

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

THE PHILLIPS 66 COMPANY,)	
Petitioner,)	
)	
v.)	PCB 12-101
)	(Permit Appeal – Water)
)	
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
Respondent)	

NOTICE OF FILING

TO: Illinois Environmental Protection Agency	Rachel R. Medina
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I filed with the Clerk of the Pollution Control Board of the State of Illinois, James R. Thompson Center, 100 W. Randolph St., Suite 11-500, Chicago, IL 60601, **Post-Hearing Brief**, a copy of which is herewith served upon you.

Respectfully submitted,

/s/ David L. Rieser

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CERTIFICATE OF SERVICE

I, David L. Reiser, an attorney, hereby certify that on November 15, 2012, I served the foregoing **Post-Hearing Brief** upon those listed below via the Illinois Pollution Control Board Clerk's Office Online (COOL) electronic filing system and via U.S. mail to:

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POST-HEARING BRIEF

The Phillips 66 Company ("Phillips")¹, through its attorneys Much Shelist, P.C. files this Post-Hearing Brief in support of its Petition requesting the Board to remand and direct the modification of the NPDES permit issued to Phillips on December 2, 2011. Although the initial Petition identified four issues to be addressed, three of those issues have been resolved by the parties pursuant to stipulation submitted to the Board at the time of the hearing on October 3, 2012 and by a subsequent amended stipulation filed on October 17, 2012. As a result, the only issues before the Board are the Agency's refusal to grant a mixing zone for mercury and its issuance of a mass limit for mercury in the 2011 NPDES Permit. Phillips submits that these decisions by the Agency are not necessary to accomplish the purposes of the Illinois Environmental Protection Act ("the Act"), and that the condition requested by Phillips with respect to mercury would not violate the Act and Board regulations.

¹ This case was originally filed by the ConocoPhillips Company which, through a reorganization, transferred its refinery and other marketing assets to the new company Phillips 66. Phillips 66 is now the operator of the Wood River Refinery and holder of the NPDES permit. The parties agreed at the beginning of the hearing to ask the Board to recaption the case to reflect the newly created company (T. p.6) and filed the above described agreed motion to the same effect.

STATEMENT OF FACTS

The basic facts of this matter are essentially uncontested. Phillips operates and holds the NPDES permit for a large petroleum refinery located in Roxanna, Illinois and known as the Wood River Refinery ("WRR"). WRR is one of the largest economic engines in Madison County employing more than 800 people. (T. 10).² The WRR produces a number of refined petroleum products including gasoline and jet fuel.

In 2006, WRR began to implement a \$4 billion upgrade of its refining capabilities, both increasing capacity by 20% and modifying operations to handle a larger percentage of Canadian crude. In addition, pursuant to a consent order, WRR was required to install additional air pollution control equipment which would result in an increase of certain contaminants in its wastewater. (T. 29-30). As a result, WRR planned to significantly expand its wastewater treatment plant. It submitted its application to modify its NPDES on May 12, 2006 (Doc. #58) and IEPA issued its draft permit on November 3, 2006. (Doc. # 59).

As with all prior permits to the WRR, the draft permit contained no limit on mercury discharges and the IEPA's record leading up to the draft permit contained no indication that the Agency believed that such a limit was necessary. (T. 30). IEPA's internal permit review notes dated September 8, 2006 identifying proposed effluent limits included in the 2006 draft permit do not address any perceived need for mercury limits. (Doc. # 68).

The Agency held its public meeting on the draft permit on May 8, 2007 during which a person asked about potential releases of heavy metals to the atmosphere and the river. (This was a joint public hearing on Phillips' applications for a PSD air permit and the NPDES discharge permit). Despite the lack of any factual basis for this concern, in 2007 the Agency requested that

² Citations to the Transcript taken at the October 3 hearing are expressed at (T. __). References to documents contained in the Agency's Record are stated as Doc. #__, based on the Agency's numbering of their record documents included in their Record filing dated March 17, 2012.

WRR sample its discharge to determine the concentrations of mercury. (T. 87). WRR performed the sampling which showed an average discharge level well below the acute and chronic water quality standards and close to the water quality standard of 12 ng/l for protection of human health ("HHS"). (Respondent's Exhibit H).

Despite the already low levels and near compliance with the most stringent water quality standard, Agency Water Quality Section Manager Bob Mosher drafted a Water Quality Based Effluent Limitation memorandum dated June 12, 2008 noting a reasonable potential for mercury in the discharge to violate the human health standard. (Agency Ex. A). He stated in this document that no mixing zone would be given for mercury although he provided no explanation in the record for this decision. As a result, the Agency proposed setting an effluent limit at an annual average 12.5 ng/l as well as an annual average load limit of 7.8×10^{-4} lbs/day. In order to achieve this load limit, Phillips would have to achieve a mercury effluent concentration of 8.5 ng/l. The Agency also set out a proposed compliance plan which required Phillips to be in compliance with these standards within 2 years of permit issuance. The record is devoid of any reasoning in support of the duration of the compliance plan.

Phillips immediately contested the limits in comments and meetings with the IEPA. Phillips noted that the Agency had no basis for refusing to grant a mixing zone and that the Board's regulations specifically provided for a mixing zone in this setting. Phillips protested that the Agency failed to justify the load limit which would have the effect of lowering the standard to be met at the end of the pipe from 12.5 ng/l to 8.5 ng/l. (Doc. # 103). Referencing the USEPA Technical Standards Guide, Phillips argued that an uncertainty factor should have been applied based on the small number of samples and that the proper load limit (if any were indeed proper) would result in a concentration level of 17.5 ng/l (Doc.# 107). Phillips further argued that

the two year compliance plan was much too short since no refinery had ever controlled for mercury in its waste water to this or any other level. (Doc.# 108).

Phillips also addressed mercury issues in the context of its Anti-Degradation Report prepared by Jim Huff. Mr. Huff had previously prepared a mixing zone report to update the prior report which dated from 1991. The mixing zone report (Doc. # 81) documented more than sufficient mixing for most of the metals except for nickel. With respect to Anti-Degradation issues, and in response to Agency requests, Mr. Huff modified the report several times to address mercury. In his final report dated August 2008 (Petitioner's Exhibit 6) Mr. Huff found that there were no known economically reasonable and technical feasible methods to treat mercury and a number of other metals and that the discharge of mercury would not violate the Board's anti-degradation rules. The Agency accepted this report and no further comments regarding the report appear in the record.

Despite Phillips' concerns and the findings of the Anti-Degradation Report, the Agency refused to modify its position on any of these issues. It was not until Phillips brought Jeff Allen from Brown and Caldwell to meet with the Agency that the Agency agreed to a modification of the compliance plan. (T. 31). At that meeting, Mr. Allen discussed the lack of any prior treatment for mercury and the time and steps necessary for Phillips to evaluate alternatives. After that meeting, the Agency accepted Phillips' proposed language. The Agency issued the permit on February 5, 2009 with Special Condition 28 which includes a five year compliance plan, periodic reporting and specifically allowing Phillips to seek an adjusted standard should no appropriate technology be identified by the evaluation. Based on that and based on the need to finalize the permit which would allow the expansion to be implemented, Phillips agreed to the mercury limit.

The original 2004 permit modified by the 2009 permit was set to expire later in 2009.

Phillips duly filed its application to renew the permit on September 30, 2008 (Doc. # 3) and discussions on the renewed permit accelerated in late 2009 and 2010. Phillips performed the mercury testing and treatment evaluation required in the 2009 permit and timely submitted its progress reports. By 2011, Phillips determined that it might be possible to apply standard filtration to the waste stream to reduce mercury, but that such treatment would be hugely uncertain and expensive. Phillips submitted a proposal to apply for an adjusted standard as contemplated by the permit (Petitioner's Exhibit 3), but at a meeting regarding the proposal on June 29, 2011, the parties discussed that the issue might be more easily resolved by testing the Agency's determination not to issue a mixing zone for mercury which lay at the heart of the effluent and mass limit. As a result, the Agency agreed to review its mixing zone determination. (T. 33, 34).

While the Agency had previously simply refused without explanation to issue a mixing zone for mercury, this time the Agency claimed that Phillips was required to provide additional information as to whether its proposed and untried treatment constituted the Best Degree of Treatment ("BDT") for mercury. Phillips insisted that the information in the record was sufficient to show that it was not BDT. (Petitioner's Exhibit 4). As its permit records show, IEPA determined that the mercury treatment discussed by Phillips was BDT because Phillips failed to document the economic unreasonability of the cost by performing an affordability analysis (Respondent's Exhibit K). As a result, the Agency refused again to grant a mixing zone for mercury and refused to modify its load limit. Phillips timely filed this appeal before the Board.

HEARING

At the hearing on October 3, 2012, Petitioner presented five witnesses and the Agency presented two. Petitioner began its presentation with the Plant Manager, Jay Churchill who discussed the economic importance of the facility to the region, the expansion project, and the facility's environmental efforts (T. 9 – 14). Ron Green, an environmental engineer responsible for operating the waste water treatment plant described the system in detail (T. 15-24). Michael Bechtol, the environmental director for the WRR described the permit process and how issues relating to mercury developed in the 2009 permit and in the 2011 permit (T. 28-36).

Jeff Allen testified as Phillips' expert with respect to mercury control technology (Exhibit 5 contains his testimony admitted as if read; the rest of his testimony is at T. 37 – 55). He testified that no other refinery controls mercury discharges and that such control is not required by U.S. EPA in its categorical BAT standards for this source category. He described the work he did at the WRR which documented that individual source control was not available, but that a pilot test of filtration showed some ability to control mercury. He stated that there remained significant uncertainties regarding the performance of such a system over time including the lack of knowledge as to mercury in refineries (T. 44 – 46). Although this system was designed to remove mercury attached to solids, it would not remove soluble mercury and there was no data to suggest that the current proportion of soluble mercury would not change over time. He also testified that his original estimate of the costs as presented to the Agency indicated a cost range of \$9 - \$14 million and that a later more refined cost estimate resulted in costs in a range from \$18.5 million to \$27.7 million.

Finally Jim Huff testified these proposed costs were economically unreasonable and that the Agency departed from its past practices in denying a mixing zone, assigning a mass limit and

finding the proposed mercury treatment was BDT. (Exhibits 6 and 7 contain his testimony and exhibits attached thereto; his testimony on direct is at T. 68 – 81) He testified that in his experience, the Agency had not previously set a mercury effluent limit, or relied on BDT to reject a mixing zone. He further testified, in his experience, that the Agency had not previously determined that BDT is more stringent than BAT as it did here. (T. 74) Finally, he testified that the treatment cost of \$6.9 million per pound of mercury removed identified by Jeff Allen was not economically reasonable. He further compared those costs to the significantly lower \$6,000 to \$67,000 per pound cost for coal fired power plants to remove mercury from their air emissions. (T. 74-75, Exhibit 7).

In response, the Agency presented two witnesses, Bob Mosher and Jaime Rabins. Bob Mosher is the Manager of the Water Quality Standards Section at the Agency and testified to the Agency's basis for denying a mixing zone for mercury for both the 2009 permit and the 2011 permit (T. 84 – 136). Mr. Mosher stated that with respect to the 2009 permit, the Agency relied on an internal policy adopted to address Phillips' permit application that it would not grant mixing zones for bioaccumulatives (BCCs) such as mercury. With respect to the 2011 permit, Mr Mosher testified that the Agency withdrew its policy due to comments it received from the regulated community when it attempted to include the policy in proposed water quality regulations. He also identified several additional bases to deny Phillips' requested mixing zone. First, Phillips failed to demonstrate that the pilot tests performed by Brown and Caldwell documented that the filtration system was not BDT, Phillips never documented that all of the proposed costs were necessary, and Phillips never showed that the high costs were not affordable pursuant to the EPA affordability guidance. He also testified that Phillips would not be able to obtain a mixing zone based on the current record because it would have to document the

upstream water quality and current status of mercury levels in the aquatic community, although he acknowledged that these issues had never been discussed with Phillips and did not appear in the Agency's record.

Agency engineer Jamie Rabins testified (T. 136 – 168) essentially to his calculation of the mass limit although he could not explain why the Agency failed to apply an uncertainty factor typically used in circumstances involving limited sampling. He also testified to the review memorandum he prepared documenting the Agency's bases for denying the mixing zone.

Finally Petitioner recalled Jim Huff in rebuttal (T. 168-176). Mr. Huff testified that the Agency had never requested upstream sampling in the Mississippi to establish water quality relative to the HHS. He also testified that he assumed that meeting the HHS water quality standard was not an issue partly because the Agency did not ask for additional data during either the 2009 or 2011 permit discussions and partly due to his own investigation. He stated that mercury sampling he had done in the Chicago Sanitary and Ship Canal and Des Plaines River in connection with the Use Attainability Assessment rulemaking showed ambient mercury levels below the HHS. He stated that he expected Phillips' discharge would meet the HHS at the edge of the mixing zone.

ARGUMENT

1. Standard of Review

The Board must reverse challenged Agency permit conditions when it determines that the "imposed conditions were not necessary to accomplish the purposes of the Act" or the petitioner can show that the permit issued without the conditions "would not result in any future violation of the Act and the modifications were therefore arbitrary and unnecessary." (*City of Quincy v. IEPA*, PCB 8 – 86, March 4, 2010). In this case, the Agency's decision to reject Phillips' request

for a mixing zone for mercury and to assign an effluent and load limit failed these basic tests. The Agency initially based its decision on an unannounced and illegal rule and then arbitrarily misapplied its test for determining BDT as set out in 35 Ill. Adm. Code 304.102. The Agency's action was arbitrary and unnecessary in that the Agency had no rational basis under the Board's regulations to treat mercury differently than other constituents in the permit. The Agency's determination was also arbitrary and without rational basis in that it ignored and required more stringent treatment than EPA's BAT standards for this industry.

2. *The Agency's decision was not necessary to accomplish the purposes of the Act.*

In adopting the mercury effluent limits and load limits in the 2009 and 2011 permits and by denying a mixing zone, the Agency appears to have been asserting an illegal unpromulgated rule. *City of Quincy v. IEPA*, PCB 8-86 (March 4, 2010). The Act authorizes only the Board and not the Agency to set water quality standards. (415 ILCS 5/5(b); 415 ILCS 5/13(a)(1)). In determining the extent of the authority of both the Board and the Agency in the context of these mixing zone regulations, the Illinois Supreme Court stated, "Pursuant to the Act, the Board is the body which, *inter alia*, determines and promulgates statewide water quality standards (citations omitted) while the Agency is, *inter alia*, the body responsible for enforcing the Board's statewide standards." *Granite City Division of National Steel Company v. Illinois Pollution Control Board*, 613 N.E. 2d 719, 721 (1993). As a result, the Agency is not authorized to set water quality standards.

In addition, the Board's regulations clearly authorize the Agency to grant a mixing zone for mercury discharges in waters outside of the Lake Michigan Basin. 35 Ill. Adm. Code 302.208(d)(3) states specifically that "The [Human Health Standard] shall not be exceeded outside of waters in which mixing is allowed pursuant to Section 312.102." Since mercury is one

of two constituents with a HHS, the Board could not have more plainly stated that a mixing zone is available for mercury. The Board has also specifically rejected a regulation intended to prohibit mixing zones for bioaccumulatives (BCCs) such as mercury. (*In the Matter of Proposed Amendments to 35 Ill. Adm. Code Subtitle C (Water Toxics and Bioaccumulation)*, R92-8, April 4, 1996.) When the Board did choose to preclude mixing zones for BCCs, it did so explicitly and specifically limited the ban to the waters in the Lake Michigan Basin. (*In The Matter Of: Conforming Amendments For The Great Lakes Initiative: 35 Ill. Adm. Code 302.101; 302.105; 302.Subpart E; 303.443 And 304.222*, R97-25, December 19, 1997). As a result, the Board's rules do not preclude the Agency from granting a mixing zone for mercury in waters outside of the Lake Michigan Basin pursuant to its general mixing zone rules at 35 Ill. Adm. Code 302.102.

Despite the clarity of this statutory and regulatory landscape, the Agency here adopted an unpromulgated rule to accomplish exactly what the legislature and the Board specifically prohibit. First as Bob Mosher testified, it adopted a "policy" precluding the granting of mixing zones for mercury in all waters. Mosher claimed that the Agency withdrew that policy when the regulated community objected to it in the context of proposed water quality standards (now before the Board as *In the Matter of: Triennial Review of Water Quality Standards for Boron, Fluoride and Manganese: Amendments to 35 Ill. Adm. Code 301.106, 302.Subparts B, C, E, F and 303.312*, R11-18.). Yet according to the Public Comment submitted in this matter by the Illinois Environmental Regulatory Group that participated in the meetings referenced by Mr. Mosher, it is not clear that the Agency has in fact withdrawn the policy.

Even if the policy was "withdrawn" prior to the issuance of the 2011 permit, the Agency's actions regarding the mercury discussions demonstrate a continued and unlawful animus to granting Phillips a mixing zone for mercury. As will be discussed, the Agency departed

completely from the Board's regulations and its usual procedures in determining that Phillips failed to document that its proposed potential treatment was not BDT and in ignoring EPA's determination that BAT did not require mercury control. Just as the Agency is not authorized to create new water quality rules (especially without any hint of notice or comment) it is not authorized to create new permit requirements.

The Agency's stated basis for denying the mixing zone in the 2011 permit relied on a tortured misreading and misapplication of the BDT requirement. 35 Ill. Adm. Code 302.102(a) requires an applicant seeking a mixing zone to show that it has made "every effort" to comply with 35 Ill. Adm. Code 304.102 to provide the "best degree of treatment of wastewater consistent with technological feasibility, economic reasonableness and sound engineering judgment." The Agency claimed that Phillips failed this requirement because preliminary pilot tests showed potential compliance with the mercury standard. The Agency also rejected Phillips' claims that the \$6.9 million cost per pound of mercury removed was not economically reasonable because it argued that Phillips never showed that the costs were not affordable to Phillips based on a USEPA affordability analysis.

The Agency's BDT determination was completely arbitrary and contrary to the Board's regulations. Although 35 Ill. Adm. Code 304.102 requires balancing technological and economic factors, the Agency arbitrarily stuck to its preconceived notion that mercury must be controlled and that treatment was available. The Agency simply ignored all other information or considerations that might have undercut its determination. The Agency's technological staff had never previously attempted to impose a mercury limit so it had absolutely no experience in evaluating mercury treatment technology. With respect to the 2009 permit it refused to agree to a five year compliance plan to evaluate treatment technology and insisted without any basis that

this could be done within two years. Absolutely no information appears in the record which in any way justifies (or even relates to) the Agency's original position that two years was sufficient time for a compliance plan. It was not until Phillips brought to Springfield Jeff Allen, a recognized expert in refinery treatment technology, that the Agency finally relented on the five year compliance plan.³

Similarly, in making its BDT determination, the Agency ignored Phillips' data and misapplied the Board's economic reasonableness test. The Agency determination that the initial pilot test demonstrated BDT ignored the fact that this technology had never been shown to be effective on a full scale and full time basis and ignored the numerous questions about the technology's long term effectiveness, which Jeff Allen presented to the Agency in the June 29, 2011 meeting. (Agency Exhibit E, p. 2). The Agency's record includes no discussion of the basis for rejecting these uncertainties. Jamie Rabins testified that while he never determined that these concerns were invalid, he simply assumed that the pilot test was sufficient to show BDT. (T. 160 – 162).

While there may have been uncertainties regarding the technology, the cost was more than sufficient to demonstrate that it was not economically reasonable. Mr. Allen testified and the record demonstrates that at the time of the Agency's permit determination the expected range of costs for the mercury control equipment was expected to be \$9 million to \$14 million for the purpose of removing 0.2 pounds of mercury a year. Over the expected 20 year useful life of the project this equates to a cost per pound of \$ 6.9 million. Jim Huff testified that this cost was far in excess of any other water pollution control cost ever imposed by the Board and could not be considered economically reasonable (Exhibit 6). In addition, Phillips' current wastewater

³ Of course at the time, IEPA was operating under an unpromulgated and illegal rule that precluded issuance of a mixing zone to Phillips so it is not clear that it gave much thought to the issue of available technologies.

treatment system already removes 98% of the influent mercury⁴ so this cost is even more extraordinary and unreasonable in that it addresses a very small percentage of the discharge.

In response to this obviously unreasonable cost, the Agency's record reveals two separate criticisms, neither of which justifies the Agency's BDT determination. First, the Agency claims that economic reasonableness is proven because Phillips refused its request to address the affordability of the technology using the USEPA's affordability guidance. The Agency then made its own affordability assessment based entirely on the capitalization of (then Petitioner) ConocoPhillips.

The Agency's assessment of economic reasonableness in the context of a BDT determination by looking solely at affordability finds no support in the Act, the Board's regulations or any prior Board decision. While "economic reasonableness" is not defined in the Act, courts have held that it involves essentially a balancing of cost and benefits (*IEPA v. IPCB*, 721 N.E.2d 723, 730 (Ill. App. 2d Dist, 1999)) an assessment which requires a far broader scope than mere affordability. The Board consistently addresses economic reasonableness by looking at all available factors of costs and benefits and has never limited the scope of the assessment to affordability. In numerous cases, the Board has determined that proposed controls were economically unreasonable based solely on the fact that the cost per pound was substantially larger than the proposed alternative. The Board evaluated a non-exhaustive list of such cases in *In the Matter of: Petition of Grief Packaging, LLC, for an Adjusted Standard from 35 Ill. Adm. Code 218 Subpart TT*, AS 2011-01, April 5, 2012, p. 13) and in none of these cases was there an evaluation of affordability in finding that given technologies were economically unreasonable.

⁴ While the calculation of the percentage control of mercury by the current system resulted from a meeting after permit issuance, the data regarding influent and effluent mercury on which that calculation was based was presented to the Agency at the June 29, 2011 meeting (Respondent's Exhibit D). Since the calculation is simple math that could have been performed at any time, this should not be considered information outside of the record before the Agency.

Indeed to limit economical reasonableness to affordability would contradict and frustrate the Act's central purpose of encouraging environmental decisionmaking based on careful assessment of costs and benefits. The Agency's claim that any technology which a company can afford is economically reasonable (T. 118) subverts this required statutory approach and rejects the advice it received from its own counsel (Respondent's Exhibit B). Therefore, the Agency's BDT determination finds no support either in the record or the language of the Act.

Second, in its internal materials the Agency questioned whether the costs predicted were fully justified. In particular the Agency questioned whether the entire waste stream needed to be treated in order to obtain the necessary reductions and whether the current lagoon system needed to be bypassed. Yet while these questions were listed by Bob Mosher in a June 29, 2011 e-mail (Respondent's Exhibit F) and were then included verbatim in Jamie Rabins' technical review in November (Respondent's Exhibit K), its not clear that the Agency actually sought that information from Phillips. Jeff Allen directly testified at the hearing as to why the system could not be simply reduced and the necessity for bypassing the system, so answers were available had the Agency actually tried to evaluate these issues. Far from being actual concerns about the predicted costs of the proposed technology, these appear to be internal questions presented as post hoc rationalizations for a decision the Agency already made to reject the mercury mixing zone.

The Agency also ignored the long time determination of the U.S. EPA that the Best Available Treatment (BAT) for the refinery category does not require mercury treatment (40 CFR 419). The Clean Water Act authorizes U.S. EPA to adopt effluent standards for controlling the direct discharge of toxic pollutants to navigable waters which require achieving the Best Available Technology Economically Available ("BAT") EPA defines BAT as representing "the

best existing performance of technology in the industrial category or subcategory." (47 Fed. Reg. 46435 (October 18, 1982). EPA adopted BAT standards for the Petroleum Refining Point Source category in 1982 based on a national review of available technologies (*Id.*). As Jeff Allen testified, EPA most recently reviewed the basis for these standards in 2010 and continued to find that BAT does not require treatment for mercury. (Petitioner's Exhibit 5, p. 2)

Although the IEPA specifically relied on these standards in setting other effluent standards in the 2009 and 2011 permits (See Doc. #s 68, 17) it did not apply BAT to mercury. Indeed the record contains no indication that the Agency considered EPA's determination that mercury control was not required for BAT either in making its determination that mercury control was required or that the proposed filtration system was BDT.⁵ This failure contrasts with and contradicts the Agency's demand that Phillips document economic reasonableness through the EPA guidance document. The Agency had no basis to demand that Phillips prove economic reasonableness when EPA had already determined that mercury control technology was not economically reasonable.

While the BDT and BAT standards are not identical, it was arbitrary for IEPA to ignore EPA's BAT determination that mercury control was not a required component of BAT. EPA reached its determination by evaluating the existence of control technologies, the control technologies actually implemented at refineries and an evaluation of reasonable costs of technologies. Being nationwide, EPA's BAT evaluation is far more sweeping than the IEPA's and not tainted with IEPA's bias toward its ultimate goal of denying a mixing zone for mercury.

⁵ Although not included in the record, at the public hearing for the 2009 Permit, Jamie Rabins stated in response to a question regarding standards for lead and mercury, "The EPA on the water side publishes a federal reg, and they recognize certain pollutants throughout the industry, and those two pollutants are not recognized. Meaning they're not consistent in that industry. There's no need to place them in the permit." May 8, 2007 Public Hearing transcript, p. 40. Petitioner attaches hereto and incorporates herein as Exhibit 8, a copy of the front page and pages relating to the question to which Mr. Rabins responds and states that the Board can take judicial notice of this public document.

IEPA also provided no basis in its record to accept BAT for some parts of the permit and rejecting it for the purpose of determining BDT for mercury. As a result, IEPA's finding that the proposed treatment represented BDT was unsupported and arbitrary.

3. *Mercury can be included in the Mixing Zone in the Permit*

The Agency was wrong to reject Petitioner's request for a mixing zone and wrong to conclude that the permit required effluent and mass limits for mercury. Here mercury can be included in the mixing zone already in the permit consistent with the Act and the Board's rules. By approving a mixing zone for a number of constituents, (2011 Permit, Special Condition 18) the Agency has already determined compliance with all of the elements of 35 Ill. Adm. Code 302.102 and this compliance determination is as valid for mercury as it is for the other constituents. The only issue the Agency raised in the record with respect to the validity of a mixing zone for mercury is the alleged failure of Phillips to document their compliance with BDT, but as shown above, this determination is completely baseless and should not preclude a mixing zone.

At the hearing, the Agency raised for the first time the question of whether a mercury would violate the prohibition of mixing where "the water quality standard for the constituent in question is already violated in the receiving water." 35 Ill. Adm. Code 302.102. While the Agency has no evidence whatsoever that the water quality standard is being or would be violated in this segment of the Mississippi River, Bob Mosher testified that level of detection for the Agency's water quality data used in the mixing zone and Anti-Degradation Reports was not sufficiently sensitive to identify water quality at the level required to document compliance with the HHS standards. As a result, Mr. Mosher said that Phillips would be required to take additional samples to support its mixing zone request.

As an initial matter, it should be clear that this cannot be viewed as a basis for the Agency's denial of the mixing zone. The Agency is limited to its stated justification in the record and this issue was never raised previously. (*Freedom Oil Company v. IEPA*, PCB 10-46, August 9, 2012, p. 14). Even through the numerous meetings Phillips had with the Agency, at no point did the Agency state, as it does here, that data from its own water quality network was insufficient to support a mixing zone claim.

Secondly, the Agency has never previously claimed that there was a possibility that the water quality of the Mississippi River was impaired for the mercury HHS standard. IEPA has made a Section 303(d) determination that the Mississippi River is impaired for fish consumption uses, (see *Draft Illinois Integrated Water Quality Report and Section 303(d) List, 2012*, dated March 16, 2012; <http://www.epa.state.il.us/water/tmdl/303d-list.html>). But as Mr. Mosher testified, there is no correlation between this determination and whether the human health water quality standard is achieved. (T. 126, 127). Since IEPA has not made a finding that the Mississippi River is impaired for the HHS standard and has presented no evidence that it is so impaired in the context of the 303(d) program, Phillips should not have to prove that the river meets these water quality standards for the purpose of obtaining a mixing zone.

The Agency's failure to raise this issue during the application process also precludes its consideration here because Phillips has not had an opportunity to gather the requested information. As the record indicates, Phillips went to great lengths to respond to Agency concerns regarding the scope and size of the mixing zone. It revised its Anti-Degradation Report several times to respond to Agency comments. Further, Phillips acted to ensure an adequate mixing zone by extending its outfall further into the Mississippi and safely relocating a mussel bed which might have been impacted by the new location. Jim Huff testified that the cost of this

activity was more than \$1 million. (T. 70). Had the Agency stated that Phillips needed to obtain additional information it could have easily done so, but the Agency instead allowed Phillips to rely on the Agency's own data without once stating that it considered its data inadequate.

Finally, while the Agency testified regarding its concerns for mercury water quality impairment, it also testified that at least in two instances it determined not to take any action regarding those concerns. Bob Mosher testified that the Agency's water quality monitoring network was inadequate to address the mercury HHS standard from the time the Board adopted the standard in 1995. (T. 133). Yet he also testified that the Agency's response was not to improve their system but to discontinue all sampling for mercury throughout the state. (T. 134). He further testified that when stakeholders objected to the Agency's proposal that the Board adopt the Agency's unpromulgated rule prohibiting mixing zones for BCCs, the Agency dropped the proposal in order to make sure that its other priorities were met. (T. 111). These statements undercut Bob Mosher's stated concern regarding the impact of Phillips' mercury discharge: the Agency has no authority to impose additional and arbitrary burdens on Phillips while at the same time deciding not to take steps it believes would create additional protections. The Agency has made no finding that the HHS water quality standard for mercury is being violated and has halted any efforts to make that determination. As a result, the Agency cannot claim years after the fact, the Phillips should be denied a mixing zone for not making this determination on its own.

In addition, Jim Huff testified that in his opinion and based on sampling in other streams, Phillips' discharge would meet the HHS water quality standard at the edge of the mixing zone. (T. 175). Huff testified that sampling he performed in the Des Plaines River and Sanitary and Ship Canal, streams with a heavy industrial effluent load but significantly less flow than the Mississippi showed mercury levels below 12 ng/l. (T. 171) Petitioner attaches as Exhibit 9 and

asks the Board to take judicial notice of his actual sampling data which demonstrates these levels of mercury which was accepted as an Exhibit in the Use Attainability Assessment proceedings (*In The Matter of: Water Quality Standards and Effluent Limitations for the Chicago Area Waterway System (CAWS) and the Lower Des Plaines River: Proposed Amendments to 35 Ill. Adm. Code 301, 302, 303 and 304*, docketed as R 2008-09.) While this information is not determinative, it provides a reasonable basis to believe that the Mississippi River mercury levels are probably not higher and more likely considerably lower. As a result, the Agency could issue a permit with a mixing zone for mercury consistent with the Act and the Board's rules.

4. *The Agency's decision to adopt a mass limit for mercury was not required by the Act or the Board's rules.*

The Agency made two arbitrary determinations with respect to a mass limit, first by imposing one at all and second by setting it at a level that was not based on a representative assessment of actual effluent levels. As to the first, Agency engineer Jamie Rabins asserted in testimony that the Board rules require a mass limit to be set for all constituents for which there are effluent standards. While the Board rules do contain such a requirement, (35 Ill. Adm. Code 309.143(b)) the Agency does not set mass limits for all constituents regulated under its permits. As is shown by the 2011 permit, the Agency did not set mass limits for constituents for which there was no Board effluent standard and for which the Agency granted a mixing zone, including chloride, sulfate and nickel (See Special Condition 18). As a result, should the Board hold that a mixing zone should be granted for mercury, no mass limit should be set, consistent with the Agency's decisions on other constituents.

Additionally, the Agency arbitrarily set the mixing zone at 7.8×10^{-4} lb/day based on the averaging of the 14 mercury samples taken during 2007. Jamie Rabins testified that this number

was set in order to enforce what he claimed to be Phillips' agreement to ensure that mercury discharges did not increase as a result of the plant expansion. (T. 140). This decision is arbitrary and unsupportable. First, as stated above, the Agency set no mass limits on several other constituents for which mixing zones were granted and states no basis in the record for treating mercury differently than these other constituents. Second, as Jim Huff testified, Phillips' agreement was limited to constituents other than mercury. (T. 169).

Finally, the Agency failed to follow its own practice of applying an uncertainty factor in identifying levels of constituents in the discharge based on limited sampling. The Agency's memo regarding water quality based effluent limitations (Respondent's Exhibit A) includes an uncertainty factor in determining the amount and concentration of constituents discharged for the purpose of determining the reasonable potential of those constituents to exceed water quality standards. Yet the Agency's determination that 7.8×10^{-4} lb/day represented the amount of mercury discharged was based solely on an average of the 14 samples and took no account of the uncertainty associated with this limited number of samples as it did for other constituents. As Phillips pointed out numerous times, (See Doc. #s 107 and 108) applying the correct uncertainty factor results in a higher mass limit which translates to an effluent concentration of 17.5 ng/l rather than 8.5 ng/l. The Agency's refusal to implement its own standard approach was arbitrary and reflected the Agency's underlying determination not to grant a mixing zone for mercury.

CONCLUSION

The Agency's record shows that after the public hearing in 2006, the Agency determined not to issue a mixing zone for mercury no matter what information Phillips presented and no matter how much control measures might cost. It went so far as to adopt an internal policy banning such mixing zones without public notice and directly contrary to Board regulations and

the Act. When questioned about the basis for its too short compliance plan in 2009 it maintained a completely unreasonable and unsupported position until the presentation of unassailable information from Jeff Allen made its position untenable. In 2011, when Phillips proposed an adjusted standard based on its findings documenting the incredibly high cost of uncertain technology, the Agency ostensibly agreed to reconsider its determination not to issue a mixing zone in the context of the 2011 permit. Yet the Agency again arbitrarily denied the mixing zone request, this time using an unprecedented interpretation of the BDT requirement to find that, again, a mixing zone was not available. As a result, the Agency contends that the Act and Board regulations require the expenditure of at least \$9 to \$14 million to remove the 0.2 pounds of mercury per year not already controlled by the 98% removal efficiency of the existing treatment plant and that the resulting \$6.9 million cost per pound is economically reasonable. While the Agency testified that the potential dangers of mercury justify its unprecedented and unsupported actions here, it has refused to take other actions it believes might be protective due to the actual or merely political cost.

The Act and the Board's regulations do not compel this result. The Board has repeatedly stated that a mixing zone is available for mercury in waters away from the Lake Michigan basin. It has imposed no extraordinary requirements on a showing of Best Degree of Treatment for mercury that would compel a different result for mercury than for other constituents. Its assessment of economic reasonableness requires a broad balancing of numerous factors and cannot be limited only to affordability. This balancing approach requires IEPA to take into account the extraordinary cost of treatment and EPA's determination that mercury is not BAT for refineries. Phillips fully demonstrated to the Agency that it had met its requirements for a mixing zone and the Board should reject the Agency's determination that such a mixing zone is not

available. As a result and similar to other constituents for which mixing zone was granted in the 2011 permit, the mass loading limit should be removed as well.

WHEREFORE, for the reasons stated in this Post-Hearing Brief, Phillips respectfully requests the Board to grant Phillips' permit denial appeal and to order the Agency to include mercury within the mixing zone described in Special Condition 18 and to delete the mercury effluent limit, mass limit and Special Condition 27 from the 2011 Permit.

THE PHILLIPS 66 COMPANY

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PUBLIC HEARING AND COMMENT PERIOD
CONCERNING THE PROPOSED ISSUANCE OF CONSTRUCTION
PERMITS/PSD APPROVALS and an NPDES PERMIT
To
CONOCOPHILLIPS COMPANY IN ROXANA AND HARTFORD

HELD ON: May 8, 2007

REPORTER: Sara E. Tipton, CSR

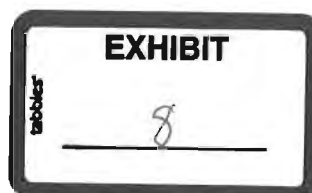
ILLINOIS NO: 084-003397

RIVER BEND REPORTING

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1 or may not be a long-term enterprise. We want this to be
2 a long-term enterprise for future generations like
3 Patrick's and other generations to come. That's what
4 this is all about. This will go on for decades, this
5 expansion we're talking about. So I think that's all I'm
6 going to say. Make the best better. Make some sense.
7 Make the changes. Reinvest in the facilities, the
8 hardware and technology and make the best better. Thank
9 you.

10 MR. SCHRUMPF, JR.: Dad and I very much
11 appreciate the livelihood that the refinery affords us,
12 and we sincerely hope that the refinery expansion can
13 proceed as planned. Thank you.

14 MS. DOCTORS: Thank you for your comments.
15 Gail Borman.

16 MS. BORMAN: B-O-R-M-A-N. I really do have
17 concerns about the new -- the Coker living within --

18 MS. DOCTORS: Are you representing an
19 organization tonight?

20 MS. BORMAN: Sierra Club and the community. I
21 live within three miles. And I've, you know, seen it all
22 through the years. I worked at Amoco many years ago;
23 then I worked at Premcor. And Murphy's Law is whatever
24 can go wrong, goes wrong; it's a given. You saw the
25 glitches we're experiencing, the glitches with the

1 microphones. Something so simple and it goes on all the
2 time. So what we're dealing with here is really toxic
3 stuff in the refinery, air, water and all the other
4 contaminates, but my question is and there's so much
5 transportation involved. All of it's transportation.
6 It's moving all the time from beginning to end. And
7 there's a release of mercury and lead. What measurements
8 of heavy metal concentrations including the lead and
9 mercury have been made for coke manufactured at the
10 ConcoPhillips Wood River and the distilling west facility
11 in the past and what measurements are planned for the
12 future to detect these metals in coke to be manufactured
13 and are there any -- what will you do to -- because of
14 the increase in these, what guidelines or what facilities
15 are being put into the new units and the existing unit to
16 make sure that these excessive mercury, lead doesn't
17 escape into the environment? What are some of the new
18 processes?

19 MR. RANKIN: I'm not aware of lead or mercury
20 emissions from the process. There was no information in
21 the application that addressed it and I'm not sure -- I'm
22 not sure what you're referring to.

23 MS. BORMAN: Because of the lead that comes --
24 well, with the manufacturer of all gasolines there is
25 lead that has to be extracted during the process and

1 mercury that goes into water. Is there any mercury that
2 goes into water anymore?

3 MS. DOCTORS: Can somebody from the company --
4 I see someone nodding. That's why I was --

5 MR. RABINS: Can I say something? The EPA on
6 the water side publishes a federal reg, and they
7 recognize certain pollutants throughout the industry, and
8 those two pollutants are not regulated. Meaning they're
9 not consistent in that industry. There's no need to
10 place them in the permit.

11 MS. BORMAN: Would you -- okay. My other
12 comment is about the -- what was that, sixty tons that
13 we're -- we're buying from Missouri for the air quality.

14 MR. RANKIN: What's your question?

15 MS. BORMAN: In other words, what we're doing
16 is Missouri has a clean industry over there, and we're
17 trading sort of like the carbon trade idea that's going
18 on, and because they have a very clean area, Illinois has
19 worked out a deal that because we are going or -- this
20 ConcoPhillips is going to be putting out more pollution,
21 that we're going to buy their clean air over there so
22 that will enable more effluence and particulates to be
23 released into the atmosphere in the Roxana, Hartford,
24 Wood River area to the tune or to the measurement of
25 sixty thousand tons?

ATTACHMENT 3

METALS AND CHLORIDE DATA FROM THE
CHICAGO SANITARY & SHIP CANAL

AT

THE LEMONT REFINERY WATER INTAKE



MERCURY LEVELS
 CHICAGO SANITARY & SHIP CANAL

	Dissolved Hg, ng/L	Dissolved Hg, 4-day Running average, ng/L	Total Hg, ng/L	Stream Flow, cfs
General Use WQ Stds	Acute 2200.00	Chronic 1100.00	Human Health Std 12.00	
07/24/08	<0.50		11.10	
07/31/08	<0.50		9.66	
08/06/08	0.64		15.50	3434
08/11/08	<1.01	0.41	4.73	2655
08/13/08	<0.50	0.41	13.00	2255
08/18/08	0.50	0.47	9.48	
08/20/08	1.69	0.74	5.82	
08/25/08	<0.50	0.67	4.91	
08/27/08	<0.50	0.67	7.50	
09/03/08	<0.50	0.61	9.16	
Average			9.09	

Acute and Chronic based upon Critical hardness of 205 mg/L.

Chronic applies to four-day running average

Human Health Std based on annual average, total mercury, and shall also not be exceeded when the flow is above the harmonic mean.

The Harmonic mean flow for the Ship Canal is 2,900 cfs