

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)	
)	
WATER QUALITY STANDARDS AND)	
EFFLUENT LIMITATIONS FOR THE)	
CHICAGO AREA WATERWAY SYSTEM)	R08-9(C)
AND THE LOWER DES PLAINES RIVER:)	(Rulemaking-Water)
Adm. Code Parts 301, 302, 303 and 304)	

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 W. Randolph St., Suite 11-500
 Chicago, IL 60601-3218

Stefanie N. Diers, Assistant Counsel
 Illinois Environmental Protection Agency
 1021 N. Grand Ave. East
 P.O. Box 19276
 Springfield, IL 62794

Persons included on the attached
 SERVICE LIST

Please take notice that on August 30, 2013, we filed electronically with the Office of the Clerk of the Illinois Pollution Control Board the attached Supplemental Comments on behalf of the Lemont Refinery, a copy of which is served upon you.

CITGO PETROLEUM CORPORATION and
 PDV MIDWEST, LLC, Petitioners

By:  _____

Jeffrey C. Fort
 Irina Dashevsky
 Dentons US LLP
 233 S. Wacker Drive
 Suite 7800
 Chicago, IL 60606-6404

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)	
)	
WATER QUALITY STANDARDS AND)	
EFFLUENT LIMITATIONS FOR THE)	
CHICAGO AREA WATERWAY SYSTEM)	R08-9(C)
AND THE LOWER DES PLAINES RIVER:)	(Rulemaking-Water)
Adm. Code Parts 301, 302, 303 and 304)	

SUPPLEMENTAL COMMENTS ON BEHALF OF THE LEMONT REFINERY

CITGO PETROLEUM CORPORATION and PDV MIDWEST, LLC (collectively, the “Lemont Refinery”) submit the following comments with respect to the referenced Opinion and Order of the Board (“Opinion”), which was issued in this Docket on February 21, 2013. By the Order of Hearing Officer dated July 30, 2013, leave was given to submit supplemental comments in response to the U.S. EPA's comments dated June 26, 2013 (“U.S. EPA Comments”). The Lemont Refinery appreciates this opportunity and wishes to provide the following information to the Board. We believe this information will aid the Board in addressing the U.S. EPA Comments and proceeding to the Second Notice using the same approach as the Board proposed in the First Notice. These Supplemental Comments focus on the “Use B” designation as proposed by the Board in the context of the Chicago Sanitary and Ship Canal (“CSSC”) between its confluence with the Cal-Sag Channel and the Des Plaines River.¹ This segment of the Chicago Area Water System (“CAWS”) is referred to herein as the “Lower Ship Canal.” In addition, the Lemont Refinery urges the Board to recognize that one of the uses of the Lower Ship Canal is to provide a location for the invasive species barrier.²

¹ As a result of the clarity added to the definition of “Use B” by the Opinion and Order of Board on Proposed Rule on First Notice on February 21, 2013, the Lemont Refinery supports the Board's definition of Use B and its application to the Lower Ship Canal.

² In light of the extraordinary measures being undertaken in the CAWS, and particularly in the Lower Ship Canal, and the significant federal litigation relating to the threat of the Asian carp,

1. The record is clear that the Lower Ship Canal qualifies for as many as three of the so-called "exceptions" to the Clean Water Act's goal of "fishable/swimmable" streams. Those exceptions are found in 40 CFR 131.10(g), subsections (3), (4) and (5) (hereafter referred to as "Factors 3, 4 and/or 5"). The Illinois EPA's ("IEPA") initial proposal is based on this three-Factor analysis with respect to aquatic uses. Moreover, the assertion that the Lower Ship Canal qualifies for these exceptions is not contradicted by the record, except to the extent that some may believe that there are reasons for exemption in addition to the three Factors listed by the IEPA. Put otherwise, the IEPA did not identify all the reasons for why a deviation from the "fishable/swimmable stream" goal of the Clean Water Act was justified here. While the IEPA cast those Factors in the Statement of Reasons primarily in the context of recreational issues, the same basic facts also apply to Factors 3, 4, and 5 with respect to the aquatic uses. Attachment A to these Supplemental Comments includes pertinent excerpts from the IEPA's Statement of Reasons. These excerpts are submitted for the Board's review because they provide a frame of analysis that seems to satisfy the U.S. EPA Comments. (*See also* Hearing Exhibit 29.) The record of these proceedings clearly indicated that the CSSC should be categorized as "Use B" rather than "Use A". Indeed, the Environmental Groups involved here have agreed to no higher use than a "Use B" category for the CSSC.

2. The U.S. EPA Comments do not assert that the Lower Ship Canal should be a "fishable/swimmable stream" and throughout the several debates in this proceeding no one has

the Board should recognize that the invasive species barrier is among the uses to which the Lower Ship Canal is being put, along with the Regulated Navigation Area and the Black Safety Zone. *See Michigan v. United States Army Corps of Engineers*, 667 F.3d 765 (7th Cir 2011). Indeed, the Coast Guard recently re-affirmed these safety measures in its Interim Rule. *See* 33 CFR 165.923 (July 15, 2013). Moreover, the electric fish barrier is now much larger and carries a much higher voltage than it did six years ago, when this proceeding began. While it merited only a brief mention in the Statement of Reasons, it is now the subject of significant federal litigation and international scrutiny.

contested that the Lower Ship Canal, which includes the Regulated Navigation Area and the Black Safety Zone, fits one or more of the exception Factors. Importantly, only one of these Factors needs to exist to justify uses other than "fishable/swimmable". The Lemont Refinery reads the U.S. EPA Comments as simply asking for clarification on certain parts of the proposed language and for a more complete explanation of the Board's analysis.

3. The Lemont Refinery supports the Board's Opinion, particularly the conclusions set forth in pages 196-97, as a succinct analysis that the Lower Ship Canal satisfies one or more of these three exception Factors to the "fishable/swimmable" criterion. The Board's Opinion also summarizes the UAA Factors and the documentation submitted by the IEPA. (*See* Board Op. at pp. 29-34.) The record amply supports the Board's conclusion and its findings. To this end, we propose providing the U.S. EPA with an analysis as to each Factor for the CSSC, and for segments of the Lower Ship Canal, which would likely be useful for the U.S. EPA's review of this issue. The purpose of these Supplemental Comments is to suggest that analysis, largely based on findings that the Board has already made. As evidenced below, these comments focus on facts that were brought forward in testimony submitted by the Lemont Refinery and which further supports the application of one or more of the three exemption Factors to the "Use B" Aquatic Life definition as proposed by the Board.

4. As we have stated in our Comments on Opinion and Order of Board on Proposed Rule, First Notice, the Lemont Refinery believes that the Board's proposed listing of the types of tolerant aquatic life species is very helpful. We did not interpret the proposed language on "Use B" to assert that only the fish listed in that proposed language for "Use B" were actually present, and that other tolerant vertebrates and aquatic species were not present. Indeed, we suspect the

U.S. EPA, when it suggested in the alternative that removal of the word "may" from the proposed language could suffice, had a similar interpretation of that language.

5. The Lower Ship Canal and the Regulated Navigation Area and Black Safety Zone squarely fit Factor 3 and justify the "Use B" designation:

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

40 CFR 131.10(g)(3).³ The electric fish barrier in the Black Safety Zone, within the Regulated Navigation Area, is meant to create an inhospitable area for fish. The fish are repelled by the electric current that prohibits them from passing through. This barrier is intended to prevent the migration of Asian carp and similar invasive species from moving toward Lake Michigan from the Illinois River system. "The federal government has recognized Asian carp as 'the most acute (aquatic invasive species) threat facing the Great Lakes today.'"⁴ The Board heard extensive testimony on the importance of the electric fish barrier during several days of hearings in late

³ While U.S. EPA Comments focus on combined sewer overflows and state that eventually the TARP project will address those issues, the record here shows that there are many other aspects of the CSSC which preclude a "fishable/swimmable" use designation. Factors other than water quality can preclude the goal of the Clean Water Act, as 131.10(g) recognizes by listing habitat and other non-water quality factors. *See also* 63 FR at 36752 ("...The existing use determination is, therefore, site-specific and decisions should consider water quality and other limiting factors such as the physical habitat specific to a particular water body".) (emphasis added). We agree with the IEPA's statement that, "Habitat is the most important factor for determining the attainable aquatic life use and the state must also look to whether habitat impairments are reversible or irreversible in the foreseeable future." (IEPA Comments to the Board's First Notice Opinion in Subdocket C at p. 37.) We note that the U.S. EPA has already stated that the fish barrier is "a permanent electric barrier...to prevent the [Asian] carp from entering the Great Lakes." *See* <http://www.epa.gov/glnpo/invasive/asiancarp/> - last updated on Wednesday, May 15, 2013, last visited on August 25, 2013.

⁴ Restoring the Natural Divide: Separating the Great Lakes and Mississippi River Basins in the Chicago Area Waterway System, at 7. January 2012, Great Lakes Commission (hereinafter, "Natural Divide"), citing Asian Carp Regional Coordinating Committee 2010. 2011 Asian Carp Control Framework.

2010 and early 2011 (November 8 and 9, 2010, with carry-over testimony into the March 9, 2011 hearings).

Specifically, with respect to UAA Factor 3, the testimony of Robyn Garibay is the most direct. The Board described her testimony as follows:

Ms. Garibay stated that many of the human-caused conditions that render an upgrade in use designation infeasible are already identified in the evaluation of UAA Factors 4 and 5. Exh. 420 at 9. Those relate to the use of the Lower CSSC for navigation, flood control, and conveyance away from Lake Michigan. Id. Ms. Garibay reiterated that the evaluation of those human-caused conditions prevent an upgrade because those measures cannot be remedied without causing further environmental damage. Id.

Further, Ms. Garibay testified that the 2007 Statement of Reasons demonstrated that the Aquatic Invasive Species Dispersal Barrier involves an electric fence to prevent fish from passing through it. Exh. 420 at 9. Since 2007, the operations plan has increased to the operation of two electric barriers and pesticides to control fish encroachment. Id. Ms. Garibay testified that those operations are integral to managing water quality and invasive species control at current conditions and cannot be overlooked in the designated use of the Lower CSSC. Id.

Human-Caused Condition: Invasive Species Prevention and Control

Ms. Garibay testified that the Great Lakes Basin supports the most taxonomically invaded temperate freshwater ecosystem in the world. Exh. 420 at 10. Examples include the alewife, sea lamprey, zebra mussel, Eurasian ruffe, and Asian carp. Id. at 10. The presence of these invasive species has resulted in many strategies to prevent additional invasive non-native species from entering the Great Lakes, including the electric barrier and piscicide rotenone. Id. at 10. Currently, those efforts are aimed specifically at preventing the spread of Asian carp. Id. at 11. The harm of the Asian carp to Mississippi and Illinois drainages illustrates the need to assert maximum efforts to prevent the spread of Asian carp into the Great Lakes. Id. Therefore, it is important for the State of Illinois to continue to support prevention of such invasive species from migrating through the Lower CSSC to Lake Michigan. Id.

Ms. Garibay pointed out that the American Fisheries Society and the Asian carp Regional Coordinating Committee (Committee) approve of the electronic barrier in CAWS. Exh. 420 at 11-12. Those entities state that the Asian carp is a threat to both the Great Lakes and the Illinois River System. *Id.* at 12. Moreover, the Committee stated that Asian carp confound typical control strategies. *Id.* at 13, citing <http://www.asiancarp.org/faq.asp>. The electric barrier deterrent is part of the Lower CSSC's current and existing use, and the barrier should be recognized in the water quality standards. *Id.* at 14. Further, the electric barrier cannot allow for recreational use within the Lower CSSC. *Id.*

In her testimony, Ms. Garibay recommended that the Board recognize the design and operation of invasive species controls as:

1. A mechanism that prevents support for an upgraded designated aquatic life use;
2. A recognized designated use for the Lower CSSC, specifically through operation of electrical barriers to deter migration of Asian carp to the Great Lakes, and use of piscicides to allow maintenance of the barriers; and
3. A designated use including electrical barriers and piscicides, discontinuations of which would cause more system wide environmental damage than leaving them in place. Exh. 420 at 14.

Ms. Garibay also testified that another strategy to prevent invasive species from invading the Great Lakes is to prevent or minimize conditions that would attract the target species, such as available habitat and food. *Id.* at 15. The biological habitat of the Lower CSSC is poor, which further discourages Asian carp from using it to migrate to Lake Michigan. *Id.* Improving the Lower CSSC and upgrading the use designation would be self-defeating with regard to the Asian carp. *Id.* The Asian carp could be attracted to the aquatic life that might flourish in a cleaner Lower CSSC. *Id.* at 16. Then the Asian carp would harm the fish populations that might exist in the Lower CSSC if the use designation were upgraded because Asian carp could crowd them out and consume all the planktonic food sources. *Id.* This would counteract any type of use designation upgrade. *Id.*

(Board Op. at pp. 87-88.) Ms. Garibay further testified:

"... that the aquatic life limitations in the Lower CSSC are irreversible. She concluded that any possible remedies are limited and would not be able to achieve an upgraded designated use. *Id.* Further, she stated that improving water quality could have detrimental effects on the aquatic life by creating conditions that are counterproductive to mandatory invasive species control. *Id.* at 18. Ms. Garibay recommended that the current designated aquatic life use is appropriate and an upgrade is not warranted or advisable."

(*Id.* at p. 88.)

Other witnesses, including Jim Huff, also testified regarding the negative effects on aquatic life that the electric fish barrier provides, as well as commenting that its removal would do more harm than good. (*Id.* at pp. 82, 84.)

The harm from removing the electric fish barrier and from changing the aquatic habitat of the Lower Ship Canal is several-fold. First, it would permit the Asian carp to migrate to Lake Michigan, which could have potentially disastrous consequences. Secondly, alternatives to the electric fish barrier are not feasible today (or in the near future) without completely obstructing and interfering with navigation through the CSSC and into Lake Michigan. Potential physical measures range from halting boating and shipping between the CAWS and Lake Michigan, to constructing a physical separation between Lake Michigan and the CAWS, at a cost of hundreds of millions of dollars and extending over 50 years. (*See* Board Op. at pp. 109-126; Attachment 5 to Lemont Refinery's Final Comments on Subdocket C (filed March 5, 2012).)

The harm caused by the electric fish barrier is not limited to fish and invertebrates. It is also very dangerous to humans. By way of example, if a person falls into the Black Safety Zone, the electric pulse would incapacitate him or her in approximately 15 minutes, most likely causing

death. For this reason, the Coast Guard has voluminous and stark warning signs in the Regulated Navigation Area, including that no person can go in after someone who has fallen into the electrified waters. (*See* Hearing Exhibit 285 at Attachment 2.)

Aside from the electric fish barrier, there are other human caused conditions in the Lower Ship Canal, which, if remedied, would likely cause more environmental damage than if they were left in place. One key reason the Ship Canal exists in its channelized configuration is for navigation and barge traffic. The reason such traffic can occur is due to the Ship Canal's construction with vertical sides. To be sure, the Ship Canal is very narrow and typically has commercial and industrial activities pressed up to its edges. The Ship Canal is bounded by sheet pile walls or granite rock, blasted at a vertical angle. No one has ever analyzed the technical feasibility of changing this configuration. Such measures, and their costs, are not even considered with the measures being proposed for the physical separation between Lake Michigan and the Illinois River System. As noted above, that project could take billions of dollars and 50 years to complete. *See* Natural Divide at 5.

6. Factors 4 and 5 present additional reasons for not designating a "Use" as "fishable/swimmable". Both of those Factors apply to the Lower Ship Canal as well. These Factors provide:

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

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

33 U.S.C. 131.10 (g)(4) and (5). Some of the facts discussed with respect to Factor 3 also apply to Factors 4 and 5, and are discussed in the testimony of Robin Garibay and Jim Huff. (See Board Op. at pp. 81-87.) Attachment A contains substantial details regarding the physical characteristics of these topics and their impact on aquatic life.

The record is replete with testimony about the poor aquatic habitat in the Ship Canal, including the lack of appropriate substrate and other conditions, which are unrelated to water quality but which preclude attainment of the "fishable/swimmable" use of the Ship Canal. Mr. Huff noted that the aquatic habitat is rated as poor to very poor, and overall stream use is designated as non-supportive of aquatic life and for fish consumption and aquatic life. (Hearing Exhibit 285 at 4.) Among the facts that are relevant to the UAA Factors, the Board cited the following from Mr. Huff's testimony:

- a. The CSSC carries the treated wastewater effluents from most of Cook County which represent 70% of the Ship Canal flow at Lockport on an annual basis. Effluent equal to an estimated population equivalent of 9.5 million people is discharged through the District.
- b. The shoreline of the CSSC houses many industries, ... that rely upon the waterway for cooling water, effluent discharge, as well as for commerce.
- c. There are limited shallow areas along the shoreline and a lack of suitable physical habitat to promote a more diversified aquatic community, as well as frequent disturbances caused by the barge traffic.
- d. The CSSC has silty substrates and or substrate material. There is little instream cover and channelization has occurred. Routine dredging is required to maintain channel depth. Further there is no sinuosity and backwater areas or tributary mouths along the CSSC.
- e. The CSSC has minimal slope and low velocities. These are not optimal conditions for aquatic habitat, but they are optimal conditions for sediment depositions.

(*Id.* at pp. 6-7; Board Op. at pp. 82-82 and 85-87 (summary of testimony from Robin Garibay).)

These facts squarely justify the application of Factors 4 and 5 to the Regulated Navigation Area and the Lower Ship Canal. Ultimately, the whole system of dams and channelized structures precludes any "fishable/swimmable" use. The CSSC did not have a "natural condition" - it was created to reverse the flow of run-off and wastewater away from Lake Michigan. It is not feasible to operate the lock and dams in another manner. Indeed, the operation of these pumping systems is governed by factors beyond the control of the District and the Army Corps. Notably, United States Supreme Court decrees issued over the course of decades limit the amount of water which can be diverted from Lake Michigan into the Ship Canal. *See e.g. Wisconsin v. Illinois*, 449 U.S. 48 (1980). To minimize flooding due to storm events, the water levels are lowered quickly. This decree affects not only Illinois and the Army Corps of Engineers, but also the States of Michigan, Wisconsin, Indiana, Ohio and other states bordering the Great Lakes. To minimize flooding and discharges from the CAWS into Lake Michigan, water levels are lowered in advance of threatened thunderstorms. It should not be disregarded that the Ship Canal -- it really is a canal, not a natural river or stream -- features side walls, no tree canopy and industrial and commercial development right to its edges. Moreover, the substrate is poor, there are no riffles, pools or other attributes for a high quality water body. The passage of barges only serves to re-suspend contaminated sediments. While the combined sewer overflows will be substantially reduced over the next several years by TARP, the other features of the Ship Canal will remain. Thus, it is no surprise that Limnotech would conclude:

"that even if all the potential habitat improvements were undertaken, the change would be so modest as to be still within the range of the individual station scores in the reach suggesting that

the changes would not likely have a significant impact on fisheries quality." Limnotech 2010. Chicago Area Waterway System Habitat Evaluation and Improvement Study: Habitat Evaluation Report, at 53 (Public Comment 284).

7. The U.S. EPA Comments also ask the Board to justify why the CSSC and the Brandon Island Pool are not "Use A". With respect to the CSSC, and especially the Lower Ship Canal and the Regulated Navigation Area and Black Safety Zone, the Lemont Refinery finds this request surprising. From the inception of this proceeding, the IEPA (and every other person who testified) saw the Ship Canal as different from the waters that the IEPA proposed to be "Use A". The environmental groups also agreed with the District that the CSSC should be a "Use B" designation. Clearly there is a substantial difference between the CSSC, which is squarely a "Use B" water, and the other waters designated as "Use A".

8. The Lemont Refinery understands that other participants intend to submit additional comments in support of the Board's conclusion that the Chicago Sanitary and Ship Canal meets the "Use B" definition and that this definition is consistent with, and appropriate, under the Clean Water Act and that the exemptions for uses less than "fishable and swimmable" should apply here. We support those comments, and urge the Board to retain its proposed definition of "Use B Aquatic Waters" with a further explanation specifically as to how the Ship Canal meets the UAA criteria for an exemption from the "fishable/swimmable" goal of the Clean Water Act.

Finally, we urge the Board to recognize, as one of the uses of the Lower Ship Canal, the presence of the invasive species barrier to preclude, or at least minimize insofar as is currently practicable, the migration of Asian carp and other invasive species from the Illinois River system into the CAWS, and hence potentially into Lake Michigan. *See Michigan v. United States Army*

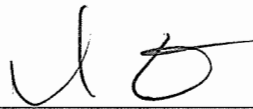
Corps of Engineers, supra.⁵ The U.S. EPA even stated that it, along with other federal agencies and the State of Illinois, "are working together to install and maintain a permanent electric barrier between the fish and Lake Michigan to prevent the carp from entering the Great Lakes". See <http://www.epa.gov/glnpo/invasive/asiancarp/> - last updated on Wednesday May 15, 2013, last visited on August 25, 2013 (emphasis added). The Board should agree and include this as a specific "use" for the CSSC and particularly the Lower Ship Canal.

Dated: August 30, 2013

Respectfully submitted

CITGO PETROLEUM CORPORATION and
PDV MIDWEST, LLC, Petitioner

By: _____



Jeffrey C. Fort
Irina Dashevsky
Dentons US LLP
233 S. Wacker Drive
Suite 7800
Chicago, IL 60606-6404

⁵ We suggested language in our comments filed July 1, 2013 in this docket. As additional support for the appropriateness of such language see pp. 11-16 in "Final Pre-First Notice Comments on Subdocket C," March 25, 2013, submitted on behalf of the Lemont Refinery.

ATTACHMENT A

EXCERPTS FROM STATEMENT OF REASONS

While the Lemont Refinery disagrees with the IEPA on some issues, we agree with the IEPA that Factors 3, 4, and 5 of 40 CFR 131.10(g) apply with respect to the aquatic uses for the Lower Ship Canal. The following portions of the IEPA's October 26, 2007 Statement of Reasons are set forth in a form modified to apply those facts specifically to the aquatic uses of the Lower Ship Canal.

The Chicago Sanitary and Ship Canal "is a human-made channel that begins at its confluence with South Branch Chicago River, flows southwest and then south, and ends at its confluence with Des Plaines River..." (IEPA's 10/26/07 Statement of Reasons ("SoR"), R08-9 (Rulemaking-Water), at p. 28.)

"The Chicago area is drained by a series of waterways, many of which were human-made in order to facilitate water flow away from Lake Michigan to protect the Lake's drinking water and recreational uses. CAWS consists of 78 miles of human-made channels that provide an outlet for drainage of urban stormwater runoff and treated municipal wastewater effluent while supporting commercial navigation...Approximately 75 percent of the waterway length consists of human-made canals where no defined stream channel existed previously...The flow is artificially controlled by four hydraulic structures managed by MWRDGC . The level of water in the waterways can be lowered in the anticipation of a storm event to provide additional storage for flood control." (SoR at p. 18)⁶

"[T]hese water bodies were part of a massive engineering effort that reversed the flow of the Chicago River System...to allow the City of Chicago to divert its wastewater from Lake Michigan and

⁶ Indeed, Scott Twait of the IEPA testified that when there is no precipitation, upstream of the Regulated Navigation Zone in Lower Ship Canal is a 100 percent effluent dominated stream from the Metropolitan Water Reclamation District. (See Twait Hr'g Tr. July 29, 2013, 75:10-76:7.)

to create a navigational connection between Illinois River and Lake Michigan." (*Id.* at p. 19.)

"The waterways currently designated for Secondary Contact and Indigenous Aquatic Life Uses have been heavily modified in order to allow for stormwater management and navigation in the Chicago area. Due to the extensive nature of these modifications, it is impossible to reverse them to allow attainment of primary contact recreational uses." (*Id.* at p. 32.)

The Lemont Refinery submits that the same is true for allowing attainment of primary aquatic life uses.

The Statement of Reasons continues, with specific analytical detail with respect to Factors 3, 4 and 5.

"Flow and hydraulic behavior of the CAWS and Lower Des Plaines River is actively managed via a system of control structures to prevent flooding within and downstream of the basin and to maintain navigation capabilities. Flow rates and pool stages are continually monitored and managed. In advance of a storm event, the water depth in the Lockport basin which comprises the CAWS waterbodies located between the Lockport, Wilmette, Chicago River and O'Brien controlling works, is lowered by as much as 3 feet to accommodate the anticipated storm flow. This lowering is accomplished by sending CSSC flow to Des Plaines River at the Lockport controlling works. Normal storm events contribute an amount of storm water sufficient to bring the basin back up to navigational stage. Heavier storm events raise the basin stage higher than normal navigational levels and when stage height threatens downstream structures, the basin is discharged to Lake Michigan. If storm events contribute less storm water than anticipated, navigational makeup water is discharged into the basin from Lake Michigan. As a result, it is not uncommon for some portions of CAWS to experience changes in depth of four to six feet in a 24 to 48 hour period and rapid changes in flow velocity. Such rapid fluctuations result in sediment scouring and resuspension plus alternate drying and wetting of shoreline habitat for aquatic life." (*Id.* at pp. 32-33.)

"Because most of CAWS and Lower Des Plaines River is artificially channelized, it is also routinely subject to unavoidable moderate to severe watercraft passage related disturbances such as

sediment scouring and wake formation that is dangerous to small watercraft and disrupts shoreline habitat for aquatic life. Wakes coupled with vertical-wall construction in many of the waterway reaches make recreational uses dangerous. Small craft can easily be capsized and persons in the water will have little if any route for escape." (*Id.* at p. 33.)

"In addition to flow modifications, the most severe physical barriers to waterway recreation exist in CSSC from its confluence with Calumet-Sag Channel down to its confluence with Des Plaines River. Here the waterway consists of deep-draft, vertical-walled shipping channels and terminals; the steep walls offer no human escape route from the water. Such conditions limit waterway uses to materials loading and offloading and passage of commercial and large recreational watercraft. Additionally, the land along the reach is privately owned and dominated by materials handling, chemical manufacturing, oil refining, electrical power generating and other large industrial operations; and there are no points designated for public access. The Lockport Lock and Powerhouse, the Lockport controlling works and the Aquatic Invasive Species Dispersal Barrier are located within this reach of the CSSC and present additional dangerous conditions. Such conditions are irreversible, and in combination with other Factors described herein, preclude any recreational activities from occurring. Des Plaines River from its confluence with CSSC to the Brandon Road Lock and Dam has characteristics similar to the above segment." (*Id.* at pp. 33-34.)

"In April 2002 an electrical aquatic invasive species dispersal barrier was installed in the CSSC to prevent the passage of Asian carp and other invasive species from the Illinois River to Lake Michigan and vice versa. The barrier involves applying an electrical charge directly to the water and the charge is dangerous to humans." (*Id.* at p. 36.)

"The Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters are capable of maintaining aquatic life populations predominated by individuals of tolerant types that are adaptive to the unique physical conditions, flow patterns, and operational controls designed to maintain navigational use, flood control, and drainage functions in deep-draft, steep-walled shipping channels." (*Id.* at p. 49.)

"CAWS and Brandon Pool Aquatic Life Use B waters are artificially constructed or channelized, straight, deep-draft, steep-walled shipping channels with little or no fixed aquatic or overhanging riparian vegetation or other refugia for aquatic life

from shipping traffic and predation. They are generally 15 feet or more deep and square or rectangular in cross section. The channel walls are kept in place by sheet piling, concrete, timbers or various combinations of each. Use B waterways are subject to recurring, moderate to severe anthropogenic impacts such as sediment scouring, wake disturbances of shoreline areas, and rapid changes in water levels and flow velocities; the impacts are attributable primarily to navigational uses and flood control functions." (*Id.*)

"The waterway reaches in the Lockport zone (i.e., the area bound by the Lockport lock and dam, the O'Brien lock and dam, the Chicago River lock and controlling structure and the Wilmette controlling structure); are especially subject to such impacts. The area described can be found on the map included as Attachment 1. In order to ensure navigation and prevent flooding, Lockport zone stage height is dropped by as much as 3 feet in advance of a rain event and then allowed to regain navigation stage by allowing storm water and, if necessary, navigational makeup water from Lake Michigan to flow into the system. More severe storms are followed by temporary stage heights higher than required for navigational purposes and it is not uncommon for the system to fluctuate 4 to 6 feet in level over a 48-hour storm related period. When stage height endangers waterway or other basin structures, CAWS flow direction is reversed and discharged into Lake Michigan through the controlling structures." (*Id.* at pp.49-50.)

"Additionally, in April 2002 an aquatic invasive species dispersal barrier was installed in the CSSC at Romeoville to prevent Asian carp and other invasive species' passage from the Illinois River to Lake Michigan and vice versa. The barrier involves applying an electrical charge directly to the water at a rate intended to prevent any fish from passing alive." (*Id.* at p. 50.)

"Quality Habitat Evaluation Index (QHEI) scores in Use B waters generally are below 40, which according to a report prepared by the Center for Applied Bioassessment and Biocriteria, corresponds to a very poor to poor biological potential. (See Attachment R). The Ohio Boatable and Illinois EPA fish Index of Biological Integrity (IBI) scores generally are below 22, which are to be expected in waters with very poor to poor habitat attributes. (See Attachments A, B, T and U). Such conditions are irreversible, and in combination with other Factors, prevent Use B waters from maintaining a biological condition that meets the Clean Water Act's Aquatic Life goal. (*Id.*)

These statements by the IEPA were supported by a wide range of witnesses who testified.

Indeed, we are aware of no testimony which contradicted these facts as they would be applied to aquatic habitat and aquatic life uses.

CERTIFICATE OF SERVICE

I, the undersigned, certify that on August 30, 2013, I served electronically the attached Supplemental Comments on Behalf of The Lemont Refinery, upon the following:

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

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

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

Stefanie N. Diers, Assistant Counsel
Illinois Environmental Protection Agency
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

The participants listed on the attached
SERVICE LIST



Irina Dashevsky

SERVICE LIST

Frederick M. Feldman, Esq.
Louis Kollias
Margaret T. Conway
Ronald M. Hill
Metropolitan Water Reclamation District
100 East Erie Street
Chicago, IL 60611

Roy M. Harsch
Drinker Biddle & Reath
191 N. Wacker Drive, Suite 3700
Chicago, IL 60606-1698

Claire Manning
Brown Hay & Stephens LLP
700 First Mercantile Bank Blvd.
205 S. Fifth St., P.O. Box 2459
Springfield, IL 62705-2459

Fredric Andes
Erika Powers
Barnes & Thornburg
1 N. Wacker Dr., Suite 4400
Chicago, IL 60606

James L. Daugherty-District Manager
Thorn Creek Basin Sanitary District
700 West End Avenue
Chicago Heights, IL 60411

Jessica Dexter
Environmental Law & Policy Center
35 E. Wacker Dr., Suite 1600
Chicago, IL 60601

Robert VanGyseghem
City of Geneva
1800 South St.
Geneva, IL 60134-2203

Andrew Armstrong
Matthew J. Dunn-Chief
Susan Hedman
Office of the Attorney General
Environmental Bureau North
69 West Washington Street, Suite 1800
Chicago, IL 60602

Bernard Sawyer
Thomas Grant
Metropolitan Water Reclamation District
6001 W. Pershing Road
Cicero, IL 60650-4112

Lisa Frede
Chemical Industry Council of Illinois
1400 E. Touhy Ave.
Suite 110
Des Plaines, IL 60018

Alec M. Davis
Katherine D. Hodge
Matthew C. Read
Monica T. Rios
N. LaDonna Driver
Hodge Dwyer & Driver
3150 Roland Avenue
P.O. Box 5776
Springfield, IL 62705-5776

Tracy Elzemeyer
American Water Company
727 Craig Road
St. Louis, MO 63141

Keith Harley
Elizabeth Schenkier
Chicago Legal Clinic, Inc.
211 West Wacker Drive, Suite 750
Chicago, IL 60606

Frederick D. Keady, P.E.-President
Vermillion Coal Company
1979 Johns Drive
Glenview, IL 60025

Cindy Skrukud
Jerry Paulsen
McHenry County Defenders
110 S. Johnson Street, Suite 106
Woodstock, IL 60098

W.C. Blanton
Husch Blackwell LLP
4801 Main St., Suite 1000
Kansas City, MO 64112

Dr. Thomas J. Murphy
2325 N. Clifton St.
Chicago, IL 60614

Cathy Hudzik
City of Chicago
Mayor's Office of Intergovernmental Affairs
121 N. LaSalle St., Room 406
Chicago, IL 60602

Stacy Meyers-Glen
Openlands
25 E. Washington, Suite 1650
Chicago, IL 60602

Beth Steinhorn
2021 Timberbrook
Springfield, IL 62702

Lyman Welch
Alliance for the Great Lakes
17 N. State Street, Suite 390
Chicago, IL 60602

James Huff-President
Huff & Huff, Inc.
915 Harger Road, Suite 330
Oak Brook, IL 60523

Mark Schultz
Navy Facilities and Engineering Command
201 Decatur Avenue Building 1A
Great Lakes, IL 60088-2801

Irwin Polls
Ecological Monitoring and Assessment
3206 Maple Leaf Drive
Glenview, IL 60025

James E. Eggen
City of Joliet,
Director of Public Works & Utilities
921 E. Washington St.
Joliet, IL 60431

Kay Anderson
American Bottoms RWTF
One American Bottoms Road
Sauget, IL 62201

Jack Darin
Sierra Club, Illinois Chapter
70 E. Lake St., Suite 1500
Chicago, IL 60601-7447

Bob Carter
Bloomington Normal Water Reclamation
P.O. Box 3307
Bloomington, IL 61711

Tom Muth
Fox Metro Water Reclamation District
682 State Route 31
Oswego, IL 60543

Susan Charles
Thomas W. Dimond
Ice Miller LLP
200 West Madison Street, Suite 3500
Chicago, IL 60606

Kenneth W. Liss
Andrews Environmental Engineering
3300 Ginger Creek Drive
Springfield, IL 62711

Albert Ettinger
Environmental Law & Policy Center
53 W. Jackson, Suite 1664
Chicago, IL 60604

Kristy A.N. Bulleit
Hunton & Williams LLC
1900 K Street, NW
Washington, DC 20006

Susan M. Franzetti
Nijman Franzetti LLP
10 South LaSalle St.
Suite 3600
Chicago, IL 60603

Vicky McKinley
Evanston Environment Board
223 Grey Avenue
Evanston, IL 60202

Olivia Dorothy
Office of Lt. Governor
Room 414 State House
Springfield, IL 62706

Ann Alexander, Senior Attorney
Natural Resources Defense Council
2 N. Riverside Plaza, Suite 2250
Chicago, IL 60606