

BEFORE THE POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

IN THE MATTER OF:)
)
PROPOSED ADJUSTED STANDARD FOR)
AMMONIA NITROGEN DISCHARGE LEVELS) AS 08-08
APPLICABLE TO CITGO PETROLEUM) (Adjusted Standard - Water)
CORPORATION AND PDV MIDWEST)
REFINING, L.L.C., PETITIONERS)

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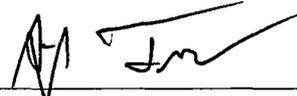
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Please take notice that on September 22, 2008, we filed electronically with the Office of the Clerk of the Illinois Pollution Control Board the attached Post-Hearing Brief in Support of an Adjusted Standard, a copy of which is served upon you.

CITGO PETROLEUM CORPORATION, and
PDV MIDWEST, LLC, Petitioners

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POST-HEARING BRIEF IN SUPPORT OF AN ADJUSTED STANDARD

CITGO Petroleum Corporation and PDV Midwest Refining, LLC petition the Illinois Pollution Control Board (“Board”) for an Adjusted Standard applicable to its Lemont Refinery (hereafter, “Lemont Refinery”). This rule change would reduce the allowable levels of ammonia nitrogen in the wastewater discharges from a refinery located in Lemont, Will County, Illinois. CITGO is the operator of the Refinery and PDV Midwest Refining, LLC is the owner of the Refinery. For the reasons stated below, Petitioner requests an Adjusted Standard from Section 304.122(b) of Subpart B of Part 304 of Title 35 of the Illinois Administrative Code. Petitioner’s existing site-specific regulation pertaining to ammonia nitrogen, 35 Ill. Admin. Code § 304.213, will expire on December 31, 2008. This Petition for an Adjusted Standard (“Petition”) is brought pursuant to Section 28.1 of the Act, 415 ILCS 5/28.1, and Part 104 of Chapter 35 of the Illinois Administrative Code, 35 Ill. Admin. Code § 104.400 et seq. In support of this Petition, CITGO states as follows:

SUMMARY OF ARGUMENT

Petitioner has proposed an absolute reduction in ammonia nitrogen discharges from the level currently permitted under rule 35 Ill. Admin. Code § 304.213. The levels of ammonia nitrogen proposed by this Adjusted Standard would require a reduction in the daily limit of 59

percent and in the monthly limit of 27 percent from those presently authorized under 304.213. These levels would only apply if the Refinery were discharging more than 200 pounds of ammonia on a given day or 100 pounds on a monthly average. The Refinery has taken significant measures to reduce its effluent levels, including segregating the desalter water from other process wastewaters, continuously removing solids from process water tanks, operational checks on amine levels, and adding antifoam to the amine system. (See examination of Brigitte Postel, Hearing of Aug. 20, 2008, p.0119, lines 7-14). More improvements are underway, planned and proposed. However, the evidence at the hearing makes it abundantly clear that the Lemont Refinery cannot guarantee meeting the ammonia nitrogen levels required by 35 Ill. Admin. Code § 304.122(b), i.e. 3 mg/L as a monthly average and 6 mg/L daily maximum.

WITNESSES AND EXHIBITS AT HEARING

At the hearing of August 20, 2008, Petitioner presented three witnesses whose primary testimony had been pre-filed. It also submitted fifteen unique supporting exhibits, the final three of which (Exhibits 13-15) were copies of the pre-filed testimony. Petitioner's first witness, Brigitte Postel, is the Environmental Engineer and Water Coordinator at the Lemont Refinery. She testified as to the extensive improvements made to reduce ammonia nitrogen effluents and the Refinery's inability to guarantee perfectly consistent nitrification. Ms. Postel presented background on the Lemont Refinery's operations and, as an exhibit to her prepared testimony, she provided direct answers to questions put forward by the Board in response to the original Petition. She also clarified that the Lemont Refinery's zoning classification is "industrial." For the background details of the Lemont Refinery, see Attachment E to this brief. (See testimony of Brigitte Postel, Hearing of Aug. 20, 2008, p.0028, line 15 through p.0035 line 5; p.0194, lines 5-7).

Petitioner's second witness, Jim Huff, is Vice President and part owner of Huff & Huff, Inc., an environmental consulting firm founded in 1979. He presented his analysis of the environmental impact of the Lemont Refinery's ammonia-nitrogen effluent. As exhibits to his testimony, Mr. Huff presented his reports dated both 2008 (Exhibit 2) and 1992 (Exhibit 3). He also presented his resume as Exhibit 4. Mr. Huff testified as to the environmental conditions in the Chicago Sanitary and Ship Canal, the Lemont Refinery's influent and effluent, and the mixing zone. Exhibit 5 contains data used by Mr. Huff to demonstrate the steady improvements made at the Lemont Refinery. He also explained the impact of the purge treatment unit on the ammonia-nitrogen effluent. Mr. Huff directly addressed the Agency's concerns, as expressed in their Recommendation, noting that: concern for dissolved oxygen is misplaced, that the other refineries are not better situated to meet the requirements of 301.122(b), and that the Lemont Refinery contributes less than 1% of the overall ammonia loading even under low-flow conditions. Mr. Huff described the gross inefficiencies, in both monetary and greenhouse gas terms, that would result from expanding the wastewater treatment facilities in an attempt to reduce the effluent ammonia levels during the infrequent upset periods. Finally, Mr. Huff explained the US EPA methodology he used to derive the effluent limits proposed in the Petition.

Petitioner's third and final witness was Robert Stein, of AWARE Environmental Inc. (AEI). A description of AEI and the curricula vitae of he and his colleague were attached as Exhibits 6-8. Mr. Stein analyzed the Lemont Refinery's possible technical alternatives that might achieve 100% compliance with a 3/6 mg/L ammonia-nitrogen standard. His conclusions were both that the Lemont Refinery is properly managing its wastewater treatment to control for ammonia-nitrogen and that no alternative technology can guarantee 100% compliance with the 3/6 mg/L standard. Mr. Stein's complete report was attached as Exhibit 9. In his oral testimony, he elaborated that a refinery that currently achieves nitrification may fail to do so when it adds

purge treatment unit discharge. He suggested that ExxonMobil, which has not yet added its purge treatment unit discharge to its general wastewater treatment, may fail to achieve nitrification 100% of the time. As regards the Lemont Refinery, Mr. Stein indicated that the primary variable that controls nitrification is the food-to-organism ratio. Further, he explained that this ratio has been properly maintained and other changes were unlikely to yield significant further improvements.

Petitioner filed additional exhibits reflecting corrected testimony for Mr. Stein (Exhibit 10), a provisional variance from 2005 (Exhibit 11) and the administrative record of the 1998 rulemaking, R98-14 (Exhibit 12).

The Agency, in contrast, refused to pre-file any testimony and, ultimately, presented one witness who stated that he did not contradict any of the witnesses or testimony presented by Petitioner. (See examination of Darin LeCrone, Hearing of Aug. 20, 2008, p.0238, lines 2-10 and p.0242, lines 8-13). At the date of that hearing, the Agency brought three exhibits purporting to reflect the effluent data for three Illinois refineries. The Agency reserved submission of those exhibits until weeks later, when it had a chance to re-evaluate its data and ultimately submitted the same general data, repeated in different forms, as its exhibits 1-11. (See Joint Stipulation, filed September 4, 2008). See Section III of this brief for more on the Agency's response.

THE PETITION MEETS STATUTORY REQUIREMENTS AND SHOULD BE GRANTED

In its original Petition, the Lemont Refinery included an appendix that set out the requirements for an Adjusted Standard as set out in 35 Ill. Admin. Code §104.406 and the portions of the Petition that met these requirements. We have included a similar table as Attachments A and B to this Post-Hearing Brief with references to both the Petition and, now, the testimony presented by the parties.

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The record is uncontested that there is no refinery in Illinois which has the waste load relating to ammonia that the Lemont Refinery is now treating. No other refinery has actually implemented the compliance measures under the Clean Air Act to reduce nitrogen and sulfur oxide emissions and is now discharging those waste streams to a water of the state.. Therefore, no other refinery is now both discharging the resulting increased levels of nitrogen materials from Clean Air Act compliance measures and consistently meet the stringent effluent standards contained in 304.122(b). The Conoco facility does not meet the 3/6 standard; the Marathon refinery does not discharge all of its ammonia bearing waste stream through its wastewater treatment facilities, and the Exxon Mobil refinery has not begun discharging this waste stream - and the testimony at the hearing suggests that there is a risk that that refinery will also not achieve the 304.122(b) levels on a consistent basis.

The limits proposed by the Lemont Refinery will not be easy to attain. They are set based on the 95% confidence interval - meaning that there is a real chance they could be exceeded. This is a level based on USEPA guidance. This puts an incentive on the Lemont Refinery to operate its wastewater system as effectively as it can. Moreover, the Refinery has proposed at the hearing, and is providing as requested by the Board (see Measures to Assure Reliability of Nitrification Processes, below) , further measures it is willing to undertake to further reduce its effluent - even though it has removed more ammonia from the Ship Canal in 2008 than, on average, it has discharged. (See examination of Jim Huff, Hearing of Aug. 20, 2008, p.0075, lines 17-24). Petitioner has incorporated these Measures into its proposed adjusted standard. The evidence is clear that the Refinery can and does provide nitrification for long periods - months or even a few years at a time. But with the dynamic nature of petroleum refining, and the increasing demands for uses of new petroleum supplies, upsets do occur in the process areas, causing upsets in the nitrification process in the wastewater treatment process

area. Wastewater treatment for nitrification is thus a difficult task. (See examination of Robert Stein, Hearing of Aug. 20, 2008, p.0086, lines 4-5). CIGTO believes that expanded wastewater treatment facilities will not eliminate these upsets to the nitrification process, and has and will continue to focus its efforts to improve reliability on reducing these process upset impacts on the wastewater treatment area.

MEASURES TO ASSURE RELIABILITY OF NITRIFICATION PROCESSES

1. The Lemont Refinery will provide an additional 2MM gallons of wastewater storage capacity. This additional storage tank capacity shall be included in a construction permit application within three months of the concluding ammonia adjusted standard process.
2. The Lemont Refinery will continue to participate with the Petroleum Environmental Research forum on "Reducing Desalter Environmental Impacts", and shall provide an annual progress update on the technologies researched, potential for feasibility at the Refinery, and a time line for bench scale application, if appropriate.
3. CITGO and the Agency shall develop an appropriate malfunction/upset definition condition for inclusion in the NPDES permit. The upset condition shall address mechanical malfunctions in the production process or in the wastewater treatment plant ("WWTP"), and situations in which the organic loading to the WWTP exceeds the aeration capabilities or a wastewater stream is inhibitory to nitrification.

CITGO further proposes issues relating to upset conditions which interfere with nitrification would be handled pursuant to such a condition.

ARGUMENT: THE LEMONT REFINERY IS ENTITLED TO AN ADJUSTED STANDARD AS REQUESTED IN THE PETITION, SUBJECT TO THE CONDITIONS IDENTIFIED HEREIN.

I. THE REFINERY HAS SHOWN SUBSTANTIAL IMPROVEMENTS AND REDUCTIONS IN AMMONIA NITROGEN DISCHARGES, A RESULT OF THE SUBSTANTIAL INVESTMENTS MADE IN WASTEWATER CONTROL AND IMPROVEMENTS IN TREATMENT CAPABILITIES FOR AMMONIA NITROGEN

The Refinery discharges to the Chicago Sanitary and Ship Canal ("Canal") a tributary of the Illinois River. The Illinois IEPA describes the aquatic habitat of Petitioner's portion of this waterway as "poor to very poor," and it is designated as "non-support for fish consumption and aquatic life." (See examination of Jim Huff, Hearing of Aug. 20, 2008, p.0055, lines 14-19,

citing Illinois EPA, Statement of Reason, R08-09, 2008). The Canal is similarly non-supporting of human recreational activities, due to its geographic qualities and the resulting dangerous waves caused by barge traffic. (See examination of Jim Huff, Hearing of Aug. 20, 2008, p.0054, line 6 through p.0055, line 13, citing CDM, *Chicago Area Waterway System Use Attainability Analysis*, August 2007.) The same CDM report explained why the Canal has such a poor habitat, explaining that the Canal has: silty substrates, poor substrate material, little instream cover, channelization, and no sinuosity. (See examination of Jim Huff, Hearing of Aug. 20, 2008, p.0057, lines 11-24, citing CDM, *Chicago Area Waterway System Use Attainability Analysis*, August 2007.) Notably, the ammonia concentrations in the Canal are generally quite low, below 1 mg/L. Even more, the unionized ammonia concentrations have been consistently below 0.010 mg/L, below even the proposed change reflected in R08-09. (See examination of Jim Huff, Hearing of Aug. 20, 2008, p.0058, lines 1-16.)

The limits for ammonia nitrogen proposed here are based on a statistical analysis using the 95th percentile of the standard deviation over historical and representative time periods to calculate the effluent limits. The daily and monthly limit is based on the 95th percentile based on the last five years of effluent data. The limits proposed demonstrate the commitment to improvement in nitrification, a reduction in the daily limit of 59 percent and in the monthly limit of 27 percent. (See examination of Brigitte Postel, Hearing of Aug. 20, 2008, p.0038, lines 9-20.) The un-ionized ammonia in the Canal currently reflects less than 10% of the water quality standard - a level that will be further reduced under the proposed reductions in the Petition. (See examination of Jim Huff, Hearing of Aug. 20, 2008, p.0061, lines 7-18.) The water quality conditions in the receiving stream do not require further treatment of the Refinery discharge to meet existing water quality standards for ammonia or even for the revised ammonia nitrogen standards as proposed by the Agency in the UAA.

The discharge is quickly dispersed in the Canal and assimilated by the receiving stream. The Canal at this point is an effluent dominated stream with about 70% due to municipal effluent. (See examination of Jim Huff, Hearing of Aug. 20, 2008, p.0056, lines 12-21, citing Illinois EPA, Statement of Reason, R08-09, 2008). That municipal effluent includes the Stickney treatment plant, one of the largest such plants in the world. *Id.* As noted in the 1992 Huff & Huff report, the Refinery's discharge results in a 10:1 dilution plume in an area 15 feet long by 8 feet wide. The effluent is dispersed to a 10:1 dilution in approximately 7 seconds which is considered "rapid" and "immediate" under Board regulations. 35 Ill. Admin. Code Subtitle C, Chapter I, Section 302.102. Effluent conditions and low flow conditions in the Ship Canal have not changed materially, so this Zone of Initial Dilution analysis remains valid today. The overall mixing zone was determined to provide a dilution ratio of 40:1 during this same 1992 study. Again, conditions are similar today, except that the 7-day 10-year low flow in the Ship Canal has been reduced from 1,100 MGD to 850 MGD due to the loss of discretionary diversion of Lake Michigan water. The result is a current mixing zone dilution ratio of 36.1:1 at the design average flow for the Lemont Refinery. The most recent Huff & Huff report (attached to the original petition as Exhibit A and Exhibit 2 at the hearing) notes that the ammonia levels in the Canal, at the edge of the mixing zone, would be 0.805 mg/l. Since the Refinery usually is able to nitrify, the typical levels in the Canal after mixing are significantly lower. Moreover, the maximum unionized ammonia level recently collected in the Canal (downstream at Lockport) was 0.079 mg/l - which includes the discharge of the Refinery.

Moreover, while the Agency Recommendation made various accusations about the discharge of ammonia nitrogen, the uncontested evidence at the hearing is that the Refinery can meet the water quality standard for ammonia which the Agency has proposed in the UAA proceeding! With that evidence, the Agency cannot complain about the environmental effect of

the Refinery discharge. In particular, this adjusted standard would lower those existing levels of discharge. (See Transcript, Hearing of Aug. 20, 2008, p.0014, lines 3-11). The Agency declined to rebut or challenge any of the evidence or testimony presented. (See examination of Darin LeCrone, Hearing of Aug. 20, 2008, p.0238, lines 2-10; p.0242, lines 8-13). In fact, although Bob Mosher (from the IEPA water quality standards group) was present, he declined to testify. (See Transcript, Hearing of Aug. 20, 2008, p.0002, line 20; p.0007, lines 19-21). Finally, the Refinery's impact on dissolved oxygen is so minimal that it is within the margin of error of the sampling method. (See testimony of Jim Huff, Hearing of Aug. 20, 2008, p.0189, lines 5-24).

II. THERE ARE NO TECHNICALLY FEASIBLE AND ECONOMICALLY REASONABLE MEASURES TO ASSURE COMPLIANCE WITH THE GENERAL RULE

U.S. EPA has promulgated categorical limits on various industries, including the petroleum refining industry. While these regulations, found in 40 CFR 419, do specify limits for ammonia nitrogen, these are less stringent than the limits in the existing site-specific rule. The Board has previously found that the wastewater treatment system goes beyond Best Available Technology ("BAT") requirements. Therefore, it is possible to spend millions of dollars in an attempt to implement unproven strategies for potential ammonia nitrogen reduction even though: (a) the present level of wastewater treatment at the Refinery is better than the United States Environmental Protection Agency's ("U.S. EPA") effluent guideline of best available technology ("BAT") economically achievable; and (b) the ammonia nitrogen discharge for the Refinery has no discernable water quality impact on the receiving stream.

No technology can assure that the Refinery will meet the ammonia-nitrogen limits of 3 mg/L/day monthly average and 6 mg/L/day maximum. As a result, as Robert Stein noted in his pre-filed testimony, "upgrading the treatment system with additional treatment technologies for ammonia removal is not justified at this time." (See examination of Robert Stein, Hearing of

Aug. 20, 2008, p.0091, lines 19-22; p.0111, lines 14-21). In fact, when asked about ExxonMobil's potential for achieving compliance with the 3/6 mg/L standard, Mr. Stein's prediction was, "Not with a hundred percent certainty, no." (See examination of Robert Stein, Hearing of Aug. 20, 2008, p.0244, lines 12-17.) Mr. Stein noted that, in order to guarantee performance with the 3/6 mg/L standard, "you need to go through a full NPDS permit cycle, which would be a minimum of five years." (See examination of Robert Stein, Hearing of Aug. 20, 2008, p.0137, lines 7-9.) Specifically, Mr. Stein noted that "there's inherent variability in a treatment system. Unless you've got good long-term demonstration, then there's always the ... potential problem of upsets." (See examination of Robert Stein, Hearing of Aug. 20, 2008, p.0137, lines 11-14.) Mr. Stein even noted, by way of example, a paper mill project for which he consulted that became subject to unforeseen upsets. "They had gone ten years without a problem, and then, because of high temperatures, had some sulfites. And developed sulphur-based filaments and lost control of the system, and lost -- very heavily solids. What happens is, when you get the filamentous bulking, you cannot settle very well. And, therefore, the solids will go out the effluent and you lose control of your treatment system." (See examination of Robert Stein, Hearing of Aug. 20, 2008, p.0133, lines 7-20.) Mr. Huff is in agreement, noting in response to a question from the Board technical advisors, "I agree with Mr. Stein that before I say definitively, I would want five years of performance data. [Exxon] ha[s gone] approximately two years without the wet gas scrubber going through that system. They have no data yet, other than their laboratory pilot test, that says that they will not have any effect. I believe that there is a considerable uncertainty as to the success of that plant when the wet gas scrubber comes online." (See examination of Jim Huff, Hearing of Aug. 20, 2008, p.0210, line 15 through p.0211, line 1.)

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Even assuming that the lowest cost upgrade identified in the 2008 AWARE Report were justified, it would cost \$3,220,000 per year or \$205 per pound of ammonia removed. Moreover, it would increase the plant's carbon dioxide emissions by 1,976,000 pounds per year. For every additional pound of ammonia that is oxidized 126 pounds of carbon dioxide will be emitted. (See examination of Jim Huff, Hearing of Aug. 20, 2008, p.0072, lines 7-24). As a comparison, the Calumet Water Reclamation Plant removes ammonia at approximately \$3.00 per pound. Even the Water Reclamation Plant's five side-stream aeration systems remove ammonia about \$10 per pound. These costs are 68-times more efficient than the least expensive upgrade proposed in the AWARE report. (See examination of Jim Huff, Hearing of Aug. 20, 2008, p.0073, lines 4-16, citing to Environmental Assessment of Ammonia Concentrations in the Wastewater Discharge of Union Oil Company, Chicago Refinery, by L.L. Huff and J.E. Huff, 1983, updated to 2008 dollars, and testimony of J. E. Huff in the Matter of Petition of Uno-Ven to Amend Regulations Pertaining to Water Pollution, R93-8.).

The Lemont Refinery and its predecessors have expended significant resources in improving the wastewater treatment system. They have spent nearly \$75,000,000 to upgrade and improve the wastewater treatment facilities at the Refinery; approximately \$45,000,000 of that was spent just in the last 10 years. (See examination of Brigitte Postel, Hearing of Aug. 20, 2008, p.0039, line 20 through p.0040, line 4). The petitioner has: added a third aeration basin, increasing the total aeration volume from 1.38 million gallons to 1.92 million gallons (which directly improves the ability to nitrify); upgraded the aeration system by replacing the existing mechanical surface aerators with a fine-bubble diffused aeration system (also a direct improvement to nitrification); added the second 100-ft. diameter secondary clarifier, doubling the secondary clarifier capacity (also a direct improvement to nitrification); installed a new chemical feed facility at the WWTP (an indirect improvement to nitrification); eliminated

discharge of process wastewater to the storm-water basin and provided tankage for equalization/oil separation of process wastewater (a direct improvement to nitrification); converted the WWTP control system to new DCS control (an indirect improvement to nitrification); modified the sour water stripper charge tanks inlet line for better oil/water separation (a direct improvement to nitrification); performed a clean closure of the storm-water basin (an indirect improvement to nitrification); utilized Nalco dried bacteria and conducted nitrifier inhibition testing (a direct improvement to nitrification); in 2000 installed induced gas flotation system with polymer addition (also a direct improvement to nitrification); in 2003, added additional strippers in the sour water system for ammonia removal (also a direct improvement to nitrification); also in 2003, upgraded diffused aerators to improve oxygen transfer (also a direct improvement to nitrification); in 2006 , upgraded phosphoric acid feed system and the aerators to improve oxygen transfer (also a direct improvement to nitrification); in 2007, installed purge treatment unit to treat the discharge from the FCC scrubber (needed to protect the existing system from new wastewater source); and, also in 2007, upgraded diffused aerators to improve oxygen transfer (a direct improvement to nitrification). (See examination of Brigitte Postel, Hearing of Aug. 20, 2008, p.0040, line 21 through p.0043, line 1.)

Thus, the Lemont Refinery has invested considerable resources to improve its ability to provide nitrification and reduce its discharge. And those efforts will continue with the further compliance measures proposed herein.

III. THE AGENCY'S POSITION IS TO IGNORE WHAT IS REALISTIC AND TO PUT THE RISK OF NON-COMPLIANCE ON THE LEMONT REFINERY - EVEN THOUGH THE PROPOSED LEVELS ARE CONSISTENT WITH EPA GUIDANCE AND CREATE RISK OF NON-COMPLIANCE

The Agency's response has been, at best, confused and confusing. It has changed arguments repeatedly throughout the process. In advance of the hearing, it refused to file pre-

filed testimony. The data it presented at the hearing was unprepared and inaccurate. And even after the hearing, the information presented is inconsistent and unclear. Attachment D is a summary of the various factual assertions from the Agency Recommendation which were flatly wrong and contradicted by the testimony and exhibits presented at the hearing. The Board should disregard the Agency's Recommendation entirely and focus its review on the evidence presented at the hearing.

The Agency has changed its argument regarding other Illinois refineries' ability to meet a 3/6 mg/L standard. In its filed Recommendation, it claimed, "the remaining three oil refineries in Illinois are capable of meeting the ammonia nitrogen limits required in 35 Ill. Adm. Code 304.122(b)." Agency Recommendation at ¶19. At the hearing, the Agency admitted that there were "no concentration limits that applied at Marathon at this time." (See testimony of Darin LeCrone, Hearing of Aug. 20, 2008, p.0222, lines 19-20). It also admitted that ExxonMobil's data reflects "nine and twenty-three, for average and maximum concentration limits." (See testimony of Darin LeCrone, Hearing of Aug. 20, 2008, p.0224, lines 22-23). While the Agency has not provided data for Conoco-Phillips, it admitted at hearing that they are subject to "the federal BAT mass limits" and that "they aren't subject to the three and six standard." (See testimony of Darin LeCrone, Hearing of Aug. 20, 2008, p.0225, lines 19-20). When pressed, the Agency provided a spreadsheet for Conoco-Phillips that contained zero data. *See* Agency Exhibit 9. As noted, above, the Board has already found the Lemont Refinery to have met those same BAT requirements.

At the hearing, despite having had over six months of advance notice of this petition, it "wasn't able" to verify the certainty of its data. (See testimony of Darin LeCrone, Hearing of Aug. 20, 2008, p.0228, lines 10-23). The Marathon data, in Agency's Exhibit 2, provides three entries for March 21, 2008. One of those entries is actually above the 3 mg/L limit. (See

testimony of Darin LeCrone, Hearing of Aug. 20, 2008, p.0232, lines 2-16). When questioned about the discrepancy, which further contradicts the Agency's own position in its Recommendation, the Agency replied "I do not know." *Id.* Weeks later, after actually taking the time to review its own data, the Agency's best explanation is that the various ammonia values are for various outfalls. *See* email text in Agency Exhibit 7. Nonetheless, the data clearly shows that, when one of these refineries had a primary outfall nearing the 3 mg/L level, it also had a secondary storm-water discharge at over the 3 mg/L ammonia level.

The Agency has suggested that other refineries are able to guarantee compliance with a 3/6 mg/L regime but it has provided no reliable evidence to support that contention. The Marathon plant does not send its scrubber effluent to its wastewater stream. In fact, as the Agency admitted at the hearing, "they have been hauling some offsite out of state." (See testimony of Darin LeCrone, Hearing of Aug. 20, 2008, p.0233, lines 8-9). The Agency noted that CITGO had put in extra treatment specifically for ammonia coming from their similar purge treatment, and that the CITGO outfall, unlike the Marathon outfall, accounts for the totality of its effluent, rather than hiding some by disposing of it off-site. (See testimony of Darin LeCrone, Hearing of Aug. 20, 2008, p.0234, lines 2-10). Despite the fact that southern Illinois has warmer weather, and the avoidance of scrubber effluents, Marathon still has effluent of similar qualities to CITGO. The Agency has thus far proven itself unable to provide evidence of the Conoco-Phillips effluent to support their argument. When asked why there was no data, the Agency witness replied, "I don't know what's available, honestly. I didn't get any." (See testimony of Darin LeCrone, Hearing of Aug. 20, 2008, p.0235, lines 12-13). ExxonMobil has decided to take a risk and has delayed in asking for regulatory relief. However, it has not even turned on its FCC unit, and the ammonia-nitrogen consequences of adding that effluent to the wastewater treatment are non-trivial. The consultants for CITGO have indicated that without five years of

performance data with the wet gas scrubber, no such demonstration has been made by any Illinois refinery. As such, they consider the risk too great to be taken on without such data.

Mr Stein and Mr Huff were familiar with the discharge information and the characteristics of these other Illinois - based refineries. Mr. Stein's report included a section analyzing their performance and equipment. In point of fact, his testimony and report provide a more cogent and understandable review of the issues, and the difficulties, in consistently providing nitrification for refinery wastewater sufficient to consistently meet the limitations contained in 304.122(b).

Ultimately, the Agency admitted that it did not contradict any of the evidence or testimony presented by CITGO. (See testimony of Darin LeCrone, Hearing of Aug. 20, 2008, p.0238, lines 2-10). In fact, when pressed on Mr. Huff's testimony that Exxon's wet gas scrubber poses a risk that they would not meet the 3/6 mg/L standard, the Agency witness stated, "I don't disagree with [Mr. Huff's testimony.]" (See testimony of Darin LeCrone, Hearing of Aug. 20, 2008, p.0242, lines 8-13).

As noted in the above Measures to Assure Reliability of Nitrification Processes, the Lemont Refinery is prepared to take steps to ensure nearly constant nitrification. It plans to 1) maintain an additional 2MM gallons of wastewater storage capacity; 2) participate with the Petroleum Environmental Research forum on "Reducing Desalter Environmental Impacts," including an annual progress report to the Board regarding the technologies researched, potential for feasibility at the Refinery, and a time line for bench scale application; and 3) work with the Agency to develop a malfunction/upset definition for inclusion in the next NPDES permit to address disruptions in nitrification.

This information also demonstrates that the Refinery is unique. Although the wastewater treatment system does provide nitrification, it cannot meet the stringent requirements of

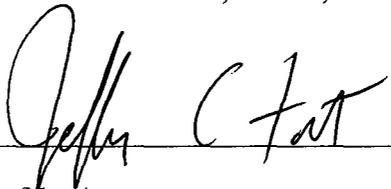
304.122(b) on a consistent basis, all of the time. Though the Agency asserted that other refineries could achieve these levels, the record does not support that assertion. Mr. Stein analyzed the design characteristics of each of the refineries in Illinois and did not believe any one of them were employing measures which would guarantee consistent compliance with the general limitation.¹ Neither the experts retained by the Lemont Refinery, nor the Agency, could predict the further control measures that would guarantee attainment of the 3 mg/L monthly average and 6 mg/L daily maximum limitations in 304.122(b). The steps being pursued by the Refinery are, without question, the appropriate measures to pursue.

IV. THE LEMONT REFINERY HAS DEMONSTRATED IT IS ENTITLED TO AN ADJUSTED STANDARD ON THE CONDITIONS PROPOSED

Petitioner has addressed every element of the requirements for an Adjusted Standard as set out in 35 Ill. Admin. Code §104.406. It has also met its burden of proof as set out in §104.426 (referencing 415 ILCS 5/27(a).) Attachments A and B to this brief contains element-by-element indices to the portions of the Petition and the hearing testimony that contain the applicable information satisfying §104.406 and §104.426 (referencing 415 ILCS 5/27(a).)

WHEREFORE, Petitioner requests that the Board grant this adjusted standard, revised in Attachment C to this brief.

CITGO PETROLEUM CORPORATION, and
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¹ Indeed, the prior site-specific rule changes are further evidence of the “uniqueness” of the Lemont Refinery

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ATTACHMENT A
SATISFIED REQUIREMENTS OF 35 ILL. ADMIN. CODE §104.406

The table below sets out those paragraphs of the original petition and those portions of the testimony that correspond to the requirements for an Adjusted Standard as set out in 35 Ill.

Admin. Code §104.406:

<p>a) A statement describing the standard from which an adjusted standard is sought. This must include the Illinois Administrative Code citation to the regulation of general applicability imposing the standard as well as the effective date of that regulation;</p>	<p>Preamble paragraph and ¶2 of the Petition. and testimony of Brigitte Postel (Hearing of Aug. 20, 2008, p.0036, lines 6-17).</p>
<p>b) A statement that indicates whether the regulation of general applicability was promulgated to implement, in whole or in part, the requirements of the CWA (), Safe Drinking Water Act ((f) et seq.), Comprehensive Environmental Response, Compensation and Liability Act (42 USC 9601 et seq.), CAA (42 USC 7401 et seq.), or the State programs concerning RCRA, UIC, or NPDES [415 ILCS 5/28.1];</p>	<p>¶¶25, 28-30, and 32 of the Petition and testimony of Brigitte Postel (Hearing of Aug. 20, 2008, p.0035, line 7 through p.0036, line 17).</p>
<p>c) The level of justification as well as other information or requirements necessary for an adjusted standard as specified by the regulation of general applicability or a statement that the regulation of general applicability does not specify a level of justification or other requirements [415 ILCS 5/28.1] (See Section 104.426);</p>	<p>¶¶9, 17-30, 32, and 52 of the Petition and testimony of Brigitte Postel (Hearing of Aug. 20, 2008).</p>
<p>d) A description of the nature of the petitioner's activity that is the subject of the proposed adjusted standard. The description must include the location of, and area affected by, the petitioner's activity. This description must also include the number of persons employed by the petitioner's facility at issue, age of that facility, relevant pollution control equipment already in use, and the qualitative and quantitative description of the nature of emissions, discharges or releases currently generated by the petitioner's activity;</p>	<p>¶¶7-10, 13-16, 18-24, and 33-45 of the Petition; testimony of Brigitte Postel (Hearing of Aug. 20, 2008, p.0031, line 14 through p.0034, line 16); Additional Information Requested by the Hearing Officer (Petitioner's Exhibit 1 to the testimony); testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0050, line 17 through p.0054, line 5); 2008 Huff Report (Petitioner's Exhibit 2 to the testimony); 1992 Huff Report (Petitioner's Exhibit 3 to the testimony); ammonia levels in the Canal, the effluent, and net discharge (Petitioner's Exhibit 5 to the testimony).</p>
<p>e) A description of the efforts that would be necessary if the petitioner was to comply with the regulation of general applicability. All compliance alternatives, with the corresponding costs for each alternative, must be discussed. The discussion of costs must include the overall capital costs as well as the annualized capital and operating costs;</p>	<p>¶¶45-50 of the Petition; testimony of Brigitte Postel (Hearing of Aug. 20, 2008, p.0043, lines 4-24); testimony of Robert Stein (Hearing of Aug. 20, 2008, p.0108, line 22 through p.0111, line 21; p.0159, line 3 through p.0160, line 6); AWARE report, (Petitioner's Exhibit 9 to the testimony); testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0071, line 21 through p.0073, line 16; p.128, line 17 through p.0129, line 16). See also items 'g' and 'h' in this table.</p> <p>The Agency contests the Petitioner's assessment of its refinery, but it provides no evidence to support its assertions.</p>
<p>f) A narrative description of the proposed adjusted standard as well as proposed language for a Board order that would impose the standard. Efforts necessary to achieve this proposed standard and the corresponding costs must also be presented;</p>	<p>¶¶4-6 of the Petition; the Measures to Assure Reliability of Nitrification Processes, proposed in this brief; Additional Information Requested by the Hearing Officer (Petitioner's Exhibit 1 to the testimony); see also the proposed adjusted standard in Attachment C to this brief.</p>

ATTACHMENT A

SATISFIED REQUIREMENTS OF 35 ILL. ADMIN. CODE §104.406

<p>g) The quantitative and qualitative description of the impact of the petitioner's activity on the environment if the petitioner were to comply with the regulation of general applicability as compared to the quantitative and qualitative impact on the environment if the petitioner were to comply only with the proposed adjusted standard. To the extent applicable, cross-media impacts must be discussed. Also, the petitioner must compare the qualitative and quantitative nature of emissions, discharges or releases that would be expected from compliance with the regulation of general applicability as opposed to that which would be expected from compliance with the proposed adjusted standard;</p>	<p>¶¶17-24, 30 of the Petition and testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0054, line 6 through p.0058, line 15; p. 0060, line 22 through p.0075, line 15); 2008 Huff Report (Petitioner's Exhibit 2 to the testimony); 1992 Huff Report (Petitioner's Exhibit 3 to the testimony); ammonia levels in the Canal, the effluent, and net discharge (Petitioner's Exhibit 5 to the testimony).</p> <p>The Agency contests the Petitioner's conclusions, but it provides no evidence to support its assertions. In fact, when questioned, the Agency's sole witness admitted, "I don't disagree with [Mr. Huff's testimony.]" (See examination of Darin LeCrone, Hearing of Aug. 20, 2008, p.0238, lines 2-10 and p.0242, lines 8-13). See also Attachment D to this brief.</p>
<p>h) A statement which explains how the petitioner seeks to justify, pursuant to the applicable level of justification, the proposed adjusted standard;</p>	<p>¶¶9, 17-30, 32, and 52 of the Petition and testimony of Jim Huff (Hearing of Aug. 20, 2008, p. 0060, line 22 through p.0075, line 15) 2008 Huff Report (Petitioner's Exhibit 2 to the testimony); 1992 Huff Report (Petitioner's Exhibit 3 to the testimony); ammonia levels in the Canal, the effluent, and net discharge (Petitioner's Exhibit 5 to the testimony); testimony of Brigitte Postel (Hearing of Aug. 20, 2008, p. 0037, line 22 through p.0040, line 19; p.0043, lines 4-24); Additional Information Requested by the Hearing Officer (Petitioner's Exhibit 1 to the testimony); testimony of Robert Stein (Hearing of Aug. 20, 2008, p.0084, line 14 through p.0085, line 1; p.0108, line 22 through p.0111, line 21; p.0159, line 3 through p.0160, line 6); AWARE report, (Petitioner's Exhibit 9 to the testimony).</p>
<p>i) A statement with supporting reasons that the Board may grant the proposed adjusted standard consistent with federal law. The petitioner must also inform the Board of all procedural requirements applicable to the Board's decision on the petition that are imposed by federal law and not required by this Subpart. Relevant regulatory and statutory authorities must be cited;</p>	<p>¶¶25, 28-30, and 32 of the Petition.</p> <p>Moreover, as the proposed Adjusted Standard represents an <i>improvement</i> in water quality over current conditions, there is no violation of federal law. See testimony of Brigitte Postel (Hearing of Aug. 20, 2008, p. 0038, lines 19-21 and p.0044, lines 2-13); testimony of Jim Huff (Hearing of Aug. 20, 2008, p. 0060, line 14 through p.0061, line 18).</p>
<p>j) A statement requesting or waiving a hearing on the petition (pursuant to Section 104.422(a)(4) of this Part a hearing will be held on all petitions for adjusted standards filed pursuant to 35 Ill. Adm. Code 212.126 (CAA));</p>	<p>A Hearing was requested in ¶¶53 of the Petition and took place on August 20, 2008.</p>
<p>k) The petition must cite to supporting documents or legal authorities whenever they are used as a basis for the petitioner's proof. Relevant portions of the documents and legal authorities other than Board decisions, State regulations, statutes, and reported cases must be appended to the petition;</p>	<p>The Petition cites to such support throughout its text. See, e.g., ¶¶2, 3, 19, 25, 49, and 52. The Hearing of August 20, 2008 proved each of the factual assertions contained in the petition.</p>
<p>l) Any additional information which may be required in the regulation of general applicability.</p>	<p>Nothing required.</p>

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ATTACHMENT B

SATISFIED REQUIREMENTS OF 35 ILL. ADMIN. CODE §104.426 (AND 415 ILCS 5/27(a))

The table below sets out those paragraphs of the original petition and those portions of the testimony that correspond to the requirements for an Adjusted Standard as set out in 35 Ill. Admin. Code §104.406:

a) Existing Physical Conditions	¶¶3, 7-24; of the Petition; testimony of Brigitte Postel, (Hearing of Aug. 20, 2008, p.0028, line 15 through p.0035 line 5; p.0194, lines 5-7); Attachment E to this brief; testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0054, line 6 through p.0058, line 15; p. 0060, line 22 through p.0075, line 15); 2008 Huff Report (Petitioner's Exhibit 2 to the testimony); 1992 Huff Report (Petitioner's Exhibit 3 to the testimony); ammonia levels in the Canal, the effluent, and net discharge (Petitioner's Exhibit 5 to the testimony).
b) Character of the Area Involved, Including the Character of the Surrounding Land Uses	¶¶3, 7-24; of the Petition; testimony of Brigitte Postel, (Hearing of Aug. 20, 2008, p.0028, line 15 through p.0035 line 5; p.0194, lines 5-7); Attachment E to this brief; testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0054, line 6 through p.0058, line 15; p. 0060, line 22 through p.0075, line 15); 2008 Huff Report (Petitioner's Exhibit 2 to the testimony); 1992 Huff Report (Petitioner's Exhibit 3 to the testimony); ammonia levels in the Canal, the effluent, and net discharge (Petitioner's Exhibit 5 to the testimony).
c) Zoning Classifications	The Lemont Refinery's zoning classification is "industrial." (See testimony of Brigitte Postel, (Hearing of Aug. 20, 2008, p.0028, line 15 through p.0035 line 5; p.0194, lines 5-7)).
d) The Nature of the Existing Receiving Body of Water	¶¶7-10, 13-16, 18-24, and 33-45 of the Petition; testimony of Brigitte Postel (Hearing of Aug. 20, 2008, p.0031, line 14 through p.0034, line 16); Additional Information Requested by the Hearing Officer (Petitioner's Exhibit 1 to the testimony); testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0050, line 17 through p.0054, line 5); 2008 Huff Report (Petitioner's Exhibit 2 to the testimony); 1992 Huff Report (Petitioner's Exhibit 3 to the testimony); ammonia levels in the Canal, the effluent, and net discharge (Petitioner's Exhibit 5 to the testimony).
e) The Technical Feasibility and Economic Reasonableness of Measuring or Reducing the Particular Type of Pollution	¶¶33-51 of the Petition; testimony of Robert Stein, (Hearing of Aug. 20, 2008, p.0091, lines 19-22; p.0111, lines 14-21; p.0133, lines 7-20; p.0137, lines 7-14; p.0244, lines 12-17); AWARE report, (Petitioner's Exhibit 9 to the testimony); testimony of Brigitte Postel, Hearing of Aug. 20, 2008, p.0039, line 20 through p.0043, line 21; testimony of Jim Huff, (Hearing of Aug. 20, 2008, p.0072, lines 7-24; p.0073, lines 4-16; p.0210, line 15 through p.0211, line 1) (at times citing to Environmental Assessment of Ammonia Concentrations in the Wastewater Discharge of Union Oil Company, Chicago Refinery, by L.L. Huff and J.E. Huff, 1983, updated to 2008 dollars, and testimony of J. E. Huff in the Matter of Petition of Uno-Ven to Amend Regulations Pertaining to Water Pollution, R93-8).

ATTACHMENT C
PROPOSED ADJUSTED STANDARD PROVISIONS

- a) This standard applies to discharges from PDV Midwest Refining, L.L.C. Refinery (“The Refinery”), located in Lemont into the Chicago Sanitary and Ship Canal;
- b) The requirements of Section 304.122(b) shall not apply to the discharge. The Refinery shall meet applicable Best Available Technology Economically Achievable (BAT) limitations pursuant to 40 CFR 419.23 (2003), incorporated by reference in subsection (d);
- c) The Refinery shall also meet a monthly average limitation for ammonia nitrogen of 6.93 mg/l whenever the monthly average discharge exceeds 100 lbs per day and 10.61 mg/l whenever the daily discharge exceeds 200 pounds of ammonia;
- d) The Board incorporates by reference 40 CFR 419.23 (2003) only as it relates to ammonia nitrogen as N. This incorporation includes no subsequent amendments or editions;
- e) The Refinery shall continue its efforts to reduce the concentration of ammonia nitrogen in its wastewaters;
- f) The Refinery shall monitor the nitrogen concentration of its oil feedstocks and report on an annual basis such concentrations to the Agency;
- g) The Refinery shall continue its efforts to control and manage solids from its crude oil supply with respect to its wastewater treatment system;
- h) The Refinery shall submit the reports described in subsection “f” no later than 60 days after the end of a calendar year;
- i) The Lemont Refinery will provide an additional 2MM gallons of wastewater storage capacity. This additional storage tank capacity shall be included in a construction permit application within three months of the adoption of this adjusted standard;
- j) The Lemont Refinery will continue to participate with the Petroleum Environmental Research forum on “Reducing Desalter Environmental Impacts”, and shall provide an annual progress update on the technologies researched, potential for feasibility at the Refinery, and a time line for bench scale application, if appropriate;
- k) CITGO and the Agency shall develop an appropriate malfunction/upset definition condition for inclusion in the NPDES permit. The upset condition shall address mechanical malfunctions in the production process or in the wastewater treatment plant (“WWTP”), and situations in which the organic loading to the WWTP exceeds the aeration capabilities or a wastewater stream is inhibitory to nitrification; and
- l) The provisions of subsections (c) to (j) shall terminate on December 31, 2013, provided that the malfunction/upset condition required by subsection (k) is in full force and effect by that time..

ATTACHMENT D
ANALYSIS OF AGENCY RECOMMENDATION

The table below examines each of the Agency's contentions in its Recommendation matched against the opposing evidence and testimony presented at the hearing on August 20, 2008. Most notable is that, at that hearing, the Agency declined to contest any of Petitioner's evidence or witnesses and even admitted that it did not disagree with Petitioner's experts' conclusions. (See examination of Darin LeCrone, Hearing of Aug. 20, 2008, p.0238, lines 2-10 and p.0242, lines 8-13)

Agency Contention	Opposing Evidence Presented
CITGO's improvements are not related to reducing the ammonia-nitrogen effluent.	"Even investments that did not primarily target nitrification were done to benefit the nitrification process." See testimony of Brigitte Postel (Hearing of Aug. 20, 2008, p.0040, line 14 through p.0043, line 2); testimony of Robert Stein (Hearing of Aug. 20, 2008, p.0093, line 6 through p.0094, line 7). Most of these investments had a direct improvement for the nitrification processes. See pages 11-12, above.
The Board's 1972 ammonia standards concluded that industrial wastewater could be effectively and inexpensively nitrified.	The Board's 1972 conclusions were specifically directed at municipal sewage and waste, not at industrial wastewater treatment in general nor at the petroleum refining industry in particular. Even U.S. EPA documentation from that time and the following years indicates that nitrification was inefficient and could not achieve the 3 mg/L standard on a consistent basis. See testimony of Robert Stein (Hearing of Aug. 20, 2008, p.0094, line 8 through p.0096, line 6; p0096, line 14 through p.0097, line 12); AWARE report, (Petitioner's Exhibit 9 to the testimony).
The Board's 1972 conclusion prefers a reduction in ammonia to achieve the D.O. standard.	Ammonia levels in the Ship Canal have declined from over 3.6 mg/L in 1986 to between 0.47 and 0.81 mg/L today. Ammonia is no longer the problem. See testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0063, line 13 through p.0064, line 4).
"CITGO is the only refinery discharging to the Ship Canal that has yet to meet the ammonia nitrogen standard at 35 Ill. Adm. Code 304.122(b)"	There are no other refineries on the Ship Canal. See testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0064, lines 5-11); testimony of Robert Stein (Hearing of Aug. 20, 2008, p.0096, lines 7-13.). Moreover, the Agency significantly backtracked from this assertion throughout the testimony, admitting that no other refinery in Illinois meets this limit while having implemented the compliance measures

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ANALYSIS OF AGENCY RECOMMENDATION

	<p>under the Clean Air Act to reduce nitrogen and sulfur oxide emissions. See testimony of Darin LeCrone, Hearing of Aug. 20, 2008, p.0233, lines 8-9; p.0234, lines 2-10; p.0235, lines 12-13; 0238, lines 2-10; and p.0242, lines 8-13); testimony of Robert Stein (Hearing of Aug. 20, 2008, p.0097, lines 13-20).</p>
<p>Conoco-Phillips performs better than CITGO in both nitrification and resulting low effluent</p>	<p>Both refineries achieve very high levels of nitrification, with Conoco-Phillips actually emitting <i>more</i> net ammonia per day. See testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0066, line 8 through p.0068, line 15).</p>
<p>CITGO will subject a portion of the Ship Canal to "much higher" ammonia concentrations.</p>	<p>The petition seeks to <i>lower</i> the currently allowable ammonia concentrations. Moreover, given the ZIDs and mixing zones, the proposed maximum effluent level will not lead to markedly increased ammonia levels. Even at low-flow, the proposed maximum effluent would increase ammonia from 0.634 mg/L to 0.701 mg/L. See testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0068, line 16 through p.0070, line 6).</p>
<p>CITGO's effluent will prevent the Ship Canal from availability as a habitat for sensitive forms of aquatic life.</p>	<p>Even the Agency's filings in R08-09 describe the Ship Canal as having "very poor to poor habitual attributions." See testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0070, line 7 through p.0071, line 10). As the Agency has described in the UAA proceeding, the Ship Canal is an "effluent dominated" stream with about 70% of the flow at the Refinery being due to discharges from the MWRDGC.</p>
<p>Petitioner's request would increase ammonia discharge levels and prevent attainment of dissolved oxygen standards.</p>	<p>Petitioner's request calls for <i>lowering</i> ammonia discharge levels. Moreover, Petitioner's minor ammonia effluent would meet the Agency's ammonia standard proposed in the UAA and is not preventing attainment of dissolved oxygen standards--CSO events prevent such attainment. See testimony of Jim Huff (Hearing of Aug. 20, 2008, p.0071, lines 11-20).</p>
<p>Petitioner may not have adequate retention time.</p>	<p>The retention time is not a meaningful indicator to promote nitrification. The more descriptive food-to-microorganism ratio is, as noted in the AWARE report. Moreover, Conoco-Phillips, which fails to meet the 3/6 level nearly 10% of the time, has a</p>

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ANALYSIS OF AGENCY RECOMMENDATION

	<p>significantly longer retention time. See testimony of Robert Stein (Hearing of Aug. 20, 2008, p.0097, line 21 through p.0098, line 24); AWARE report, (Petitioner's Exhibit 9 to the testimony). At the hearing, the testimony of Mr. Stein and Mr. Huff clearly established that retention time was not the crucial parameter.</p>
<p>Petitioner failed to consider additional aeration basins or clarifiers to increase detention time.</p>	<p>Petitioner <i>did</i> consider these factors, as noted in the AWARE report. See testimony of Robert Stein (Hearing of Aug. 20, 2008, p.0099, lines 1-22); AWARE report, (Petitioner's Exhibit 9 to the testimony). The Refinery has recently increased its aeration capabilities and is proposing, as part of its continued improvements, to provide additional capacity for wastewater storage.</p>

ATTACHMENT E
BACKGROUND DETAILS OF THE LEMONT REFINERY

PDV Midwest Refining, L.L.C. ("The Refinery") owns a petroleum refinery located on an 860-acre tract in Will County near Lemont, Illinois. The Refinery was formerly owned and operated by the Union Oil Company of California ("Union") and then operated by the UNO-VEN Company. On May 1, 1997, PDV became the owner of the Refinery and CITGO was contracted to operate the Refinery.

The Refinery currently discharges to the Chicago Sanitary and Ship Canal ("Canal") which is a tributary of the Illinois River. The discharge is quickly dispersed in the Canal and assimilated by the receiving stream. The dilution pattern of the effluent is rapid and immediate under the criteria of 35 Ill. Admin. Code Subtitle C, Chapter I, Section 302.102.

The Refinery was constructed during the period 1967 through 1970. It became operational in late fall of 1969. Currently, the maximum daily production is approximately 168,000 barrels per day. The Refinery employs approximately 530 people.

Approximately twenty-five different products are produced at the Refinery, including gasolines, turbine fuels, diesel fuels, furnace oils, petroleum coke and various specialty naphthas which can be manufactured into many intermediate products, including antifreeze, dacron, detergent, industrial alcohols, plastics and synthetic rubber. Ninety percent of the Refinery's output goes into making gasolines, diesel fuels, home heating oils and turbine fuels for use in Illinois and throughout the Midwest.

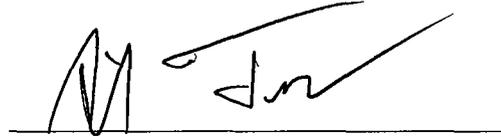
The Refinery draws from and discharges to the Canal. The Refinery takes approximately 5.0 million gallons of water daily from the Canal, and discharges approximately 4.5 million gallons to the Canal, the difference being cooling tower evaporation and steam losses. The wastewater effluent contains ammonia as nitrogen derived from compounds present in crude oil that are removed from the crude by various Refinery operations, as well as the ammonia already present in the intake water from the Canal.

The Refinery operates under a National Pollutant Discharge Elimination System ("NPDES") permit (No. IL 0001589), issued by the Illinois Environmental Protection Agency ("IEPA," or "the Agency"). The most recent NPDES permit was issued as modified June 22, 2007 and expires July 31, 2011. The NPDES permit includes outfall 001 at the Refinery at river mile 296.5 on the Canal (Latitude 41°38'58", Longitude 88°03'31"). The current NPDES permit includes ammonia nitrogen limits in the existing 35 IAC 304.213.

See testimony of Brigitte Postel, (Hearing of Aug. 20, 2008, p.0028, line 15 through p.0035 line 5; p.0194, lines 5-7).

CERTIFICATE OF SERVICE

The undersigned, an attorney, certifies that I have served upon the individuals named on the attached Notice of Filing true and correct copies of the Petition for an Adjusted Standard by electronic service and First Class Mail, postage prepaid, on September 22, 2008

A handwritten signature in black ink, consisting of a stylized 'M' followed by a checkmark-like flourish, positioned above a horizontal line.