup> The Environmental Groups cited to HT 1/30/08 at 154-55 and HT 2/1/08 at 157. PC 1407, 11. On January 30, page 137 of the transcript clarifies that the witness testifying on pages 154-155 is Mr. Yoder. Likewise, on February 1, the question that led to the testimony regarding the 2°C adjustment beginning on page 156 clarifies that the witness testifying was Mr. Yoder.

months. They blithely say these values "are not likely to cause compliance problems for sewage treatment plants." PC 1407, 11. That statement is directly contradicted by the record. The MWRD provided Stickney plant effluent temperatures for 2001-2006. *See Agency SOR*, Attachment W, Table 1. The following table compares the 50<sup>th</sup> percentile temperature (i.e., half of the values are above and below this temperature) for Stickney's discharge from Attachment W to the Environmental Groups' proposed period averages for the non-summer months, with exceedances shaded.

Period	50 <sup>th</sup> Percentile of Stickney 2001-2006	Environmental Groups Proposed Average	Difference
Jan	52.5	38.4	-14.1
Feb	52.3	41.7	-10.6
Mar	52.5	47.0	-5.5
Apr 1-15	55.1	54.0	-1.1
Apr 16-30	58.7	57.3	-1.4
May 1-15	61.5	63.7	+2.2
May 16-31	64.0	65.1	+1.1
June 1-15	66.3	69.8	+3.5
Sept. 16-30	72.7	69.9	-2.8
Oct. 1-15	69.3	63.7	-5.6
Oct. 16-31	66.1	59.8	-6.3
Nov	62.8	53.0	-9.8
Dec	57.4	43.4	-14.0

Most of the proposed period averages are dramatically lower than the Stickney plant's 50<sup>th</sup> percentile temperature – seven by over 5°F. This comparison also shows that in 10 of the 13 non-summer periods the Stickney effluent would exceed the Environmental Groups' period average more than 50% of the time. Just as significant, for the months of December through February, the Stickney 50<sup>th</sup> percentile temperatures (57.4, 52.5 and 52.3, respectively) exceed the Environmental Groups' proposed periodic daily maximum (56.9, 46.6 and 51.7, respectively). So, in those months, Stickney would exceed the Environmental Groups' daily maximum at least 50% of the time.

We are entirely puzzled how the Environmental Groups can assert that sewage treatment plants will encounter no problems meeting their proposed period averages and daily maximums when it appears quite obvious that Stickney could not meet them on a regular basis. In fact, if these proposed period averages and daily maximums are adopted for the UDIP, it seems certain that the Stickney plant would be contributing to the exceedance of a water quality standard in the UDIP and would need to take steps to cool its discharge. Moreover, there is no data in the record, at least not that we recall and the Environmental Groups did not cite to any, as to the discharge temperature of other sewage treatment plants. So, the record before the Board is entirely devoid of any evidence to support the conclusion that sewage treatment plants will not find these period averages problematic. In fact, based on Stickney's discharge temperatures, the City of Joliet and other sewage treatment operators discharging directly to the UDIP would likely need to cool their discharges to comply with the Environmental Groups' proposed non-summer thermal standards.

The Environmental Groups are also wrong that their proposal is consistent with prevailing temperatures. The data for ambient temperatures at the Route 83-Cal Sag Channel monitoring station (the station that Region 5 argues is less thermally impacted and represents the best background station for the UDIP) would show substantial exceedances of the Environmental Groups' proposed period thermal standards. And, the data for the Route 83-Chicago Sanitary and Ship Canal monitoring station would show even more exceedances of the proposed period averages. The temperature data for these two stations is for nearly nine full years from Summer 1998 to June 2007 and appears in Exhibit 485 provided by Mr. Twait. It is summarized in the following chart. A comparison of that data for the non-summer months to the period averages proposed by the Environmental Groups reveals a consistent pattern of exceedances.

Period	Environmental Groups Proposed Average	Route 83-Cal Sag Temperature Data		Route 83-CSSC Temperature Data	
		High	Exceedances/ Yrs of Data	High	Exceedances/ Yrs of Data
Jan	38.4	42.4	3/9	53.7	9/9
Feb	41.7	42.5	1/9	52.4	9/9
Mar	47.0	51.7	1/9	58.4	9/9
Apr 1-15	54.0	55.8	2/9	62.2	9/9
Apr 16-30	57.3	59.7	5/9	62.9	7/9
May 1-15	63.7	66.0	2/9	69.1	6/9
May 16-31	65.1	68.0	4/9	71.9	7/8
Jun 1-15	69.8	73.4	3/9	76.9	6/8
Sept. 16-30	69.9	73.3	4/9	78.8	9/9
Oct. 1-15	63.7	66.3	3/9	73.4	8/8
Oct. 16-31	59.8	65.3	3/9	71.8	9/9
Nov	53.0	53.7	2/9	63.9	9/9
Dec	43.4	46.4	2/9	57.2	9/9

For the Route83-CSSC monitoring station, the Environmental Groups' proposed period averages would have been exceeded 106 times during the nine year period and even for the Route 83-Cal Sag Channel station there are a total of 35 exceedances in nine years. The data demonstrates that the Environmental Groups' period averages are not "consistent with prevailing temperatures that are uninfluenced by thermal discharges," PC 1407, 11, as they claimed.

For all these reasons, the Environmental Groups' proposed non-summer period maximums and averages for the UDIP lack a scientific basis and would impose massive cooling obligations on all dischargers. They cannot be adopted under state and federal law.

#### **IV. Cadmium.**

Region 5 urges adoption of the Agency's proposed water quality criteria for cadmium while admitting that the proposed criteria are almost certainly too restrictive. PC 1404, 2-3. Based on preliminary work, Region 5 concludes that the Agency's proposed acute cadmium criteria (4.35 µg/L at hardness of 50) is less than half what it should be (about 9 µg/L at hardness of 50) while the chronic criteria is too stringent by about 12% (the Agency's proposed 0.62 µg/L compared to Region 5's preliminary reassessment of 0.7 µg/L). *Id.* There are a few problems

with this argument. First, it is questionable that the Illinois General Assembly would want its state agencies to set a water quality criteria more stringent than what is required by federal guidance that will set the bar for what other states adopt. Second, once adopted as a water quality criteria, the cadmium values may be used as NPDES permit limits for some dischargers and the anti-backsliding rules will generally prevent any adjustment of those values once inserted in a permit. Third, adopted water quality criteria are borrowed by other programs as cleanup and remediation goals. For example, federal Superfund sites in Illinois routinely use the adopted water quality standards as "applicable, relevant and appropriate requirements" that must be attained and the same applies to sites being addressed through Illinois' Site Remediation Program. *See e.g.* 35 Ill. Adm. Code 742.320(f) and 742.805(a)(5).

For all of these reasons, it would be wiser for the Board to adjust the formula for the acute and chronic cadmium criteria to reflect the preliminary reassessment reported by Region 5. If there is no change in the preliminary analysis, then such a revised formula should be approvable under 40 C.F.R. 131.11(b)(1). If the preliminary analysis changes again, then the Board can address the issue in a later rulemaking, as anticipated by the triennial review process under the Clean Water Act.

**V. Region 5's Comments on Sections 302.407(b) and (c), 302.410 and 302.405(c)(3) Should Not Be Adopted.**

A. Region 5 Comments on Proposed Sections 302.407(b) and (c).

Region 5 included a number of suggestions on specific wording of particular regulations included in the proposed water quality standards under the heading "Miscellanea." *See* PC 1404, 6-9. Many of these suggestions are confusing and contradictory and threaten to introduce inconsistencies among different sections of Illinois' water quality standards. For those reasons, these changes should not be adopted -- at least not as part of this rulemaking.

One of the changes suggested by Region 5 is to modify the first sentence of proposed Section 302.407(b), which establishes sampling requirements for attainment of chronic water quality standards, by substituting "all samples" for "at least four consecutive samples" and substituting "over any period of four days" for "over any period of at least four days". *Id.*, 7. In the same vein, Region 5 asks the Board to modify proposed Section 302.407(c), which establishes sampling requirements for human health standards, by deleting the phrase "based on at least eight samples." *Id.*, 7-8.<sup>2</sup> The justification for these changes appears to be that including sampling requirements "within Illinois water quality standards themselves, rather than in a separate, unrelated section of Illinois' administrative code . . . suggests that the criteria's applicability is dependent on whether the requisite sampling requirements have been met," which Region 5 asserts would "[c]learly" be without scientific basis. *Id.*, 6. The scientific justification for these requirements is apparent after only a few moments of thought. Indeed, we are hard pressed to understand Region 5's logic, and in any event, it seems contradicted by EPA guidance and the history of the adoption and approval of water quality standards in Illinois.

EPA's Water Quality Standards Handbook (quoted in PC 1404 (Region 5) at 7) indicates that the averaging time for chronic standards should be four days and the fact that it is to be an average clearly implies that it is to include more than one sample. Likewise, the Handbook indicates that human health standards are derived assuming lifetime exposures, which means the exposure concentration should be representative of the lifetime exposure rather than exposure at the single point in time of a single sample. By removing minimum sampling requirements, Region 5's suggested modifications would allow a single sample to constitute a chronic or human health water quality standard exceedance if no other samples were collected. That is the position

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<sup>2</sup> These two suggestions are made somewhat confusingly under a heading "Mixing Zones" in Region 5's letter even though it seems to have nothing to do with mixing zones.

that lacks a scientific basis. Including minimum sampling requirements has a scientific basis because of the possibility of actual variability of the condition of the water (i.e., a single sample may not be representative of the four-day or long-term average of the water body).

Indeed, EPA's Handbook (yes, the very same one that Region 5 selectively quoted) states "[t]he quality of an ambient water typically varies in response to variations of effluent quality, stream flow, and other factors. Organisms in the receiving water are not experiencing constant, steady exposure but rather are experiencing fluctuating exposures, including periods of high concentrations, which may have adverse effects." Water Quality Standards Handbook, Section 3.1.2 (under heading "Duration for Aquatic Life Criteria") (<http://water.epa.gov/scitech/swguidance/standards/handbook/chapter03.cfm>, last visited May 10, 2014). Another justification for requiring more than one sample is the very real possibility of sampling error. That is just common sense – and surely science does not reject common sense. So, common sense and EPA's Handbook, as well as the recognition that these numeric criteria are intended to protect against chronic effects, is ample scientific justification for including the minimum sample requirements in proposed Sections 302.407(b) and (c).

In addition, Illinois' water quality standards for other waters already include similar language to that proposed for Sections 302.407(b) and (c). For example, the General Use water quality standards at 35 Ill. Adm. Code 302.208(b) and (c) contain identical language to that proposed for Sections 302.407(b) and (c). Likewise, the Lake Michigan Basin water quality standards also require that exceedances of chronic and human health water quality standards be shown by "the arithmetic average of at least four consecutive samples collected over a period of at least four days." 35 Ill. Adm. Code 302.504(a); *see also* 35 Ill. Adm. Code 302.504(d) and (e). These water quality standards have already been approved by EPA, so it is hard to understand why Region 5 would now say proposed Sections 302.407(b) and (c) should not use

the same previously approved language that has a scientific basis. If there is a problem with this language, it would be better addressed in a triennial review of all these provisions so that they can be addressed comprehensively and consistently.

Region 5 also suggests that the language of 302.407(b) should not use the phrase "at least four days" because that would make the chronic standard of "unlimited scope." PC 1404, 6. We are not even sure what that argument means. By saying, "at least four days," proposed Section 302.407(b) is merely clarifying that a 3-day average is not enough to show a violation of a chronic standard. The proposed language, which again is identical to language already approved in other Illinois water quality standards, simply ensures that the sampling must be representative of a four-day exposure, which is consistent with EPA's Handbook. *See* above.

One final consideration weighs against following Region 5's suggestion. It suggested that these sampling requirements should not be included in the water quality standards themselves but in a separate section of the Illinois administrative code. PC 1404, 6.<sup>3</sup> If the Board actually took that approach, then it would seem that the sampling requirements would not be part of what was submitted to EPA for approval as a water quality standard under Section 303(c) of the Clean Water Act. Given that EPA has elsewhere suggested that compliance schedules must be included in water quality standards, *see* Section VI below, it is hard to understand why Region 5 would want these sampling requirements to be outside the water quality standards and thus immune from their review and approval.

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<sup>3</sup> Region 5's position is particularly hard to understand because other states have sampling requirements included in their water quality standards. *See e.g.* 327 Indiana Adm. Code 2-1-6(d)(3) (E. coli bacteria sampling requirements) and 2-1.5-11 ("the definition of the toxic substance should include an operational analytical component" and "it is necessary to reference or describe the analytical method"); Mich. Adm. Code 323.1062 (compliance with E. coli standard requires minimum of five "sampling event," consisting of at least three samples per event, spread over 30 days); Wisc. Adm. Code NR 102.04(a) (fecal coliform based on not less than 5 samples per month).

Maybe they really did not mean that because, when all was said and done, they seemed to be alright with retaining the bulk of the sampling requirements in proposed Sections 302.407(b) and (c), so long as the Board adopts their suggestions. While we cannot read Region 5's mind, we are left with the conviction that they either did not consider this aspect of their suggestion or had some ulterior motive in mind that escapes us. In either event, Region 5's argument for adopting these changes to the proposed language of Sections 302.407(b) and (c) is (at the very best) muddled and lacking in any basis in the Clean Water Act.

Region 5 also suggested that proposed Section 302.407(c) be modified by adding the phrase "for substances that are not bioaccumulative" to the end of the clause that makes an exception for mixing zones. We have two problems with this suggestion. First, it would make proposed Section 302.407(c) inconsistent with its counterparts for General Use waters, 35 Ill. Adm. Code 302.208(c), and Lake Michigan Basin waters, 35 Ill. Adm. Code 302.504(a), (d) and (e). As above, if Illinois is to undertake this revision, it would be more appropriate to undertake it in a triennial review where the change can be comprehensively and consistently considered for all Illinois waters and where a justification for the change can be fully vetted and considered.

Second, Region 5's justification for this change does not actually support the change. Region 5 asks the Board to "ensure that mixing zones not result in lethality to organisms passing through the mixing zone or in significant human health risks considering likely pathways of exposure" while noting that Section 5.1.4 of the Handbook indicates that denial of a mixing zone should be considered when bioaccumulative pollutants are in the discharge. PC 1404, 7.

Even accepting Region 5's premises, its suggested addition to proposed Section 302.407(c) is overbroad. It would essentially disallow all mixing zones where bioaccumulative pollutants are involved without even considering the "likely pathways of exposure.," *Id.* That is not what the EPA Handbook advocates. The Handbook says "if mixing zones are allowed, a

State regulatory agency may decide to deny a mixing zone in a site-specific case. Careful consideration must be given to the appropriateness of a mixing zone where a substance discharged is bioaccumulative, persistent, carcinogenic, mutagenic, or teratogenic." Water Quality Standards Handbook, Section 5.1.4

(<http://water.epa.gov/scitech/swguidance/standards/handbook/chapter05.cfm>, last visited May 10, 2014) (emphasis supplied). Prohibiting mixing zones in all cases involving bioaccumulative substances is not the same as giving them careful, site-specific consideration.

The oddity of this suggested change by Region 5 is also apparent from the fact that its justification relates to mixing zones but its suggested change is not to the mixing zone regulations. While the mixing zone regulations make no specific reference to bioaccumulative pollutants, *see* 35 Ill. Adm. Code 302.102, they do contain provisions that disallow mixing zones in locations likely to have high human exposures, such as bathing beaches, bank fishing areas, boat ramps, endangered species habitat and intakes for public or food processing water supplies. 35 Ill. Adm. Code 302.102(b)(3), (4) and (5). Moreover, there is nothing in Section 302.102 that prevents the Agency from considering the bioaccumulative potential of a pollutant and the site-specific pathways of exposure in considering whether or not to grant a mixing zone in a particular instance. We trust that the Agency would do so and that if it did not, Region 5 would object to the issuance of the permit in which the mixing zone was included, as it may. *See Iowa League of Cities v. Environmental Protection Agency*, 711 F.3d 844, 857 (8th Cir. 2013) (EPA may veto any permit "incorporating what it views as an inappropriate mixing zone").

While it does not seem that any change is needed to Illinois' water quality standards to address this concern, if some change is warranted, it should be taken up in a separate proceeding addressed to the mixing zone regulations. Region 5's suggested language for proposed Section

302.407(c) is overbroad and is not justified by the Clean Water Act, good science or even EPA's Handbook. It should not be adopted.

B. Region 5 Comments on Proposed Section 302.410.

Both the Agency and Region 5 request that the introductory sentence to proposed Section 302.410 be revised to delete the phrase "toxic to aquatic life." PC 1401 (under the heading "Subpart F and Protection of Human Health for Fish Consumption"); PC, 1404, 9. We have no objection to this proposed change, but this introductory sentence needs further clarification because not all waters of the CAWS and LDPR covered by Subpart D have the same human/recreational uses. As proposed by the Agency and after removal of the phrase noted above, proposed Section 302.410 would read as follows:

Any substance or combination of substances not listed in Section 302.407 shall not be present in amounts toxic or harmful to human health, aquatic life or wildlife.

The function of proposed Section 302.410 is to make the CAWS and LDPR waters subject to the Procedures for Determining Water Quality Criteria in Part 302, Subpart F. Unlike General Use waters, which also must comply with Subpart F, the CAWS and LDPR have different designated uses for both human/recreational uses and for aquatic life. For that reason, it is appropriate that the introductory language to proposed Section 302.410 make clear that the application of Subpart F to the CAWS and LDPR waters must take into account those differing designated uses. Accordingly, we propose that the introductory sentence to proposed Section 302.410 be modified as shown below.

Any substance or combination of substances not listed in Section 302.407 shall not be present in a discharge in amounts toxic or harmful to human health, aquatic life or wildlife, taking into account the designated use of the receiving water.

C. Region 5 Comments on Proposed Sections 302.405(c)(3).

Region 5 seems to suggest that it is concerned with proposed Section 302.405(c)(3) that sets requirements for assessing the attainment of dissolved oxygen standards for reasons similar to those raised as to proposed Sections 302.407(b) and (c). *See* PC 1404, 6. But, after raising the concern, Region 5 never makes a specific suggestion as to how it would modify the subsection of the dissolved oxygen rule, except perhaps its broad admonition that sampling requirements should be removed from the water quality standards. *Id.* Perhaps the Board is as perplexed by this as we are and intends to ignore Region 5's unfulfilled suggestion – not out of disrespect, but the press of other business. As to Region 5's suggestion for removing proposed Section 302.405(c)(3) entirely, that is unwise for the same reasons that it would be unwise to entirely remove proposed Sections 302.407(b) and (c). *See* 18-19 above. The General Use dissolved oxygen standard contains assessment requirements, *see* 35 Ill. Adm. Code 302.206(d), and we see no convincing reason why the dissolved oxygen standard for the CAWS and LDPR waters should not.

**VI. The Board Should Insert a New Section Into the Water Quality Standards Formally Incorporating its NPDES Permit Schedule of Compliance Regulation as a Water Quality Standard.**

Last September, EPA proposed certain revisions to its water quality standard regulations. Part of the proposed rule would require that state authorizations for schedules of compliance for implementing water quality-based effluent limits in NPDES permits be adopted as part of the state's water quality standards and submitted to EPA for review under Clean Water Act Section 303(c)(3). *See* Water Quality Standards Regulatory Clarifications, 78 Fed. Reg. 54518, 54536-37 and 54545 (Sept. 4, 2013). Supposedly this proposal is based on EPA's reading of an Administrator decision from nearly 25 years ago. *Id.* at 54536-37.

That decision, *In the Matter of Star-Kist Caribe, Inc.*, 3 E.A.D. 172, 1990 WL 324290 (Apr. 16, 1990), does not support EPA's current proposed regulatory change. *Star-Kist Caribe* announced the somewhat unremarkable proposition that EPA could not lawfully issue a permit containing a compliance schedule authorizing a discharge that would not currently meet a state water quality standard unless the state allowed such compliance schedules in "the water quality standard itself (or the State's implementing regulations) . . ." *Id.* The principle being that EPA was bound by state law when issuing permits for discharges in a state and could have no greater or different authority than the state. Nothing in *Star-Kist Caribe* indicated that a state regulation allowing compliance schedules needed to be part of a state's water quality standards or needed to be approved by EPA under Section 303(c)(3). Quite to the contrary, the Administrator's decision indicated that a state's compliance schedule regulation could either be part of its water quality standards or in a separate implementing regulation. And, in the proposed rule, EPA even acknowledges that regulations authorizing compliance schedules may be in a state's NPDES permitting regulations. 78 Fed. Reg. at 54537.

Why EPA should insist, 40+ years into implementation of the Clean Water Act, that states submit their compliance schedule regulations for approval under Section 303(c)(3) is anything but clear. Illinois, and presumably most other states, adopt compliance schedule regulations as part of their NPDES permit regulations and EPA already has an opportunity to review and approve those regulations. *See* 40 C.F.R. 123.1 and 123.25 (to be approvable, a state program for NPDES permitting "must have legal authority to implement each of the following provisions," which includes Section 122.47(a), Schedules of Compliance). The proposed rule could make sense for states and tribes that do not have NPDES permitting programs, but for states like Illinois, EPA is just conducting a duplicate review and approval.

Despite the dubious basis and reasoning for the new requirement, EPA seems determined to move ahead. In that light, it has been suggested that the Board modify Section 302.101 to include an explicit authorization of compliance schedules in Illinois' water quality rules by cross-referencing the state's rule allowing for schedules of compliance in NPDES permits, 35 Ill. Adm. Code 309.148. PC 1403 (Midwest Generation), Section X (note there is a typo in the proposed language as it refers to section 309.138 rather than 309.148).

Given the testimony at hearing, Stepan agrees that it is readily foreseeable that some dischargers may need schedules of compliance if their NPDES permits are revised to incorporate limits based on newly revised water quality criteria. Accordingly, in anticipation of EPA finalizing the rule proposed last September, it would seem prudent for the Board to revise Part 302 to include some reference to the Agency's authority to include schedules of compliance in NPDES permits. This could be done either by adding a sentence to Section 302.101 or by adopting a new section (say 302.106) explicitly authorizing the allowance of schedules of compliance pursuant to 35 Ill. Adm. Code 309.148.

**VII. The Board Should Follow the Requirements of the Clean Water Act and the Illinois Environmental Protection Act and Should Not Consider Region 5's Unauthorized Speculation as to What Water Quality Criteria May or May Not Be Approved.**

EPA and Region 5 and their occasional "public comments" have lurked in the background of the entire rulemaking in R08-9. It has seemed at times that there has been more concern with what EPA and Region 5 say they will or will not approve than with establishing our own appropriate water quality standards in accordance with both the Illinois Environmental Protection Act and the Clean Water Act. This was most apparent when the Primary Contact Recreation use designation was added in a Proposed Second Notice for Subdocket A barely more than two weeks after receipt of a letter from EPA indicating its "determination found that five segments" of the CAWS "should be designated for a used that allowed for recreation . . ." *See*

*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(A), Proposed Rule, Proposed Second Notice, 1 (June 2, 2011).* This heavy handed treatment by EPA is outsized to its actual authority under the Clean Water Act, and the Board should make its decisions based on the record, not on the latest missive from EPA or Region 5.

While Clean Water Act law is not always as clear as the waters it seeks to protect, one point is beyond cavil. The United States Congress gave the States, not EPA or Region 5, the lead role in establishing water quality standards. *See* 33 U.S.C. § 1313(c)(1) (State or its water pollution control agency shall hold public hearings to review and, as appropriate, modify and adopt water quality standards). To be sure, the standards adopted by the States must be submitted to EPA for its review, but "EPA's role in formulating these water quality standards is limited." *Defenders of Wildlife v. United States Environmental Protection Agency*, 415 F.3d 1121, 1124 (10th Cir. 2005). The only role envisioned by Congress was for EPA to review a State's adopted water quality standards for conformity with the Clean Water Act. *Id.*, 1127 (rejecting a challenge to EPA approval of a New Mexico water quality standard because the standard could be interpreted to be consistent with the Clean Water Act). In that regard, when Congress required State's to review and adopt water quality standards after "public hearings," 33 U.S.C. § 1313 (c)(1), it seems doubtful that Congress intended EPA to directly participate in those hearings as if it was a citizen of the State, which it most assuredly is not.

"Congress clearly intended the EPA to have a limited, non-rulemaking role in establishment of water quality standards by states and tribes . . ." *City of Albuquerque v. Browner*, 97 F.3d 415, 425 (10th Cir. 1996). EPA's authority in reviewing State adopted water quality standards is no different than its authority in reviewing state implementation plan ("SIP")

submittals under the Clean Air Act. In either instance, EPA may only consider the requirements of the federal statute and "has no discretion to do anything other than ensure that a state's submission meets" the federal statutory requirements. *Luminant Generation Company, L.L.C. v. United States Environmental Protection Agency*, 675 F.3d 917, 926 (5th Cir. 2012) (vacating EPA disapproval of SIP provisions where EPA could not point to any applicable provision of the Clean Air Act supporting its asserted requirement of federal law); 33 U.S.C. § 1313(c)(3) (EPA may disapprove an adopted state water quality standard only if it "is not consistent with the applicable requirements of this chapter," i.e., the Clean Water Act). Thus, rejecting a rule adopted by a State cannot be based merely on EPA's preference for a different drafting style or its belief that the discretion afforded a state agency in issuing permits is too great. *Texas v. United States Environmental Protection Agency*, 690 F.3d 670, 679 and 682 (5th Cir. 2012) (vacating EPA disapproval of SIP rule that did not contravene any requirement of the Clean Air Act). Moreover, when EPA has previously approved a rule or standard adopted by a State, it is on particularly shaky grounds to later reverse that approval. *Id.* at 682 (finding EPA's attempt to link its disapproval to the Clean Air Act "incoherent in the light" of EPA's failure to raise the issue in five previous reviews of the same state rule).

In light of the limited role of EPA in a State's adoption of water quality standards, it is worth observing that Region 5's latest comments submitted in Subdocket D are couched in tentative terms of making suggestions or recommendations with little, if any, explanation of what Clean Water Act provision, or even EPA guidance, supports those suggestions and recommendations. And, as noted in other sections of these comments, when Region 5 does refer to the Clean Water Act, its regulations or guidance, those sources do not actually support Region 5's proposal. The important point here is that mere suggestions and policy or drafting

preferences are not a basis for EPA disapproval of a State's water quality standards. If a State's preferences are consistent with the Clean Water Act, then EPA has no choice, it must approve.

For all these reasons, the Board's determinations in Subdocket D should be based on the facts before it in the record, the standards of Section 27 of the Illinois Environmental Protection Act and the Clean Water Act. The mere recommendations and suggestions of Region 5 should be accorded little, if any, weight.

**VIII. The Board Should Work With the Agency to Ensure that the Entire Administrative Record Before the Board Is Submitted to Region 5 In Support of the Board's Adopted Standards.**

Sometimes Region 5's letters following a Board First Notice Opinion have seemed to indicate that the only thing Region 5 reviewed before submitting comments is the First Notice Opinion rather than the entire record before the Board. For example, in Subdocket C, the Board committed substantial effort in its Second Notice Opinion responding to Region 5 calls for greater explanation as to the basis for use designations that do not meet Clean Water Act goals – an explanation that was already adequately supported by the record. *See 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, Proposed Second Notice, 34-41(Oct. 3, 2013).* We are concerned that these sorts of demands from Region 5 may indicate that it is not receiving the entire administrative record that supports the Board's decisions. Region 5 must be forwarded the entire administrative record before the Board that supports its adopted standards. That is certainly what is contemplated by the Clean Water Act. *City of Albuquerque*, 97 F.3d at 425 ("[a]ll comments submitted to a state or tribe during the comment period become part of the administrative record and are reviewed by the EPA in determining whether to approve the state's or tribe's proposed standards").

As the designated water pollution agency for the State, 415 ILCS 5/4(1), the Agency, rather than the Board, may formally submit the adopted water quality standards to Region 5 for its review under Clean Water Act Section 303(c). And, we understand the burden of providing all the supporting testimony, exhibits, public comments and other record matters that the Board considered. With a record as voluminous as this one, the burden would have been enormous 30 years ago. Modern technology, including the ability to transfer documents in pdf format onto CDs, substantially reduces that burden. Except for exhibits, all other record matters are already in pdf form in the Board's web-based docket system. Accordingly, we urge the Board to work with the Agency to ensure that Region 5 is provided with the full administrative record before the Board.

### **Conclusion**

Stepan appreciates the opportunity to provide these responses to comments by other stakeholders regarding the Subdocket D issues. The Agency's proposed numeric temperature criteria for the UDIP are not supported by good science are economically unreasonable and should not be adopted. Good science justifies any of a number of other temperature approaches, as detailed above.

Respectfully submitted,  
STEPAN COMPANY

DATE: May 14, 2014

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