BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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

NOTICE OF FILING

To:

John Therriault, Clerk
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Persons included on the attached
SERVICE LIST

Please take notice that on the 19th Day of March, 2012, I filed with the Office of the Clerk of the Illinois Pollution Control Board the attached **Environmental Groups' Reply Comments Regarding Aquatic Life Use Designations For the Chicago Area Waterways System and the Lower Des Plaines River**, a copy of which is hereby served upon you.

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DATED: March 19, 2012

CERTIFICATE OF SERVICE

I, Albert Ettinger, hereby certify that I have served the attached **Environmental Groups' Reply Comments Regarding Aquatic Life Use Designations For the Chicago Area Waterways System and the Lower Des Plaines River** upon:

Mr. John T. Therriault
Assistant Clerk of the Board
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via electronic filing on March 19, 2012; and upon the attached service list by depositing said document in the United States Mail, postage prepaid, in Chicago, Illinois on March 19, 2012.

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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

ENVIRONMENTAL GROUPS' REPLY COMMENTS REGARDING AQUATIC LIFE USE DESIGNATIONS FOR THE CHICAGO AREA WATERWAYS SYSTEM AND LOWER DES PLAINES RIVER

Midwest Generation ("MWG") has attempted in its "Final Comments" filed in Subdocket C (PC# 1277) to create as much opacity with its writing as is does with its power plants.[1] Much of what it writes is largely irrelevant to Subdocket C; and much of what it writes that is relevant to Subdocket C is inaccurate or ignores basic principles of ecology. The Post-Hearing Comments of Stepan Company, ExxonMobil, and Corn Products generally follow MWG in these respects. The MWG, Stepan Company, ExxonMobil, and Corn Products comments contain much economic fear-mongering that is as premature as it is exaggerated. None of these parties have carried the burden of showing that lower use designations than those proposed by the Illinois Environmental Protection Agency ("IEPA") are appropriate for the waters at issue.

[1] MWG has captioned its filing as "Midwestern Generation's Final Comments." We suspect that this will prove to be another inaccurate statement by MWG. In any event, MWG's comments will hereinafter be cited as "MWG Final."

While the Chicago area waterways system (CAWS) will be addressed briefly below, the focus of these reply comments by Environmental Law & Policy Center, Natural Resources Defense Council, Openlands, Friends of the Chicago River, Southeast Environmental Task Force, Prairie Rivers Network, Alliance for the Great Lakes and the Illinois Chapter of Sierra Club ("Environmental Groups") will be the Upper Dresden Island Pool (UDP) and the Brandon Pool because the issues concerning the CAWS have become much less controversial. The CAWS re-designations were addressed as a practical matter by the agreements made between the MWRD and the Environmental Groups and the announced closure of the MWG Fisk power plant. It will be seen, however, that even the controversy regarding the Upper Dresden Island Pool is much less than meets the eye.

I. The Clean Water Act Requires a Use Designation for the Upper Des Plaines River at Least as Protective as That Proposed By IEPA.

A. MWG's Proposed Use Designation For the UDP Is Unclear, Improper and Unlawful Given the Existing Diversity of Species

From reading MWG's comments, one might get the impression that IEPA proposed that the portion of the Dresden Pool that is not already designated as General Use be designated and protected as a trout stream, and that its proposed criteria are based on the needs of brook trout. In fact, IEPA proposal calls for a designation of the water body at issue as follows:

> Lower Des Plaines River from the Brandon Road Lock and Dam to the Interstate 55 bridge shall be designated for the Upper Dresden Island Pool Aquatic Life Use. These waters are capable of maintaining aquatic-life populations consisting of individuals of tolerant, intermediately tolerant and intolerant types that are adaptive to the unique flow conditions necessary to maintain navigational use and upstream flood control functions of the waterway system.

(Statement of Reasons, p. 47).

Midwest Generation's proposed language starts off with the same first sentence as IEPA's proposal, but then moves into a lengthy speech regarding the inhospitability of the UDP:

> These effluent-dominated, urban-impacted waters are capable of maintaining warm water aquatic-life populations consisting primarily of lentic species of tolerant and intermediately tolerant types that are adaptive to the impounded, channelized and artificially-controlled flow and widespread siltation conditions created by the operation of the locks and dams that are necessary to maintain the existing navigational use and upstream control functions of the waterway system.

(MWG Final Comments p.3).

Certainly, the MWG proposed language is a lot wordier - far wordier than other use designations in the other Illinois use categories defined in 35 Ill. Admin. Code §§ 302.202 and 302.402. This, by itself, is improper, as it is essential that use designations be sufficiently clear to guide the process of setting criteria. The practical distinction between MWG's language and IEPA's, notwithstanding the many more words in the former, is unclear.

To the extent there is a real difference in meaning, it is that the IEPA definition states that the UDP is "capable of maintaining aquatic-life populations consisting of individuals of tolerant, intermediately tolerant and intolerant types" while the MWG designation states that the waters have "populations consisting primarily of lentic species or tolerant and intermediately tolerant types." [2] Neither facts in the record nor applicable CWA requirements, however, support this altered meaning.

MWG would undoubtedly have liked to be able to write bluntly that the UDP is only capable of maintaining species tolerant to pollution, presumably including high temperatures caused by discharges of heated effluent from power plants lacking cooling towers. However, MWG could not possibly say that because its own consultant, EA Engineering, has made clear

[2] Much more economically as a matter of wording but equally incorrect as a matter of biology and law, ExxonMobil proposes a standard that takes the IEPA proposal and deletes "intolerant."

that, over the period of its twelve year study, 42.4% of the electrofishing catch was "intermediately intolerant" and that 1.7% of the fish collected were "intolerant and moderately intolerant." (Attachment to Pre-filed Testimony of Greg Seegert [Ex. 366], EA Report p. 18). MWG's statement that intolerant species are "essentially absent" from the UDP (MWG Final p. 8) is essentially refuted by studies paid for by MWG.

The fact that there now exists aquatic life in the UDP that is "intermediately intolerant," "moderately intolerant" and "intolerant" is a critical point for the issue of Subdocket C because, while IEPA need not protect all species, federal law is clear that designations must protect all "existing uses," 40 CFR § 131.10(h)(1). "Existing uses" includes all "non-aberrational resident species" which "must be protected, even if not prevalent in number or importance." EPA, Water Quality Standards Handbook: Second Edition p. 4-5 (1994). Thus, if MWG meant, with its ornate proposed designation, to persuade the Board to adopt a use designation that would not require protection of the pollution-intolerant species that now live in the UDP, it is attempting to lead the Board to adopt a designation that is not consistent with federal law. In Subdocket D this will become critical because the law requires that criteria be adopted that "support the most sensitive use." 40 CFR § 131.11(a).

As Dr. Thomas testified, many of our large rivers are now impounded, but they can still support diverse fish communities---indeed, he says that the populations and the mix of species in this system are "probably even better than some other impounded areas in other general use waters." (8/14/09AM Tr. 78-79). It is an unfortunate fact that many of the stream miles of Illinois waters now designated General Use could be alternately described using MWG's proposed designation, if the Board decided to start putting long-winded descriptions in water use designations. Many more waters could be similarly labeled, except with the assertion that they

are "agriculturally-impacted." But if the Board were to adopt MWG's approach of simply giving up on such waters, the requirements and goals of the CWA would be forsaken.

A. The Available Evidence Indicates that Habitat in the UDP Ecosystem is Fair and that Conditions for Aquatic Life Can Be Expected to Improve.

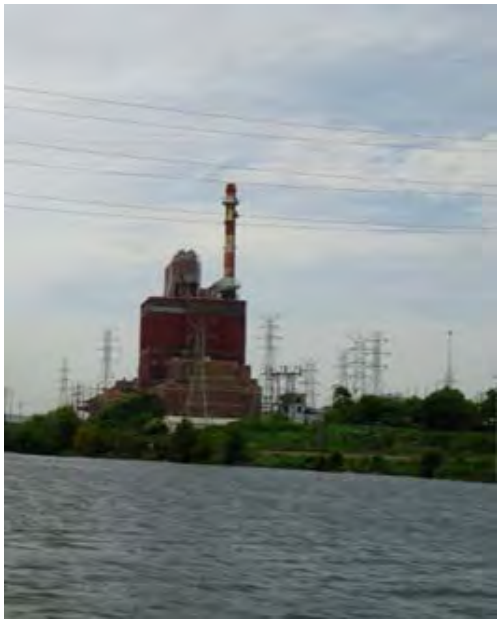
Assuming that the designation that MWG would wish is appreciably weaker than that proposed by IEPA, MWG did not carry its burden for the weaker standard.

1. MWG Has Not Presented an Accurate Picture of the UDP and has Ignored the Habitat Provided by Tributaries to the UDP

MWG has portrayed the UDP largely as a habitat desert. We believe it may be useful for the Board to get a better idea of what this desert looks like. First, it is admitted even by MWG that the Brandon Road tail water (pictured below) provides good habitat.

Figure 1: Brandon Road tail water

However, it is repeatedly said that the Brandon Road tailwaters are "isolated." (MWG Final p. 23). They are indeed. They are isolated by two power plants on either side of the river (pictured below) which do not provide good habitat and which discharge large amounts of heated effluent.



Figures 2-4: Power plants on either side of UDP River

Below the power plants, however, the habitat greatly improves, and it can be seen that there are overhanging wooded areas as well as side channels and other habitat.

Figure 5: Habitat Below Power Plants

Figures 6-7: Habitat Below Power Plants

This improved habitat below the power plants is reflected even in MWG's expert's calculations, which show that the aquatic life in the lower portion of the UDP is better than in much of the

area designated "General Use" below the I-55 Bridge. (Ex. 368, Figure 1). Even looking at MWG's expert's reports, the record clearly refutes any argument for failing to re-designate the areas above the plants and below River Mile 281.

Moreover, the whole manner in which MWG has framed the discussion – considering the UDP standing alone, and then fragmenting the UDP into its component parts – ignores the fundamental principle of ecology that a river system must be considered in its entirety, together with its tributaries:

> A typical stream network resembles a tree, with a large, widely spread-out root-like base eventually leading to a single, major trunk. The stream water body exhibits universal coherence and physical continuity, and naturally there is also regular (Illies 1961) or even continuous (Vannote et al., 1980) longitudinal change of ecological conditions.

Zwick, P. (1992) Stream Habitat Fragmentation—a threat to biodiversity. Biodiversity and Conservation 1, 80-97. (Attachment 1) Indeed, it is nothing short of remarkable that MWG, with its predecessor Commonwealth Edison Company, claim to have studied this system for 40+ years but have apparently never ventured to find out what habitat for fish and other aquatic life is available in waters that are directly connected to the system. MWG's expert admitted that, while he has sampled at the mouth of key tributaries, he has never gone upstream. (11/10/09 PM Tr. 55). The elementary fact is that the habitat of the UDP must be considered together with the habitat to which it is connected in assessing what habitat is available to aquatic life in the UDP. This basic principle is even confirmed in reports that were paid for by MWG. In discussing the 57 species found in the Dresden Pool (50 species above the I-55 Bridge and 49 species downstream of the I-55 Bridge), EA Engineering wrote:

> EA attributes the overall richness of the Dresden Pool study area to the availability of a better variety of lentic and lotic habitats compared to the

> Lockport and Brandon Pools, as well as periodic contributions of fish from the species-rich Kankakee River.

(IEPA attachment MM, EA 2004 p. 3-12).[3]

Consistent with this principle, EA Engineering's Seegert explained that fish that need riffle habitat to spawn can live in lakes or other water bodies as long as they have access to the necessary spawning habitat at the appropriate times. (11/10/09 AM Tr. 71-2). As was discussed in the Environmental Groups' Post-Hearing comments (pp. 4-8), there are all sorts of riffle and other habitat available to fish in Jackson Creek, Hickory Creek, the Kankakee River and the Du Page River, and those fish could live parts of their lives in the UDP if water quality in the UDP was suitable.[4]

C. Current Low Species Populations in the UDP are Demonstrably Not Attributable Merely to Poor Habitat Conditions

MWG argues that the current state of the fishery in the UDP is solely due to dams, barges, sediments and flows, and other features that MWG claims cannot be corrected in the immediate future. The flaw in this argument is that it fails to explain why there have been clear improvements in the fishery in the UDP despite the fact that no dams have been removed, and the other features to which MWG points have not changed.

It is quite clear, even to MWG's experts, that the fishery has improved over the last decades. Writing in 2004, MWG's consultants reviewed fish data they collected in the mid-90s and thereafter and concluded that these "data suggest that the communities within the Upstream

[3] For comparison, it is useful given MWG's emphasis on the fact that the UDP is impounded to consider the Lower Des Plaines as though it were a lake. "Even a fairly diverse lake is going to have 20 species of fish" Seegert 11/10/09 Tr. 10. It also should be kept in mind that the lower Kankakee is impounded by the same dam as the UDP but this has not kept the Kankakee from being "species rich."

[4] MWG witness Dr. Alan Burton also recognized that fish swim, and answered that the Du Page delta in the Lower Des Plaines is relevant because the "fish don't know [what water segment they are in], and they swim up and down past the I-55. (1/13/10 PM Tr. 132-33).

and Downstream I-55 segments have improved, particularly when compared to 1994 and 1995..." (IEPA attachment MM p. 3-20).

A study published in 2005 (Retzer, Michael E. Changes in the Diversity of Native Fishes in Seven Basins in Illinois, USA. *The American Midland Naturalist*, 153(1):121-134. 2005) (Attachment 2) found that fish species richness over the past few decades has increased significantly in the Des Plaines River. Indeed, of the seven basins included in the study, the Des Plaines River showed the most significant positive change (*Id*. p.127). That this also holds true for the Dresden Pool specifically is clear from the results of the Illinois Natural History Survey's Long Term Illinois River Fish Population Monitoring Program. This program shows that native fish species abundance in the Dresden Reach as measured at Treat's Island (in the UDP above the I-55 bridge) and at the mouth of the DuPage River (below the I-55 bridge) has increased significantly from 1962 to 2008. In addition, the number of native species caught at Treat's Island in 2007 was the highest to be collected in this location since the study began over 50 years ago. (The Long-Term Illinois River Fish Population Monitoring Program, Project F-101-R-19, Annual Report to the Illinois Department of Natural Resources by Michael A. McClelland and Greg G. Sass, INHS Technical Report 2008 (10), p. 24, Attachment 3). In addition, new species were collected from the Dresden Reach in 2007 and 2008, including silver redhorse and logperch from the mouth of the DuPage and tadpole madtom and blackside darter from Treat's Island. (The Long-Term Illinois River Fish Population Monitoring Program, Project F-101-R-19, Annual Report to the Illinois Department of Natural Resources by Michael A. McClelland and Greg G. Sass, INHS Technical Report 2008 (10), p. 31 and The Long-Term Illinois River Fish Population Monitoring Program, Project F-101-R-19, Annual Report to the Illinois Department of Natural Resources by Michael A. McClelland and Greg G. Sass, INHS Technical Report 2009

(7), p. 39, Attachment 4). Continuing to improve water quality in the UDP would support the trend in increased aquatic diversity and protect the species already present. As Retzer (2005) notes:

> "Widely perceived to be severely degraded by urban influences (Smith, 1971), this area [The Des Plaines River] has benefited greatly from the treatment of sewage and other wastes. Improvements in the fish community were noted as early as the early 1990s (Lerczak *et al.*, 1992). However, as recently as 1995, the basin has been rated a stream of limited resource (The Biological Streams Characterization Work Group, 1996), which indicates that considerable improvement remains to be seen."

(p.127).

Further evidence that the problems of the UDP relate to water quality as well as habitat factors comes in the form of evidence that the UDP is underperforming biologically compared to its habitat. (Ex. 470).

D. The Habitat of the UDP can be Substantially Improved and Pollution Can Be Reduced

Despite its claim that are a large number of different problems besetting the UDP, MWG somehow has decided that the only way that the system might be significantly improved is to remove the dams. (MWG Final p.89). However, it is possible to remove sediments, even contaminated sediments, which is another problem that MWG identifies. Further, the inlets around Treat Island, which is below the Joliet power plants but well above the I-55 Bridge, could be the subject of rehabilitation projects like those that have been done by the Corps of Engineers in numerous areas along the Mississippi River.[5] Dr. Thomas testified that shallow pools are an option to provide consistent water levels in areas where draw-downs occur. (8/14/09AM Tr. 42-44). Dr. Thomas also testified that stable habitat for fish breeding could be accomplished fairly

[5] *See* http://www.mvp.usace.army.mil/environment/default.asp?pageid=74.

easily by moving riprap or cement along shorelines into a habitat feature that parallels the shoreline and provides a buffer against wave action. (8/14/09AM Tr. 47-48). Similarly, in areas where there is not a lot of sediment deposition, sand or gravel could be added to create shoreline habitat. (8/14/09AM Tr. 49).

MWG relied on testimony from Dr. Burton arguing that nitrogen, phosphorus, ammonia and sediments were factors affecting the UDP. (Prefiled Testimony of G. Allen Burton, Ex. 369). These are all types of pollution that may be lessened in the future with completion of stages of the TARP system that are expected in the next 5 years. (*See* Environmental Groups' Post-Hearing Comments at 21). The amount of phosphorus pollution in the system could be greatly reduced if only the MWRD discharged the same concentration of phosphorus as is discharged by Milwaukee. Dr. Thomas testified that with water quality improvements, we can expect to see greater numbers of more sensitive species (e.g. walleye, small mouth bass, channel catfish and red horses) that are well-established in nearby waters. (8/14/09AM Tr. 97-98; 101-02; 114-115).

E. There is Every Reason to Believe that MWG Power Plant Heat Discharges Have Adversely Affected the System.

This Subdocket C does not really present the question of whether MWG's heat discharges are currently preventing attainment of any use in the UDP. Even assuming hypothetically that heat discharges have not significantly depressed the level of aquatic life in the UDP, the question here is what use designation can be achieved in the future if feasible improvements to habitat are made and pollution from all controllable sources is reduced.

However, since MWG has argued at length that its plants have not harmed the UDP (MWG Final pp.80-88), it should be pointed out here that there is every reason to believe that discharges of heat from the MWG power plants have caused degradation of aquatic life.

First, MWG's statement that there is no evidence of fish kills (MWG Final p. 84) from the Joliet plants in the UDP is simply untrue. Joliet 7 and 8 did cause a fish kill while Commonwealth Edison operated the plant as reported by Thomas Hemminger, Director of Water Quality for Commonwealth Edison. (Ex. 365). It did so while discharging at temperatures (97 F) that are allowed by MWG's current permits and frequently exceeded by MWG discharges. (Ex. A to the Environmental Groups Pre-filed questions to Julia Wozniak, filed August 25, 2008, Document 62396). There has been no testimony as to how hard MWG has looked to see if the plants have caused kills since it took over the plants from Commonwealth Edison.[6]

We do know that MWG's consultants found a decrease in species richness at temperatures that are now discharged by the plant and that occur immediately downstream from the Joliet plants in the UDP. (Ex. 368 p. 7) Further, temperatures frequently occur in the UDP that exceed the preferred temperatures of many species of fish, including ones that might be expected to live in the UDP as found by IEPA's experts, Midwest Biodiversity Institute. (Ex. 15).

Of course, we do not know for certain whether the decline in biological integrity scores found by MWG consultants in the area that just happens to correspond with the area of the Joliet plant discharges was caused by heat discharges, entrainment, impingement or the fact that the walls and other riverbank construction at the MWG plants make for bad habitat. It may well be a combination of those factors. But almost certainly, the heat discharges are part of the mix.

F. The Dangers Posed by Invasive Species Do Not Support a Lower Use Designation for the UDP

[6] Thomas Hemminger testified for Commonwealth Edison in Proposed Determination of No Significant Ecological Damage for the Joliet Generating Station PCB 87-93. Order of Nov. 15, 1989, p. 7.

MWG has attempted to portray the situation regarding Asian carp as rapidly deteriorating and has suggested that drastic and immediate steps that may damage the UDP may be taken at any moment. In point of fact, the latest studies by the IDNR indicate that Asian carp are not currently breeding anywhere close to the UDP, although some bighead carp have swam up into the UDP. (IDNR response to FOIA request, Attachment 5). In fact, Asian carp population control efforts are focused primarily 30 miles downstream from the electrical barrier location and further down the Illinois River rather than anywhere near the UDP (Asian Carp Regional Coordinating Committee, "FY2012 Asian Carp Control Strategy Framework", p. 39, Attachment 6).

Based on a suggestion that has gone nowhere, MWG holds forth the prospect that the high quality habitat of the UDP will be regularly poisoned. (MWG Final p.57). MWG argues this although the very court decision by the U.S. Court of Appeal for the Seventh Circuit that MWG has attached to its Final Comment labels a proposal for regularly poisoning the CAWS to be "untenable." (p.23). Apparently no one had the temerity to argue before the Seventh Circuit for MWG's favorite idea of regularly poisoning the UDP, which would make even less sense than applying rotenone to the narrow channels in the CAWS. The 2012 Asian Carp Control Strategy Framework contains no reference to plans for use of piscicide for carp control in the UDP. The Asian Carp Monitoring and Rapid Response Workgroup's 2011 plan outlines a protocol for piscicide application in the CAWS only upstream of Lockport lock (http://www.asiancarp.us/documents/2011mrrp.pdf, p. 33), and then only if the population condition reaches the highest of a three-level threat indicator structure. In the past 2 years, rotenone been applied twice in the CAWS, once in the CSSC and once in the Little Calumet River. Both applications were in locations of intense and repeated carp eDNA findings and

served the purpose of controlling a direct threat to Lake Michigan. Piscicide application is considered a tool of last resort, not one to be used repeatedly and casually.

The Seventh Circuit decision takes much more seriously proposals that would negatively affect barge traffic such as closing the Chicago locks. (MWG Final Ex. C p.22) Thus, if one assumes that something new and drastic will be put into place to control the movement of Asian carp, it is much more likely that such action will improve habitat conditions in the UDP by reducing the amount of barge traffic which MWG finds so damaging to the UDP aquatic life.

As discussed in our Post-Hearing comments, long term proposals to hydrologically disconnect the Great Lakes and Mississippi River systems are being taken seriously. But contrary to MWG's suggestion (MWG Final p. 58), no one is suggesting that this be done in a way that would harm water quality in the UDP.

Moreover, the effect of high temperatures in causing the growth or movement of undesirable species generally should be considered in Subdocket D as a basis for setting more stringent thermal criteria, because it may well be that requiring lower temperatures -- particularly in the winter -- may be needed to protect the UDP and connected water bodies. As noted by the Ohio DNR, high temperatures "can permit exotic species to survive our cold winters."[7] In addition, since MWG brought up blue green algae (a.k.a. cyanobacteria) in Subdocket C (MWG Final p. 86), it should be made clear that there is substantial literature linking increased temperature in the presence of high nitrogen and phosphorus levels with the growth of blue green algae, including forms of cyanobacteria that creates toxins. C.C. Carey. B.W. Ibelings, E.P. Hoffmann, D.P. Hamilton, J.D. Brooks, Eco-physiological adaptations that favor freshwater cyanobacteria in a changing climate, Water Research 46, 1394-1407 (2012) H.W. Pearl, J.

[7] *See* www.dnr.state.oh.us/Default.aspx?tabid=22451.

Huisman, Blooms Like It Hot, Science 320, 57-8 (2008).[8] (Attachment 7) As was made clear by Dr. Allen Burton, another MWG witness, there is plenty of the nitrogen and phosphorus in the system (Pre-filed Testimony of G. Allen Burton Ex. 369 p. 9) that is necessary for blue green algae growth. Thus, it would be sensible to prevent temperature conditions in the UDP that will facilitate such blue green algae.

G. Presentations Related to Costs Should be Considered in Subdocket D if Anywhere.

MWG, ExxonMobil and Stepan Company write at some length in an attempt to show that the criteria proposed by IEPA are too low and will impose high costs on the companies.[9] These presentations are misleading and grossly premature.[10]

As MWG, Stepan Company, Corn Products and perhaps others will correctly argue if they are unhappy with the Board's decision in Subdocket C, there is no necessary relationship

[8] The Environmental Groups will present evidence that cyanobacteria are in fact present in the Dresden Pool in Subdocket D.

[9] Based on the theory that the IEPA designation could only be met by taking out the dams and eliminating navigation, ExxonMobil argues that the proposed designation meets the 40 CFR § 131.10(g)(6) factor of causing widespread economic and social impact. Nobody, however, is arguing that the dams should now be removed or barge traffic eliminated but only that having dams and barges is not inconsistent with having a river that supports a variety of species. The Mississippi is a river with many dams and barge traffic yet even MWG's expert Seegert agreed that it has a healthy fish community. (11/10/09 PM Tr. 7).

[10] MWG has presented a study by Sargent and Lundy (Pre-filed Testimony of Ray Henry Ex.440) that projects what it hopes the Board will consider to be very large and unreasonable cost figures for meeting the proposed criteria by building cooling towers. This study does not even purport to show the "widespread economic and social impact" that is relevant to a use attainability analysis. 40 CFR § 131.10(g)(6). It only considers costs to MWG.
Even as a study of costs to MWG, the study is plainly too narrow. The study projects costs of building cooling towers but does not consider whether standards might be met at time through the simple mechanisms of turning the plants off when it gets too hot although Commonwealth Edison did this many times in the past. (Pre-filed Testimony of Julia Wozniak Ex. 364 Attach. 6, p. 62.) The study does not consider whether heat requirements could be met in part through cooling wetlands (that would remove nitrogen and phosphorus). MWG also has failed to consider whether the plants at issue should have cooling towers in any case because of the entrainment and impingement currently caused by running these plants open cycle. Obviously, if the plants should have cooling towers to prevent impingement and entrainment, the costs of building such towers cannot be charged to the IEPA temperature criteria. The Stepan Company's cost estimates are based on various far-fetched assumptions regarding how IEPA will write its NPDES permits based on the adoption of the proposed designation as well as the presumed criteria. Most absurd is Stepan Company's concern that IEPA will arbitrarily require Stepan to meet temperature standards without any allowance for a mixing zone or any variance during periods in which the far bigger discharger of heat, MWG, is allowed time to meet the standard. (Stepan Post-Hearing Comments p. 10). Certainly, opposition to use designations must be based on more than paranoia about IEPA.

between the use designation and the criteria needed to protect the use.[11] It is at least logically possible that a use designation that seeks as a goal an even better fishery than that implied by the proposed IEPA use designation would be consistent with the lax criteria temperature sought by MWG.

The folly of MWG's argument conflating use designation and criteria is made more evident through consideration of the "Modified Warmwater Use" designation, used in Ohio, that MWG claims is similar to the use designation that it wants here. (MWG Final p. 10). MWG and its experts claim that IEPA made a terrible mistake in adopting through its language a designation that is closer to the Ohio "Warmwater Use" instead of "Modified Warmwater Use." (MWG Final p. 99; Ex. 366 pp.33-4). This is, at best, curious as MWG's expert Greg Seegert admitted in his testimony that Ohio does not distinguish in its heat criteria between "Warmwater Use" and "Modified Warmwater Use." (11/9/09 PM Tr. 89).

In fact, Table 7-1 of the Ohio Criteria ORC 3745-1-07 directs one seeking temperature criteria to table 7-14 for "WWH," which is the same table one looks to in finding temperature criteria for waters designated "MWH." Perusing Table 7-14, one finds a number of different temperature criteria listed for different WWH and MWH waters, almost all of which are more stringent than the criteria that have been proposed by IEPA for the UDP. For example, the highest daily maximum temperature allowed for any Ohio water is 89 Fahrenheit, a whole 0.3 degrees higher than what IEPA has proposed as the highest daily maximum for the UDP, but the highest monthly average listed for any WWH or MWH in Table 7-14 is 0.1 lower than the highest monthly average allowed by the IEPA proposal. In no case does Ohio allow the high

[11] For this reason, the MWRD and the Environmental Groups have made sure that they reached agreements on both the proper use designation and criteria so as to resolve the issues that must be resolved.

daily averages to occur in months other than July and August that are allowed by the IEPA proposed criteria.

Looking still further at our fellow Midwest state, it is instructive to consider the temperature criteria for the Ohio River, which definitely has been subjected to dams, barges, pollution, and siltation and which was recognized by MWG's expert as a river that was "depressed" by impoundments. (11/10/09PM Tr. 8). The Ohio River has even been subjected to thermal pollution, which is described by the Ohio Department of Natural Resources as follows:

> Thermal pollution from heated discharges can attract large numbers of fish during cool weather, as well as discourage fish use during warm periods. Heated discharges also create warm habitats that can permit exotic species to survive our cold winters. The most significant sources of thermal pollution on the main stem of the Ohio River are coal-fired power plants, which require large volumes of cooling water to efficiently generate electricity. Fish can also be entrapped and entrained at those facilities.[12]

In any case, despite its barge traffic, pollution and impoundments, the Ohio River is designated Warmwater Habitat. And despite the fact that the Ohio River is considerably south of the UDP, the Ohio has maximum daily limits for July and August of 89 degrees F and monthly average limits for those months of 84 degrees, 1.1 degrees lower than what IEPA proposes for the UDP. ORC 3745-1-32.

In sum, adopting MWG's designation for the UDP, if it is intended to be significantly weaker than what IEPA proposed, is illegal. Further, adopting designations that MWG thinks are equivalent to those used in Ohio would not necessarily lead to less stringent criteria than those proposed by IEPA. At any rate, the use designations come with no costs attached to them, and arguments about economic impact do not belong in this Subdocket.

[12] *See* ODNR Website, Threats to the Ohio River, www.dnr.state.oh.us/Default.aspx?tabid=22451.

II. The South Branch of the Chicago River and the Brandon Pool Should Also be Designated Aquatic Life Use 'A'

As mentioned above, the Environmental Groups are not emphasizing the CAWS in this filing because there are few remaining areas of disagreement among the participants in this rulemaking. MWRD and the Environmental Groups agree the record before the Board supports an Aquatic Life Use "B" designation for the Chicago Sanitary and Ship Canal. (MWRD and Environmental Group Status Report 1/27/12, Exhibit A). This is consistent with the IEPA proposal, and is supported by the IEPA. (IEPA Reply to Responses to Status Report 1/30/12 at 4). IEPA, MWRD and the Environmental Groups agree there are unique issues arising from Bubbly Creek that are being studied by the Corps of Engineers, and recommend creating a separate sub-docket for this CAWS segment. (*See*, Environmental Groups and MWRD Joint Motion Regarding Bubbly Creek 3/5/12, and, IL EPA Response to Joint Motion, 3/12/12).

MWRD and the Environmental Groups agree that the record supports an Aquatic Life Use "A" designation for all other portions of the CAWS. As to these CAWS segments, there appear to be only two remaining issues. First, the Environmental Groups assert that two segments which have a direct connection with Lake Michigan - the northern portion of the Calumet River and the Chicago River – should continue be designated as General Use. (PC 1281 at 3, 16).

The second remaining CAWS issue is the appropriate designation for the South Branch of the Chicago River. The MWRD and the Environmental Groups concur that the record supports an Aquatic Life Use "A" designation. In its initial response, IEPA hesitated at this designation because "…at least one discharger who has actively participated in these proceedings, Midwest Generation, could potentially be impacted by an upgrade of this segment." (Status

Report 1/30/12 at 5). Midwest Generation operates the Fisk coal-fired electric generating unit that discharges into the South Branch.

On February 29, 2012, Midwest Generation stated that it would close the Fisk coal-fired power plant in 2012, asserting in a SEC filing:

> The Fisk Station is a 326 MW coal-fired power plant located in Cook County, Illinois, and is within the city limits of Chicago. The Fisk Station is located on approximately 44 acres, inclusive of the switchyard. The operating unit comprising the Fisk Station is referred to as Unit 19 and began operations in 1959. In February 2012, Midwest Generation decided to shut down the Fisk Station by the end of 2012.

Source: Midwest Generation, LLC, SEC Form 10-K 2011, p. 6, available at: http://www.sec.gov/Archives/edgar/data/1134016/000113401612000006/midwestgeneration201110k.htm

In its Post Hearing Comments, the IEPA again asserts the need for Midwest Generation's "input" about the consensus proposal to designate the South Branch of the Chicago River as Aquatic Life Use A. However, MWG's "input" can be derived from MWG's well-publicized decision to close the Fisk facility, which was made two days prior to the filing of IL EPA's Post Hearing Comments. In its Final Comments, MWG acknowledges it will close Fisk in 2012, but proceeds to make sporadic arguments about the South Branch as if the announcement did not really happen. (PC 1277). In light of its decision to close the Fisk facility, the Environmental Groups assert MWG has provided the most explicit, decisive input imaginable. Starting in 2013, there is no reason why the South Branch of the Chicago River should be segregated into a "B" designation out of deference to MWG's input or its effluent. There is every reason to believe the aquatic life potential of this CAWS segment will be significantly enhanced by habitat improvements and better water quality (including more natural temperatures) and, as

recommended by MWRD and the Environmental Groups, that the South Branch should receive an "A" designation.

MWG's claim (MWG Final p.10) that the testimony of David Thomas somehow contradicts the "A" designation for the South Branch is entirely misplaced. Dr. Thomas nowhere stated that a "B" designation was appropriate for the South Branch. He testified based on personal observation that the habitat throughout the CAWS was better than argued by IEPA and MWRD, and he utilized the IDNR rotenone data to confirm that view. (Thomas Prefiled Testimony Ex. 474 and Testimony of Dr. David Thomas on the Limnotech Reports on "Chicago Area Waterway System Habitat Evaluation and Improvement Study" Including "Analysis of the Relationship between Fish and Water Quality" and "Review and Selection of Fish Metrics," Filed Feb. 1, 2011).

Apart from the issues related to the South Branch of the Chicago River and the current General Use segments, there is agreement about every other segment of the CAWS. For MWRD and the Environmental Groups, this represents a consensus approach that is part of a larger cooperative framework. For IEPA, this agreement narrows the issues before the IPCB in a helpful way, and is consistent with the IEPA proposal in some respects and not objectionable in others. There is no significant objection from any other participant in these proceedings. This cooperative framework provides a strong basis for IPCB action and for significant advancement in the quality of the Chicago Area Waterways for aquatic life.

Looking now again to the Sanitary and Ship Canal, Citgo Petroleum attacks the IEPA proposed Aquatic Life Use B as an unjustified "Upgrade," but it is not upgrades that have to be justified. It is maintaining sub-fishable use designations that require such justification. Under the

CWA, no use designation may be made that fails to protect existing uses.[13] As to the lower Sanitary and Ship Canal, such a justification would be impossible given that use by adult fish of the Sanitary and Ship Canal is clearly an existing use.

Finally, as to the Brandon Pool of the Des Plaines River, the argument of the Environmental Groups does not rest primarily on habitat, although the QHEI scores for much of this area are decent. The basis for protecting the Brandon pool for juvenile fish is established by the fact that juvenile fish were found there recently by IDNR. Plainly, it is not impossible for juvenile fish to live in the Brandon Pool because it is clearly happening. Again, an existing use must be protected and a use designation cannot be removed if it is an existing use.

CONCLUSION

MWG, Stepan Company, and ExxonMobil have not carried their burden of showing that the uses that can be supported by the UDP are anything less that than what is called for by the designation proposed by IEPA. Further, no party has offered a good reason why the Sanitary and Ship Canal should not be designated Aquatic Life Use B, as proposed by IEPA. And no party has offered any valid reasons why the South Branch of the Chicago River and the Brandon Pool should not be designated Aquatic Life Use 'A.'

Dated: March 19, 2012

Respectfully submitted,

ENVIRONMENTAL LAW & POLICY CENTER

[13] 40 CFR § 131.10(g)

FRIENDS OF THE CHICAGO RIVER

NATURAL RESOURCES DEFENSE COUNCIL

OPENLANDS

SOUTHEAST ENVIRONMENTAL TASK FORCE

ALLIANCE FOR THE GREAT LAKES

PRAIRIE RIVERS NETWORK

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Authorized to represent the parties listed above for the purposes of these post-hearing comments