

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)	
)	
WATER QUALITY STANDARDS AND)	
EFFLUENT LIMITATIONS FOR THE)	
CHICAGO AREA WATERWAYS SYSTEM)	R08-09 Subdocket D
(CAWS) AND THE LOWER DES PLAINES)	(Rulemaking- Water)
RIVER: PROPOSED AMENDMENTS TO)	
35 Ill. Adm. Code Parts 301, 302, 303 and 304)	
(Aquatic Life Use Designations))	

NOTICE OF FILING

To:

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

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

Persons included on the attached
SERVICE LIST

PLEASE TAKE NOTICE that on December 12, 2014 I electronically filed with the Clerk of the Pollution Control Board of the State of Illinois, RESPONSIVE COMMENTS OF ENVIRONMENTAL GROUPS REGARDING FIRST NOTICE, a copy of which is attached hereto and herewith served upon you.

Respectfully Submitted,



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DATED: December 12, 2014

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RESPONSIVE COMMENTS OF ENVIRONMENTAL GROUPS
REGARDING FIRST NOTICE

The Board’s September 18, 2014 First Notice Opinion and Order in this Subdocket D ("First Notice Order") adopted a valid approach to setting thermal standards for the Upper Dresden Island Pool (“UDIP”), Aquatic Life Use (“ALU”) A and ALU B waters involved in this proceeding. Using the existing General Use standards for these waters is appropriate, as it has not been shown that the aquatic life that can live in the habitat provided by these waters is significantly less sensitive to heat pollution than that living in many other general use waters in Illinois.

Some additions and corrections in the wording of the proposed rules are now needed to capture the Board’s evident intent. Also, it will be necessary to begin some new proceedings to consider issues regarding particular pollutants for which the General Use standards are out of date. However, it appears that, finally, the key issues debated formally in IPCB proceedings for over six years (and informally in IEPA meetings for over six years before that) can be resolved.

The Environmental Groups, (Sierra Club, Prairie Rivers Network, Natural Resources Defense Council, Openlands, Friends of the Chicago River and the Environmental Law & Policy Center) in their initial First Notice Comments, focused on the few things that need to be corrected or had not been previously addressed. The Environmental Groups did not re-argue points that were debated at length prior to the Board’s First Notice Opinion and Order in Subdocket D.

Regrettably, Midwest Generation LLC ("MWG") in its First Notice Comments has reargued points at length that it made before, although recent developments make its arguments even less convincing than when they were originally rejected by the Board.

MWG also has asked the Board for a smorgasbord of additional delays and proceedings regarding issues that have been debated for over a decade. MWG postures that the failure of the Board to grant this extraordinary relief “will significantly impact the future operations of the three Midwest Generation facilities located on these waters,” (MWG First Notice Comment at 1), but MWG has not provided the least bit of information as to how its operations might be affected.

In fact, even if there were merit in MWG's proposals or a substantiated basis for believing that MWG might be entitled to some sort of regulatory relief, there would be no legal basis to delay this proceeding still further. No one denies that once protective standards are established, MWG may attempt to make the case for a variance or a demonstration under Section 316 of the Clean Water Act. Further, the grace periods granted in the Board's First Notice Order for the implementation of the new standards combined with the normal delays that occur in incorporating new standards into NPDES permits give MWG more than enough time to seek an appropriate variance if there is a basis for doing so.

Accordingly, the Environmental Groups will set forth the reasons why:

- The Board must reject MWG's arguments and proposals that urge the Board to adopt temperature standards that are not protective of aquatic life and that do not comply with the Clean Water Act, and
- MWG and other parties have no valid claim that the Board's adoption of protective temperature standards will prejudice them because, *inter alia*, there are adequate avenues of regulatory relief available after the Board adopts the standards in this rulemaking.

We will then address the matters that were raised by other parties to this proceeding in their First Notice comments including:

- Comments made by ExxonMobil, the Illinois Environmental Protection Agency ("IEPA"), Ingredion, Stepan Industries ("Stepan"), and the U.S. Environmental Protection Agency ("USEPA") regarding temperature standards;
- Chloride standards for waters outside the invasive species barrier zone of the Chicago Sanitary and Ship Canal (CSSC);
- The proposal for explicit incorporation of 40 CFR 122.44(k) into Illinois regulations to make clear best management practices ("BMPs") designed to cause compliance with chloride water quality standards may be required in lieu of numeric NPDES permit limits under some limited circumstances; and
- Comments made by USEPA, IEPA, MWRD and other parties regarding the issues that were not already aired at length in this proceeding including toxic combinations, ammonia, selenium, dissolved oxygen monitoring, copper and cadmium.

I. Temperature Standards

A. MWG's proposals for temperature standards that are not protective of aquatic life must be rejected.

There is nothing new in MWG's First Notice Comments regarding temperature criteria. Once again, MWG argues that the UDIP is a totally unique water body in Illinois in that it is beset by barge traffic, impoundments and sewage effluent, and implies that the Illinois General Use standards were developed to protect pristine Illinois streams, concluding from these false premises that temperature standards applicable to the UDIP and other waters at issue here necessarily should be far less stringent than General Use standards. (MWG First Notice Comments at 3-4.) In fact, the Board has found that the "UDIP waters almost meet the CWA goals," (First Notice Order at 211), and the evidence offered by all of the parties in Subdocket C demonstrated that the habitat in the UDIP is at most marginally worse than the habitat in the Lower Des Plaines below the I-55 bridge and much of the Illinois River. This evidence, which includes information supplied by MWG's consultants, is set forth in detail in the comments by the Environmental Groups in Subdocket C. (PC #1283, at 11-4; PC # 1293 I.(A-C) unnumbered pages at 5-12)

Further, the Illinois General Use standards were not developed to protect pristine streams but apply to all waters with general use designation, including rivers and streams throughout Illinois almost all of which are to a large degree effluent dominated, impounded, leveed and/or subject to barge traffic. The Des Plaines below the I-55 Bridge is no less effluent-dominated, subject to barge traffic or impounded than the Des Plaines above the I-55 Bridge although it is less impacted by heat discharges. Indeed, the Mississippi, Ohio, and Wabash Rivers, which are impounded, full of effluent and carry much barge traffic, have special temperature standards applicable to them that are in some respects more stringent than the General Use standards that the Board has proposed applying to the UDIP. 35 Ill. Adm. Code 303.311, 303.321, 303.341, 303.351.¹

The claim (MWG First Notice Comments at 10) that the discharges by the MWRD sewage treatment plants are relevant to setting the temperature criteria for the UDIP or the Brandon Pool is just wrong. No one claims that the sewage effluents raise water temperatures in the summer and MWG's own intake data show that whatever winter warming effect the MWRD discharges have is dissipated by the time the water reaches the Joliet intake. (Ex. 460.)

All of the proposed temperature standards offered by MWG must be rejected as a matter of law even if the biological studies on which they purport to be based are sound, or were sound when they were done 20 years ago. As the Board recognized, the studies offered by MWG do not compare the UDIP to high quality waters of similar size to consider what might be attainable without temperature pollution, but rather are studies of what aquatic life is currently being attained in the UDIP and the Brandon Pool. (First Notice Order at 208-09.)

¹ This is true although some of the waters with these more stringent standards are located far south of the UDIP and naturally have warmer temperatures.

Thus, for example, MWG writes off the White Sucker based on the theory that it cannot spawn in the Lower Des Plaines (MWG First Notice Comments at 13) despite the fact that White Sucker are all over various waters in the CAWS and in the vicinity of the Lower Des Plaines. (Exhibits. 36, 44, 340, 505 at 10, PC # 327 at 4-5, PC # 1283 at 37) Further, there is obviously the necessary habitat for White Sucker spawning in the area as there are numerous White Sucker in streams that are directly connected to the Lower Des Plaines. (Exhibits 42, 341, PC #1283.)²

It is important to recognize, moreover, that the temperature criteria that MWG proposes are not only above the temperatures tolerable for White Sucker. MWG's proposed criteria also allow temperatures that are above the ecologically relevant temperature tolerances for Emerald shiner, Bluntnose minnow and numerous other species that are known to live in the UDIP in some number. (See Environmental Groups' Post Hearing Comments #1407 at 4; Environmental Groups Response to Post-Hearing Comments # 1412 at 5.)

But the biggest problems with MWG's proposed criteria do not have to do with biology, they relate to the law and common sense. Even accepting for the purpose of argument that MWG's biological studies are sound, MWG's temperature criteria fall far short of being protective of the most sensitive uses as is required of criteria under federal law. 40 CFR 131.11(a).

For example, in the study of the effect of elevated temperatures on biodiversity on which MWG relies for its 2007 criteria proposal it is stated that "above 87 °F [species] richness appears to decrease" and that "richness was significantly lower at 90 °F." (Ex. 368 at. 7.) This study is useful because it shows that - even if one narrowly (and improperly) focuses on the effect of changes on aquatic life in this temperature-impacted water body rather than considering what aquatic community is attainable - temperatures clearly have a significant impact on the biological community.³ While the study is useful, of no use whatsoever are the legal conclusions that MWG purports to draw from this study.

To adopt protective criteria, of course, one would adopt criteria that were well below the temperatures at which it is likely that biological damage will be done. Looking at MWG's biological study, as opposed to its unsupported conclusions, it is clear that the temperature at which the biological community begins to be degraded is not 87 F, but somewhere below 83 °F. (Ex. 368, Figure 4.) If one is to draw conclusions as to what is protective of the environment (as

² MWG's biologists have never apparently even looked at what is living in tributaries of the Des Plaines that are not affected by heat discharges. 11/10/09 PM Tr. 55. This is true although MWG's consultant agrees that a fish species can live in a water body that lacks spawning habitat as long as it has access to such habitat when it needs to spawn. 11/10/09 Tr.71-2.

³ The extremely low P-value in the study at 90 °F shows that it is virtually certain that temperatures as high as 90 °F do impact the aquatic community. Using a very low P value is a way for a cautious scientist to assure the validity of his scientific conclusions. See, Whelan, Charles, Naked Statistics, W.W. Norton and Co. (2013) p. 152. It is also a way for a heat discharger to argue for criteria that will assure that there is absolutely no chance that the operator will incur any unnecessary environmental costs. To call "protective" the temperature at which it is *known* that the aquatic community *is being* adversely affected, however, is a severe abuse of the English language and the law.

opposed to protective of the operational flexibility for MWG's power plants), the MWG study supports choosing criteria that look much like the criteria that were proposed by the Environmental Groups. Clearly from the MWG study, the temperature of 82.4° F is the highest temperature, using their aggregation, for which IWBmod scores can be considered acceptable for protecting the aquatic community (Ex. 368, Fig. 5), as scores obviously drop below that value.

Moreover, these values should not be compared with species richness scores from the same stretch of river, but rather should be compared to systems that do not have temperature pollution to determine the appropriate temperature criteria and standard to protect the aquatic life community. Comparing an impaired river to itself to set criteria and standards is not protective, nor is it a scientifically defensible way to develop criteria and standards.

No one wanting to establish criteria protective of the aquatic community would claim, as MWG claims, that a temperature (90 °F) that has been proven with statistical certainty to be destructive of the biological community should be adopted as a criterion. MWG, however, goes still further and asks that 90 °F be allowed as an *average* temperature so that on average the UDIP during long periods could be subjected to temperatures that are not only well above those shown in the laboratory to be harmful, but that are also shown by MWG's own studies to cause a significantly impaired aquatic life community.

MWG alternatively proposes that the Board adopt the AS96 -10 criteria adopted for the I-55 Bridge based on studies and facts that were applicable 20 years ago before numerous improvements were made to wastewater treatment and control of combined sewer overflows. (MWG First Notice Comments at 24) MWG suggest that the fact that its NPDES permits were recently renewed without public objection means that the AS96-10 criteria are still valid. (MWG First Notice Comment at 25). But the lack of permit objections proves less than nothing. As the part of the public most likely to have objected to the NPDES permits, the Environmental Groups can affirmatively state that they did not object to MWG's 2014 permits precisely because they believed that this proceeding would provide for new criteria that would apply to MWG plants.

Moreover, MWG's alternative proposal is actually far less protective than the AS96-10 critical because MWG asks that the *maximum* temperatures allowed under AS96-10 be allowed as *average* temperatures. (MWG First Notice Comments at 28) The Board, IEPA, USEPA and the public have never approved anything like that.

There is not the slightest support in the record for the Board to adopt MWG's transmogrified AS96-10 criteria proposal. The "technological and economic burdens" cited (MWG First Notice Comments at 28), are not even described in its comment, let alone substantiated with any evidence. MWG's claim that something weaker, far weaker in MWG's view, should be adopted for the UDIP because of the supposed low quality of the UDIP compared to General Use waters is another example of the fable that MWG has promoted throughout this proceeding: that the UDIP is unique. In fact, it is generally agreed that the Brandon Road Dam tailwaters and the areas near Treats Island in the UDIP have better habitat than that present at the I-55 Bridge and much of the rest of the Lower Des Plaines. (Barghusen Tr. 10/5/09 Tr. 115, Thomas 8/14/09 AM Tr. 15, 24, 30-1, 63, 114, 116, Exhibits 368, Figure 1, Seegert Tr. 40, 44, Ex. 372 p. 10; PC # 182; See also, discussion in PC # 1283 pp. 11-14)

Finally, MWG's attacks on the testimony of Dr. David Thomas that heat discharges have affected aquatic life in the UDIP (MWG pp. 15-17), are unjustified and unfair. MWG's own studies show that various measures of the health of the aquatic community are substantially lower at the high temperatures caused by MWG discharges. Further, the temperatures known to occur in the UDIP are far above the growth and avoidance temperatures of numerous fish species known to live in the area. (PC # 1412 pp. 5-6.)

B. Midwest Generation's eleventh hour effort to delay for many more years the resolution of issues that have been fully aired over the last decade should be rejected.

In addition to re-arguing at length proposals that have already been rejected, MWG makes a variety of arguments for delay based on supposed surprise caused by the Board's First Notice decision and on the fact that MWG went through an ownership change. (MWG at 32-40.) Even if one accepts the literally incredible idea that NRG Energy spent billions of dollars on acquiring MWG plants without determining whether it would be able to operate them under updated temperature standards, there is no justice or need for MWG's proposed delays.

First, while it is nice that MWG credits the Board with being "well-intentioned" (MWG at 33), the same cannot be said of MWG's argument for a 3-year delay in putting the criteria into effect.⁴ The Board in its decision considered the current regulatory situation and chose the length of the delay it found appropriate. (First Notice Order at 216-17.) It is unclear that even the delay that the Board allowed is now needed. While the record before the Board at the time it rendered its First Notice decision indicated that thermal dischargers to the CAWS and LDPR might need some type of short-term or long-term regulatory relief (First Notice Order at 216), the record is no longer clear that any such relief is needed. As MWG writes, "NRG's plans for the Will County and Joliet stations, all of which utilized once-through cooling water to operate, will likely reduce their thermal discharges." (MWG First Notice Comments at 3.)

MWG's proposal for a new subdocket to address temperature is preposterous. Everyone has known from the beginning of this proceeding in 2008 that temperature was going to be a major issue and MWG presented all of its arguments in its Post-Hearing Comments. Now that MWG did not get what it wanted in the First Notice decision, it wants the Board to start over on the temperature issue.

There is no basis to believe that there will be any unfair prejudice to MWG/NRG or anyone else from proceeding as the Board has proposed. True, obtaining a variance will require MWG to offer more than vague unsubstantiated claims, but if MWG actually has evidence that it is entitled to regulatory relief, there is nothing to keep it from proposing a variance immediately after the standards are settled.

⁴ Of course, actually getting limits into MWG NPDES permits based on the new temperature criteria will take still more time.

The disapproval of the Citgo variance by U.S. EPA (PC # 1367), did not signal that no Illinois proposed variance could ever be approved, only that the case for a variance must be supported by the record and meet the requirements of 40 CFR 131.10(g). Nothing in the regulatory reform package under consideration by US EPA (IEPA First Notice Comments Attachment 3), proposes anything to change the nature of the proof needed for obtaining a variance.

MWG's claim that it has never considered the effect of adopting General Use standards for the UDIP (p. 38) is hard to take seriously given that it had been claiming for years that the IEPA proposal for the UDIP was more stringent than the General Use standards.⁵ MWG also stresses various forms of regulatory uncertainty, but such uncertainty will always be present. Does MWG really expect to get a "binding commitment" from IEPA and US EPA (MWG First Notice Comments at 5), to clarify everything as to which MWG seeks clarity? It seems certain that MWG will be claiming forever that uncertainty precludes it from having to prove that a variance is justified.

C. Any issues regarding minor temperature loadings to the CAWS or the UDIP should be addressed after it becomes clear that there is some compliance problem.

ExxonMobil and Stepan have expressed fears that their relatively minor heat discharges might be subject to onerous regulation if the Board goes forward with its proposal. But the whole basis for this concern has been that somehow MWG would get permission to cause violations of whatever water quality standards are adopted and they would not get permission to make their relatively minor discharges.⁶ Given that it is now unclear that MWG will even need relief, the concerns of downstream dischargers are even more speculative than they were before.

In any event, the Board cannot refuse to adopt protective standards on the basis that some entity might conceivably be put to the trouble of having to prove the need for a variance. Indeed, to adopt the stance that regulatory uncertainty justifies inaction creates a hopeless "chicken and egg" problem because there can never be certainty as to whether a variance is needed until it is determined what the standard is from which a variance might be needed. Waiting to update standards until every conceivable implementation issue is resolved serves those wanting to maintain the status quo. It does not comply with the Clean Water Act or protect the Illinois environment.

⁵ ExxonMobil, at least, is consistent and "supports the Board's decision to propose adoption of the [General Use] temperature standard for the UDIP as opposed to the Illinois EPA's proposal. (ExxonMobil First Notice Comments at 10) The fact of the matter is that it is unclear whether the General Use standards, the maximum temperatures of 302.211(e) together with 35 Ill. Adm. Code 302.211(b), (c) and (d), are much different from the IEPA proposal in terms of stringency.

⁶ Were this a reasonable fear, the question must be raised as to why Stepan and ExxonMobil have not been required in the past to meet the temperature standards without a mixing zone because of the numerous emergency variances from the temperature criteria obtained by Commonwealth Edison and MWG.

D. US. EPA and IEPA agree with the Environmental Groups that the Board should not adopt a truncated version of the General Use temperature standards.

The Environmental Groups central comment with regard to the Board's First Notice decision was that in order to apply properly the General Use standards, the Board needed also to apply the provisions of 35 Ill. Adm. Code 302.211(b), (c) and (d). The positions of U.S. EPA and IEPA agree with the Environmental Groups comments. (U.S. EPA First Notice Comments PC # 1414 at 4-5, IEPA First Notice Comments at 13.)

E. The Ingredient proposal should not be adopted.

Ingredient argues, first, that the General Use standards should not be applied to ALU B waters. This argument is based on the familiar refrain that General Use criteria should not be applied to any waters that have not been given a General Use designation. While this fallacy is less obviously wrong when applied to ALU B waters than to the UDIP, it still is mistaken.

As shown by the IEPA data and other studies, temperature criteria similar to the General Use criteria are needed to protect the Bluntnose minnow and the Emerald shiner. (PC # 1412 p.4 n.25.) Both the Bluntnose minnow and the Emerald Shiner have been found in ALU B waters in large number despite habitat and water quality limitations. IDNR Comment Oct. 2010 PC # 505 (Table 2 and Table 4). Thus, while it may be the case that the more marginal conditions of the ALU B waters should affect the choice of some criteria, that is not the case with regard to temperature criteria.

Concerned that General Use standards as to the maximum allowable temperatures, 35 Ill. Adm. Code 302.211 (e), may be too stringent during the non-summer months, Ingredient has its own temperature proposal. (Ingredient First Notice Comments at 8). Ingredient proposes that during any period in which air temperature reaches 55° F or higher, the summer maximum of 90° F apply rather than the 60° F maximum that might otherwise apply. Neither an explanation of the relevant physics is offered nor any basis for believing that such a criterion could be protective of aquatic life.

The Environmental Groups do not know what processes Ingredient is using but if it thinks that there is a danger that it will raise ambient water by 45 °F, Ingredient's operations should be investigated. The General Use maximum standard of 60 °F has been in place for most of the state for December through March for many years without dire social or economic effects and, unless Ingredient is playing with supernatural forces, it does not seem likely that the winter 60 °F maximum temperature is likely to cause a serious problem in the immediate future.

F. Cold Shock

The Environmental Groups have reviewed the discussion of the cold shock issue by the other parties that have commented. They remain convinced that proper adoption of the complete

General Use standards, 35 Ill. Adm. Code 302.211 (b)-(e), would eliminate the need for a cold shock provision. A cold shock provision is also unnecessary if non-summer daily maximum temperature criteria are adopted, as proposed by the Environmental Groups. (#1407 p. 12.)

II. Chloride and BMPs

A. Proposals to expand application of the relaxed chloride standard beyond the invasive barrier zone of the CSSC are not supported by the current record.

Having read the comments of other parties, the Environmental Groups see no reason to alter their opinions regarding chloride standards for areas outside the invasive species barrier area that are expressed at 9-10 of their First Notice comments. Certainly, ExxonMobil's argument that chloride standards should be loosen in the UDIP simply because they might be violated (ExxonMobil First Notice Comments at 2- 3), must be rejected as alien to the way that protective standards are adopted.

IEPA's comment that there will be widespread violation of chloride standards if the Board's standard is adopted (IEPA First Notice Comment at 7), is not a reason the Board's proposal should not be adopted. It only shows that further action will be needed to meet the standard, which may include adoption of reasonable variances. Actually, IEPA does not claim that the fact that the proposed standards will take time to meet is a reason for not adopting the Board's proposal. To its credit, it appears that IEPA is moving forward to reduce chloride loadings. (IEPA First Notice Comments at 9-10.)

There is nothing in the record suggesting that the factors cited by Citgo in urging a weaker standard for a small section of the CSSC are applicable even to the whole CSSC and there is nothing in the record to suggest that the Citgo standards are protective of the aquatic life that is attainable in the UDIP. Moreover, even if it is true, as ExxonMobil suggests (ExxonMobil First Notice Comments at 6), that the existing aquatic life in the UDIP can live with occasional spikes in chloride levels, that tells us nothing of what could be there if chloride pollution were reduced.

The Environmental Groups appreciate that MWRD's alternative proposal for weakening the 500 mg/L chloride standard for the CAWS (MWRD First Notice Comment at 2), is less draconian and more nuanced than the proposal made by ExxonMobil to take the criteria proposed by Citgo for the invasive barrier area and apply it broadly. However, we do not believe that MWRD's proposal should be adopted by the Board based on a summary showing first presented in comments on the First Notice Order.

While recognizing that the Board has rejected creating another subdocket for chloride, the Environmental Groups think that chloride standards should be considered closely in the immediate future. As a practical matter, there does not appear to be any downside to proceeding as the Board has proposed in adopting the 500 mg/L acute criterion and in the future considering revisions to the standard and potential variances.

B. The Board may incorporate 40 CFR 122.44(k) that allows use of best management practices directly into Illinois Code but the limitations applicable to that federal provision should be understood.

Comments by Citgo (First Notice Comments at 6), ExxonMobil (First Notice Comments at 7), IEPA (IEPA First Notice Comments at 11-2), and MWRD (First Notice Comments at 2-3), regarding actions to be taken to address chloride pollution through adoption of best management practices (BMPs) require a response.

First, the Environmental Groups welcome efforts to reduce chloride pollution through use of best management practices and other means.

With regard to the proposed amendment to 309.141 that is intended to make clear that the provisions of 40 CFR 122.44(k) may be used by IEPA with regard to chloride (First Notice Order at 203), there is no harm in adopting such language into the Illinois regulations. Though, as the Board mentions, it is not strictly necessary.

There would be harm in misinterpreting 40 CFR 122.44(k). 40 CFR 122.44(k) allows use of BMPs to assure that discharges do not cause or contribute to violations of water quality standards in violation of 40 CFR 122.44(d), in lieu of numeric effluent limits, only where it has been shown that numeric effluent limits are infeasible due to the nature of the discharge. It speaks to run-off and other situations in which normal end-of-the pipe numeric effluent limits cannot be implemented or easily monitored. Nothing in the federal rule allows, as ExxonMobil wrongly suggests (ExxonMobil First Notice Comments at 7), IEPA to substitute BMPs for numeric permit limits as to traditional point sources. Nor does the federal rule allow for use of BMPs in lieu of numeric effluent limits simply because curing the impairment through controls on point sources alone is thought to be infeasible. (Environmental Groups First Notice Comments at 10.)

BMPs should be required of storm water discharges and other dischargers as to which numeric permit limits cannot be set. Point sources for which numeric effluent limits can be set and monitored for chloride should have appropriate numeric permit limits.

Point source variances may be granted where justified. In this, it appears the Environmental Groups agree with the IEPA in that it also recognizes that both BMPS for run-off and variances for normal point sources will be necessary as Illinois moves to control this form of pollution (IEPA First Notice Comments at 12.)

In short, while imposing BMPs can be useful, BMPs cannot be used in place of a TMDL implementation plan or a properly established variance (or variances) subject to conditions designed to bring the water body into eventual compliance with water quality standards.

III. Standards for other parameters that were the subject of comment by U.S. EPA, IEPA and other parties.

Criteria for a number of other pollutants are at issue here. As to a number of them, comments in addition to the Environmental Groups First Notice Comments are not needed. The Environmental Groups have responsive comments as to the following pollutants.

A. Ammonia

The Board, IEPA, and U.S. EPA have all acknowledged that the ammonia criteria proposed in the first notice rule are not consistent with USEPA's 2013 ammonia criteria. (First Notice Order at 178.) This problem must be fixed but it need not be fixed in this subdocket of this proceeding. Having read U.S. EPA comments and considering the need to resolve what can now be resolved, the Environmental Groups urge the Board to either create a subdocket for ammonia or to adopt the current General Use standards for the waters at issue in this proceeding recognizing that those standards will soon have to be reconsidered.

B. Mercury (human health)

Environmental Groups agree with the Board's proposal to adopt IEPA's proposed 12 ng/L mercury standard. (First Notice Order at 183.) None of the comments filed by any party indicate any reason not to do this.

C. Selenium

Facts presented in the U.S EPA comments show that revisions to the Illinois selenium standard are needed. The Illinois standard is 20 times (1.0 mg/L v. 0.5mg/L) the U.S. EPA criterion. Further, it is extremely unlikely that the U.S. EPA criterion is properly subject to an Illinois recalculation that would allow for a weaker standard. This is because the U.S. EPA criteria are needed to protect species known to live in Illinois (U.S. EPA First Notice Comment at 5), including the Bluegill, the State Fish. see, <http://www.museum.state.il.us/exhibits/symbols/fish.html>.

It is critical that the Illinois selenium standard be updated. In our view, the record supports adopting the 0.05 mg/L criterion. If the Board is unwilling to do so, it should create a subdocket for selenium or use the General Use standard now, recognizing that this is likely to result in a partial disapproval by U.S. EPA.⁷

D. Copper

⁷ Given the complexity of this proceeding, partial disapprovals on minor issues should be expected. They can be fixed later.

Most recently, U.S. EPA, (PC # 1404), recommended that the Board either employ the Biotic Ligand Model (BLM) to calculate and adopt a standard for each segment of the CAWS and LDPR or alternately that the Board revise the hardness-based copper criteria equations using the recalculation procedure applied to an updated toxicity database. We would support either approach.

In our prior comments (PC # 1422), we note that MWRD collects much of the information needed as inputs to the BLM model through their ambient monitoring program. U.S. EPA made the same observation. IEPA (PC # 1415), stated that neither IEPA nor MWRD collect dissolved organic carbon (DOC) data. However, U.S. EPA stated that reasonable estimates of DOC can be derived from the total organic carbon data that MWRD collects. U.S. EPA also described how inputs to the BLM method which MWRD does not collect could be reasonably estimated. IEPA raises concerns about using the BLM methodology for setting state-wide water quality standards. However, in their *Training materials on Copper BLM: Implementation*⁸, U.S. EPA “regards incremental implementation as the most feasible and efficient means of implementing the updated criteria.” U.S. EPA “recommends that states and tribes maintain an updated listing of the water bodies for which the BLM has been used as the basis for a site-specific freshwater copper criterion.” “Under this approach, the hardness-based criterion remains in State (or tribal) water quality standards and applies to all waters except for those where site specific criteria are derived using the BLM.

E. Dissolved Oxygen

In its comments on the First Notice draft, MWRD complains that proposed Section 302.405(e) necessitates continuous dissolved oxygen (DO) monitoring in order to determine mean and minimum DO values. (PC # 1416 at 3.) Notably, MWRD fails to provide any basis for the Board to “reconsider whether this should be included in the regulations.” (*Id.*)

Continuous DO monitoring is actually very important. DO naturally fluctuates to some degree in a cycle through the day and night, as plants and algae consume and emit oxygen into the water. When a water body is influenced by nutrient pollution that creates unnatural plant or algal growth (as the waters at issue here are), DO levels can spike and plummet in a wide (> 2 mg/L) diel swing with DO crashing at night. Wetzel, Robert G., *Limnology*, Academic Press (Third Ed. 2001) P. 153-54. Dissolved oxygen levels can look normal or elevated during usual business hours, disguising deadly low DO levels at night. To protect aquatic life, the DO standard needs to account for the true minimum and mean DO in a water, which can only be assessed with continuous DO monitoring.

Further, the “Assessing attainment of DO mean and minimum values” provisions of 302.405(e) are nearly identical to those the Board adopted with the general use DO standards in 302.206(d). IEPA proposed these provisions in its Statement of Reasons. (SR at 57.) No evidence has been presented in this proceeding that suggests that the CAWS and Lower Des Plaines River deviate

⁸ *Training materials on Copper BLM: Implementation* at http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/copper/faq_index.cfm

from the basic scientific principles described above. Therefore, with one exception described below, the Board should retain the proposed section 302.405(e).

The Environmental Groups support USEPA's strong recommendation to remove 302.405(e)(3) from the Board's Part 302 Water Quality Standards. (PC # 1414 Enclosure at 1-2.) This provision reads as follows:

The measurements of dissolved oxygen used to determine attainment or lack of attainment with any of the dissolved oxygen standards in this Section must assure daily minima and daily means that represent the true daily minima and daily means.

Obviously, Environmental Groups support DO measurements that represent true DO concentrations (i.e. continuous DO monitoring). However, as USEPA has stated, the existence of this provision under the umbrella of "Water Quality Standards" could be interpreted to mean that the standards are not in effect in the absence of adequate monitoring. As the DO standards must always be in effect, the Board should move this provision to another Part of the Board Regulations. Part 301 ("Introduction") or Part 305 ("Monitoring and Reporting") may provide a better home than 302.405. Alternatively, we believe that continuous DO monitoring would still be required in the event the Board opts to simply delete 302.405(e)(3).

F. The combinations of pollutants that have toxic effects should be controlled.

The Environmental Groups generally agree with the comments of U.S. EPA regarding Subpart F (U.S. EPA First Notice Comment at 4). However, we are concerned that the last sentence of the U.S. EPA comment on this could be misinterpreted.

US. EPA proposed that an addition be made that includes the sentence that "Individual chemicals or substances for which numeric standards are specified in this Subpart are not subject to this Section." The Environmental Groups urge that combinations of substances may be more toxic than individual substances and that situations may occur in which there is a pollutant for which there is a numeric standard which has a combined toxic effect that would not have been fully recognized when the criteria was set for that pollutant. Accordingly, we urge the Board not to adopt the last sentence of U.S. EPA's proposed Subpart F proposal.

CONCLUSION

The Environmental Groups, after reviewing the comments filed by other parties, continue to believe that the Board should adopt the temperature proposal that they made in their Post Hearing Comments. (PC #1407) However, the Environmental Groups believe that adoption of the General Use thermal standards for the UDIP, ALU A and ALU B waters is also supported by the record and could be approved by U.S. EPA provided that the entirety of the General Use criteria, 35 Ill. Adm. Code 302.211 (b)-(e) are incorporated.

Regarding benzene, the Environmental Groups' position is that stated at 5-6 of their First Notice Comments.

It is clear that Illinois' ammonia and selenium standards must soon be strengthened greatly but not necessarily in this subdocket. The copper standard should also be revised as soon as is feasible to conform to U.S. EPA guidance and it appears it could be implemented by IEPA using data that is available.

The Environmental Groups support the Board's proposal regarding adoption of the existing general use standard for mercury and oppose suggestions that the implementation of that standard be addressed in this proceeding. The Environmental Groups also believe that the General Use standard for cyanide should be applied to the water bodies at issue in these proceedings.

The General Use standard for chloride, 500 mg/l, may be adopted as an acute criterion in this proceeding. However, broad and insufficiently substantiated proposals for regulatory relief by way of new criteria, changes to the mixing zone rules or misapplication of 40 CFR 122.44(k) should be rejected by the Board.

Continuous dissolved oxygen monitoring is clearly needed to assess the impacts of nutrient pollution on Illinois water. U.S. EPA, however, is correct that monitoring requirements should not be part of the standard.

Respectfully,



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December 12, 2014

CERTIFICATE OF SERVICE

I, Jessica Dexter, hereby certify that I have served the attached RESPONSIVE COMMENTS OF ENVIRONMENTAL GROUPS REGARDING FIRST NOTICE upon the below service list via the United States Mail, postage prepaid, in Chicago, Illinois on December 12, 2014.

A handwritten signature in black ink, appearing to read 'JDexter', with a long horizontal flourish extending to the right.

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