

BEFORE THE POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

IN THE MATTER OF:)

CITGO PETROLEUM CORPORATION and)
PDV MIDWEST REFINING, L.L.C.,)

Petitioners,)

v.)

ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)

Respondent.)

PCB12-94
(Variance - Water)

NOTICE OF FILING

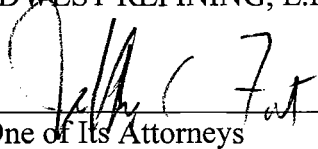
To:

John Therriault, Assistant Clerk
Bradley P. Halloran, Hearing Officer
Illinois Pollution Control Board
100 West Randolph, Suite 11-500
Chicago, IL 60601

John J. Kim
Sara G. Terranova
Stephanie Diers
Office of Chief Legal Counsel
Illinois Environmental Protection Agency
1021 N. Grand Avenue East, P.O. Box 19274
Springfield, IL 62794-9274

Please take notice that on November 8, 2012, we filed electronically with the Office of the Clerk of the Illinois Pollution Control Board the attached **Certificate of Acceptance**, a copy of which is served upon you.

CITGO PETROLEUM CORPORATION and
PDV MIDWEST REFINING, L.L.C.

By: 
One of Its Attorneys

Jeffrey C. Fort
SNR Denton US LLP
233 S. Wacker Drive, Suite 7800
Chicago, IL 60606-6404

CERTIFICATE OF ACCEPTANCE

I (We), CITGO/PDV Midwest Refining, having read the opinion and order of the Illinois Pollution Control Board in docket PCB 12-94, dated October 18, 2012, understand and accept the opinion and order, realizing that this acceptance renders all terms and conditions of the variance set forth in that order binding and enforceable.

Petitioners: CITGO PETROLEUM CORPORATION

PDV MIDWEST REFINING, L.L.C.,

By:

Yvonne Jeanneret
Authorized Agent

Title:

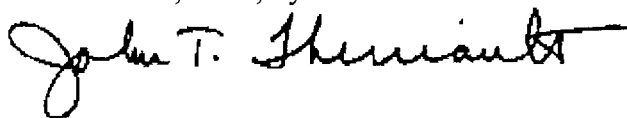
Environmental Manager, Lemont Refinery

Date:

Nov. 2, 2012

Section 41(a) of the Environmental Protection Act provides that final Board orders may be appealed directly to the Illinois Appellate Court within 35 days after the Board serves the order. 415 ILCS 5/41(a) (2010); *see also* 35 Ill. Adm. Code 101.300(d)(2), 101.906, 102.706. Illinois Supreme Court Rule 335 establishes filing requirements that apply when the Illinois Appellate Court, by statute, directly reviews administrative orders. 172 Ill. 2d R. 335. The Board's procedural rules provide that motions for the Board to reconsider or modify its final orders may be filed with the Board within 35 days after the order is received. 35 Ill. Adm. Code 101.520; *see also* 35 Ill. Adm. Code 101.902, 102.700, 102.702.

I, John T. Therriault, Assistant Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on October 18, 2012, by a vote of 4-0.



John T. Therriault, Assistant Clerk
Illinois Pollution Control Board

ILLINOIS POLLUTION CONTROL BOARD

October 18, 2012

CITGO PETROLEUM CORPORATION and)	
PDV MIDWEST REFINING, L.L.C.,)	
)	
Petitioners,)	
)	
v.)	PCB 12-94
)	(Variance – Water)
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

OPINION AND ORDER OF THE BOARD (by C.K. Zalewski):

On December 20, 2011, CITGO Petroleum Corporation (CITGO) and PDV Midwest Refining, L.L.C. (PDVMR) (collectively, petitioners) filed a petition for a five-year extension of the variance granted in CITGO Petroleum Corporation and PDV Midwest Refining, L.L.C. v. IEPA, PCB 08-33 (May 15, 2008). The PCB 08-33 variance granted relief, through May 15, 2013, from water quality standards for total dissolved solids (TDS) at 35 Ill. Adm. Code 302.208(g), and 302.407. Petitioners seek continued relief for discharges from the oil refinery in Lemont (Lemont Refinery), which CITGO operates and PDVMR owns. The Lemont Refinery discharges into the Chicago Sanitary and Ship (S & S) Canal, which is tributary to the Des Plaines River.

The Illinois Environmental Protection Agency (IEPA or Agency) recommends that the Board grant the variance extension, but only from 35 Ill. Adm. Code 302.407, stating that relief from Section 302.208(g) is no longer necessary. The Agency recommends that the variance be granted subject to conditions, including an additional condition not proposed by petitioners. Petitioners have waived hearing, and no request for a hearing or objection to the variance extension has been filed.

The Board grants the requested five-year variance extension, subject to conditions similar to those suggested and agreed to by the parties. This variance order modifies and extends certain conditions of the variance in PCB 08-33, issued May 15, 2008.

The Board finds that petitioners have demonstrated that denial of the requested variance would impose an arbitrary or unreasonable hardship. As explained below, the levels of TDS in petitioners' effluent in excess of the Board's standards are a byproduct of air pollution control equipment petitioners were required to install and use under a Consent Decree with the United States Environmental Protection Agency (USEPA), the State of Illinois, and several other states. As the Board and the parties here agree, the variance extension is necessary in part since the removal of the TDS standard from Board rules anticipated in the PCB 08-33 variance extension is still pending in R08-9(C) and (D). See 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, R08-9.

In addition, the Board finds that the requested variance extension is not inconsistent with federal law and may be issued without any significant impact on public health or the environment. Finding relief from 35 Ill. Adm. Code 302.208(g) no longer applicable, the Board therefore grants petitioners the requested five-year variance extension, but only from 35 Ill. Adm. Code 302.407, subject to the conditions set forth in the order following this opinion.

In this opinion, the Board first describes the legal framework for variances, followed by a general description of the PCB 05-85 and PCB 08-33 proceedings. Next, the Board sets forth the procedural history of PCB 12-94. The Board then provides background on petitioners' facility, the Consent Decree, the air pollution control equipment, the S & S Canal and the Des Plaines River, and water sampling results. Next, the Board sets forth the TDS water quality standards from which petitioners seek continued relief. The Board then discusses the requested variance extension and IEPA's recommendation, including the proposed compliance plan. Lastly, the Board makes its findings on hardship, environmental impact, consistency with federal law, and conditions for the variance extension.

LEGAL FRAMEWORK

A "variance is a temporary exemption from any specified rule, regulation, requirement or order of the Board." *See* 35 Ill. Adm. Code 104.200(a)(1). Under Title IX of the Environmental Protection Act (Act) (415 ILCS 5/35-38 (2010)), the Board is responsible for granting variances when a petitioner demonstrates that immediate compliance with the Board regulation would impose an "arbitrary or unreasonable hardship" on petitioner. *See* 415 ILCS 5/35(a) (2010); *see also* 415 ILCS 5/37(a) (2010) (burden of proof is on petitioner). The Board may grant a variance, however, only to the extent consistent with applicable federal law. *See* 415 ILCS 5/35(a) (2010). Further, the Board may issue a variance with or without conditions, and for only up to five years. *See* 415 ILCS 5/36(a) (2010). The Board may extend a variance from year to year if petitioner shows that it has made satisfactory progress toward compliance with the regulations from which it received the variance relief. *See* 415 ILCS 5/36(b) (2010). The Board may grant variance extensions for longer than a year. *See* The Ensign-Bickford Company v. IEPA, PCB 00-24 (Nov. 18, 1999); Village of North Aurora v. IEPA, PCB 95-42 (Apr. 20, 1995); City of Springfield v. IEPA, PCB 93-135 (Dec. 16, 1993); Dept. of the Army v. IEPA, PCB 92-107 (Oct. 1, 1992).

The Act requires IEPA to provide public notice of a variance petition, including notice by publication in a newspaper of general circulation in the county where petitioner's facility is located. *See* 415 ILCS 5/37(a) (2010); 35 Ill. Adm. Code 104.214. The Board will hold a hearing on the variance petition (1) if petitioner requests a hearing, (2) if IEPA or any other person files a written objection to the variance within 21 days after the newspaper notice publication, together with a written request for hearing, or (3) if the Board, in its discretion, concludes that a hearing would be advisable. *See* 415 ILCS 5/37(a) (2010); 35 Ill. Adm. Code 104.224, 104.234.

The Act requires IEPA to appear at hearings on variance petitions (415 ILCS 5/4(f) (2010)) and to investigate each variance petition and “make a recommendation to the Board as to the disposition of the petition.” 415 ILCS 5/37(a) (2010); 35 Ill. Adm. Code 104.216. In a variance proceeding then, the burden is on the petitioner to prove that immediate compliance with Board regulations would cause an arbitrary or unreasonable hardship that outweighs public interest in compliance with the regulations. See Willowbrook Motel v. PCB, 135 Ill. App. 3d 343, 349-50, 481 N.E.2d 1032, 1036-1037 (1st Dist. 1985).

BACKGROUND ON PCB 05-85 and PCB 08-33

The instant petition for a variance extension concerns petitioners’ oil refinery in Lemont, Will County, which CITGO operates and PDVMR owns. The original variance was issued by the Board in CITGO Petroleum Corp. and PDV Midwest Refining, L.L.C. v. IEPA, PCB 05-85 (Apr. 21, 2005). The first variance extension was issued by the Board in CITGO Petroleum Corp. and PDV Midwest Refining, L.L.C. v. IEPA, PCB 08-33 (May 15, 2008).

In PCB 05-85, the Board granted CITGO and PDVMR a variance from the general use water quality standard for TDS of 1,000 milligrams per liter (mg/L) (35 Ill. Adm. Code 302.208(g)) and the secondary contact and indigenous aquatic life water quality standard for TDS of 1,500 mg/L (35 Ill. Adm. Code 302.407). By the terms of the Board’s order, the variance relief lasted through December 15, 2009, and was subject to various conditions. Before granting the variance, the Board found that petitioners proved that compliance with the TDS water quality standards would impose an arbitrary or unreasonable hardship on petitioners, and that the requested variance was not inconsistent with federal law and could be issued without any significant impact on public health or the environment.

The PCB 05-85 variance allowed petitioners greater amounts of TDS in their wastewater discharge to the S & S Canal, which leads to the Des Plaines River. The Board found the higher levels of TDS in petitioners’ effluent are a byproduct of the air pollution control equipment that petitioners had to install and use under a Consent Decree with USEPA and the states of Illinois, Louisiana, New Jersey, and Georgia. IEPA recommended that the Board grant the variance requested in PCB 05-85, which the Board did by order of April 21, 2005.

In PCB 08-33, the Board issued CITGO and PDVMR an extension, continuing to allow petitioners greater amounts of TDS in their wastewater discharge to the S & S Canal, because of regulatory developments since the original PCB 05-85 variance was granted in 2005. Specifically, two pending rulemakings proposed eliminating the TDS water quality standards for general use and secondary contact waters, including the S & S Canal and Des Plaines River. See R07-9¹ and R08-9². IEPA recommended granting the extension. On May 15, 2008, the Board

¹ Triennial Review of Sulfate and Total Dissolved Solids Water Quality Standards: Proposed Amendments to 35 Ill. Adm. Code 302.102(b)(6), 302.102(b)(8), 302.102(b)(10), 302.208(g), 309.103(c)(3), 405.109(b)(2)(A), 409.109(b)(2)(B), 406.100(d); Repealer of 35 Ill. Adm. Code 406.203 and Part 407; and Proposed New 35 Ill. Adm. Code 302.208(h), R07-9 (R07-9 Triennial Review).

issued the variance extension in PCB 08-33, with relief extending through May 15, 2013 and subject to conditions similar to those of PCB 05-85.

PROCEDURAL HISTORY OF PCB 12-94

Petition

Petitioners filed their petition for variance extension on December 20, 2011, waiving hearing.³ Included in the petition was a motion to incorporate by reference the record in PCB 08-33. Ext. Pet. at 2 and Exh. A. The Board grants that motion. See 35 Ill. Adm. Code 101.306.

On January 19, 2012, the Board issued an order accepting the petition without making a determination on the informational sufficiency or merits of the petition. On April 3, 2012, petitioners filed a response to a Hearing Officer Order issued March 5, 2012 directing petitioners to address issues outlined in the order.⁴

IEPA Notice and Recommendation

On January 3, 2012, IEPA filed a motion for extension of time to publish notice of the petition for variance extension in PCB 12-94. On January 11, 2012, petitioners filed a response to IEPA's motion, stating no objection. The Board granted IEPA's motion by order of January 19, 2012. On January 25, 2012, IEPA filed proof that the notice was published in the *South DuPage Reporter/Progress* on January 11, 2012.

On February 17, 2012, IEPA filed a recommendation that the Board grant the requested variance extension, subject to an additional condition to the proposed compliance plan as set forth in the recommendation.⁵ IEPA did not receive any written comments, objections, or requests for a hearing. Ext. Agency Rec. at 2, 6, 8.

BACKGROUND

Overview

PDVMR owns and CITGO operates the Lemont Refinery, which is located at 135th Street and New Avenue in Lemont, Will County. Ext. Pet. at 1, 4. Petitioners entered into a

² Water Quality Standards and Effluent Limitations for the Chicago Area Waterway System and the Lower Des Plaines River: Proposed Amendments to 35 Ill. Adm. Code 301, 302, 303 and 304, R08-9 (R08-9).

³ The Board cites the petition for variance extension as "Ext. Pet. at _."

⁴ The Board cites the petitioners' April 4, 2012, response to the March 5, 2012 hearing officer order as "Pet. Resp. to HOO at _."

⁵ The Board cites IEPA's February 17, 2012 recommendation as "Ext. Agency Rec. at _."

Consent Decree with USEPA and the states of Illinois, Louisiana, New Jersey, and Georgia to resolve alleged air quality violations at three refineries owned or operated by CITGO and related entities. The Consent Decree was entered on January 27, 2005, in the United States District Court for the Southern District of Texas, Case No. H-04-3883. Ext. Pet. at 1, PCB 08-33 slip op. at 5-6 (May 15, 2008).

Under the Consent Decree, petitioners installed a wet gas scrubber (WGS) in the fluid catalytic converter unit (FCCU) to reduce sulfur dioxide (SO₂) air emissions at the Lemont Refinery. The resulting purge stream from the wet gas scrubber contains dissolved solids and sulfates, which are discharged into the Refinery's wastewater treatment system and contribute additional levels of TDS to the facility's treated wastewater. Ext. Pet. at 1-2, PCB 08-33 slip op. at 7-8, 18 (May 15, 2008). The Lemont Refinery discharges its treated wastewater to the S & S Canal, which flows into the Des Plaines River. PCB 08-33 slip op. at 3, 6, 8 (May 15, 2008).

During the original PCB 05-85 proceeding, petitioners stated that in order to obtain a construction permit for a purge treatment unit to treat the wastewater from the wet gas scrubber, IEPA required a modified National Pollutant Discharge Elimination System (NPDES) permit because of occasional water quality violations for TDS due to "snow melt runoff, carrying road salt and similar compounds into streams." PCB 08-33 slip op. at 6. With the potential impact of the Refinery's increased TDS discharge in the S & S Canal and downstream in the Des Plaines River at the Interstate 55 (I-55) bridge, petitioners maintained that a variance was needed. Without a variance, petitioners stated that IEPA could not issue the modified NPDES permit. *Id.*

Soon after the consent decree was lodged, petitioners filed their original petition for variance in PCB 05-85 on November 8, 2004. PCB 08-33 slip op. at 6-7 (May 15, 2008). On April 21, 2005, the Board granted the PCB 05-85 variance, subject to conditions, with relief through December 15, 2009. Because of pending rulemakings proposing to eliminate the TDS water quality standards in the receiving waters, petitioners filed a petition for extension of variance on November 14, 2007, and an amended petition on January 22, 2008 in PCB 08-33. On May 15, 2008, the Board granted the PCB 08-33 variance extension, subject to conditions, extending relief through May 15, 2013.

Since the PCB 08-33 variance extension was granted, the Board has completed the R07-9 rulemaking and eliminated the TDS water quality in general use waters effective September 8, 2008. Petitioners state that the proposed elimination of the TDS water quality standard for the S & S Canal in pending rulemaking R08-9 Subdockets C and D "are being held in abeyance pending submission of a proposed resolution by various parties". Ext. Pet. at 3-4. Petitioners note, "[t]here is no firm prediction when action may be taken" in R08-9. Ext. Pet. at 4. Petitioners state, "[t]his leaves the odd situation of there being a water quality standard for TDS in the [S & S Canal], but no TDS standard at all in the general use waters downstream." Ext. Pet. at 3.

Although the petitioners requested the Board exempt its discharge from the TDS water quality standard under R07-9, the Board instead suggested petitioners seek to extend the dates of the variance conditions, which lead to the prior variance extension in PCB 08-33. Ext. Pet. at 3. Later, petitioners requested in R08-9 that the Board proceed with a separate docket for the

affected segment of the S & S Canal, but the Board declined to do so. Therefore, petitioners filed the petition to extend the prior variance extension. Ext. Pet. at 3-4.

The Lemont Refinery

The Lemont Refinery was built during the period 1967 through 1970, and became operational in late fall 1969. Ext. Pet. at 8. Approximately 25 different products are made at the Lemont Refinery, including gasolines, turbine fuels, diesel fuels, furnace oils, petroleum coke, and various specialty naphthas that can be manufactured into intermediate products, such as antifreeze, dacron, detergent, industrial alcohols, plastics, and synthetic rubber. Ext. Pet. at 8. Ninety percent of the Lemont Refinery's output goes toward making gasolines, diesel fuels, home heating oils, and turbine fuels for use in Illinois and throughout the Midwest. Ext. Pet. at 8. As of the time of the petition's filing, the Lemont Refinery produces 168,626 barrels daily on average and employs approximately 530 people. Ext. Pet. at 8.

The Lemont Refinery draws water from the S & S Canal, and discharges into the S & S Canal upstream of the Lockport Lock & Dam. Ext. Pet. at 8, 10. According to petitioners, the Refinery takes approximately 5.0 million gallons of water daily from the S & S Canal and discharges approximately 4.5 million gallons to the S & S Canal—the difference constituting cooling tower evaporation and steam losses. Ext. Pet. at 8. The wastewater effluent contains dissolved solids derived from crude oil compounds that are removed at the Refinery, as well as concentrating the TDS present in the S & S Canal intake water from the evaporation cooling. Ext. Pet. at 8.

The Lemont Refinery operates under an NPDES permit (No. IL0001589), which was issued by IEPA. The NPDES permit includes Outfall 001 at the Refinery at river mile 296.5 on the S & S Canal (latitude 41°38'58" and longitude 88°03'31"). The NPDES permit was re-issued and modified by IEPA on June 22, 2007. Ext. Pet. at 8, Exh. D; Agency Rec. at 7. The permit does not have effluent limits on TDS, but does reflect the possibility of actions by the Board regarding the Refinery. Ext. Pet. at 8-9. The NPDES permit contains Special Condition 18, which provides:

The permittee was granted a variance from the water quality standard for Total Dissolved Solids (TDS) for the discharge at outfall 001 in accordance with Illinois Pollution Control Board Order PCB 05-85. The permittee shall commence its study of downstream TDS concentrations in accordance with the schedule contained in this order. This permit may be modified to include any final limitations or monitoring requirements which may be necessary based on the results of the study, or future Illinois Pollution Control Board actions with result to Total Dissolved Solids water quality standards. This variance expires on December 15, 2009. Ext. Pet., Exh. D at 11.

The NPDES permit expired on July 31, 2011, and petitioners filed an application for renewal, which IEPA received on December 17, 2012. Ext. Pet. at 9, Agency Rec. at 7. As of the filing date of the petition, IEPA was reviewing the renewal permit application. Ext. Agency Rec. at 7.

The Lemont Refinery includes a physical/chemical and biological wastewater treatment plant, which performs primary, secondary, and tertiary treatment on the generated wastewater before it is discharged to the S & S Canal. Ext. Pet. at 9. The Refinery has invested \$45 million over the last ten years to upgrade the wastewater treatment system, including a purge treatment unit in 2007 for the purge water discharged from the wet gas scrubber discharge, discussed below, and 4,000,000 gallons of tankage for pretreatment to enhance solids removal before the wastewater treatment plant⁶. Ext. Pet. at 10, Pet. Resp. to HOO at 2.

Wet Gas Scrubber

Under the Consent Decree, petitioners installed a wet gas scrubber (WGS) in the fluid catalytic converter unit (FCCU) at the Lemont Refinery. The WGS is designed to remove SO₂ in air emissions from the FCCU. In October 2007, the WGS began operating. Ext. Pet. at 11, PCB 08-33 slip op. at 7-8 (May 15, 2008).

Petitioners state that the SO₂ is “ultimately converted to sodium sulfate salts which are contained in a purge stream.” Ext. Am. Pet. at 11. Petitioner presented testimony at the PCB 05-85 hearing that the WGS discharge would “contain significant sodium sulfate, which essentially is the source of the TDS subject to the variance request.” PCB 08-33 slip op. at 8 (May 15, 2008). The purge stream is discharged to a purge treatment unit and then to the Lemont Refinery’s wastewater treatment system. Ext. Pet. at 1-2.

As the WGS was being constructed, petitioners estimated the daily average discharge of TDS from the WGS to be 215,000 pounds per day and the daily maximum would be 304,000 pounds per day. Based on actual data from 2008 through 2010, petitioners found that the quantity of TDS being discharged now due to the WGS is about half of what was previously predicted. Before the WGS was operational, TDS in the Refinery outfall averaged 2,644 mg/L or 106,065 pounds per day. Since the WGS began operating, the TDS in the Refinery outfall has averaged 4,829 mg/L or 200,515 pounds per day. Overall, the WGS loading has been on the order of 94,450 pounds per day. Pet. Resp. to HOO at 3-4, Exh. J.

S & S Canal and Des Plaines River

Below the Lockport Lock & Dam, the S & S Canal merges with the Des Plaines River, passes through Joliet, and 11 miles downstream of Joliet passes beneath the I-55 bridge. The Chicago Area Waterway System and the Lower Des Plaines River Waters are designated to protect for various recreational uses. See 35 Ill. Adm. Code 303.204, 303.220, and 303.224. For the general use portion of the Des Plaines River, petitioners note that the TDS water quality standard was repealed under R07-09. Ext. Pet. at 3. Petitioners modified their request for the variance extension to include only the TDS water quality standards applicable to the recreational use waters of the S & S Canal and Des Plaines River. Pet. Resp. to HOO at 1.

⁶ Petitioner notes that the 4,000,000 gallons of tankage was not intended to satisfy any of the compliance plan conditions of the PCB 08-33 order. Petitioner clarifies that the tankage is used as a solids/water separator and has no capacity for holding additional flow during periods of elevated TDS in the S & S Canal. Pet. Resp. to HOO at 2.

Petitioners state, and IEPA does not dispute, that neither the S & S Canal nor the downstream Des Plaines River has been listed by IEPA as impaired for TDS. Ext. Pet. at 13.

TDS and Chloride Data

Petitioners represent that they have conducted the TDS water quality sampling required by the conditions of the current and previous variances in PCB 08-33 and PCB 05-85. Ext. Pet. at 13. Samples were collected of the water intake upstream of the Lemont Refinery in the S & S Canal (Ext. Pet. Exh. B, C) and at the plant outfall (Ext. Pet. Resp. to HOO, Exh. I, K). Petitioners note, and IEPA agreed, that the monitoring and sampling requirement to collect downstream samples from the Des Plaines River near the I-55 bridge in condition 3 of PCB 08-33 should no longer be applicable. Since the TDS water quality standard was eliminated for general use waters, petitioners state that IEPA agreed that monitoring at that location could be discontinued. Ext. Pet. at 7.

Petitioners reported TDS data from the water intake samples collected upstream in the S & S Canal during the winter periods from April 3, 2007 through April 25, 2011. During this time period, TDS levels in the influent averaged from 772 mg/l in 2007 to 1,058 mg/L in 2011, with annual maximums appearing in December 2007 (2,045 mg/l), April 2008 (4,468 mg/l), November 2009 (1,883 mg/l), March 2010 (1,494 mg/l), and April 2011 (3,139 mg/l). Ext. Pet. Exh. B.

Petitioners also provided TDS data from the outfall before and after the wet gas scrubber began discharging for the time period from April 2007 to September 2010. Pet. Resp. to HOO Exh. I. Before the wet gas scrubber began operating, the TDS in the Refinery outfall averaged 2,644 mg/l or 106,065 pounds per day. Since the wet gas scrubber began discharging, the TDS in the Refinery outfall has averaged 4,829 mg/L or 200,515 pounds per day. Overall, the wet gas scrubber loading has been on the order of 94,450 pounds per day. Pet. Resp. to HOO at 3-4, Exh. J. Petitioners note that this loading is about half of the 215,000 pounds per day design average that was predicted in the original variance petition. Pet. Resp. to HOO at 4.

Based on actual discharge concentrations and flow, petitioners report the following incremental increases in sulfate and TDS levels in the receiving waters:

	S & S Canal at edge of <u>mixing zone*</u>	S & S Canal after <u>complete mixing</u>	DesPlaines River @I-55 Bridge after <u>complete mixing</u>
Sulfate (mg/l)	81	21	18
TDS (mg/l)	113	29	25

* Based on 25 percent of S & S Canal low flow

Ext. Pet. at 12, Pet. Resp. to HOO Exh. J.

Petitioners also reported chloride data at the plant intake from the S & S Canal and the plant outfall. For the period of January 10, 2005 to April 29, 2011, chloride levels in the influent

averaged from 211 mg/l in 2006 to 347 mg/L in 2011, with annual maximums appearing in January 2005 (835 mg/l), February 2006 (484 mg/l), December 2007 (998 mg/l), February 2008 (896 mg/l), March 2009 (881 mg/l), November 2010 (870 mg/l), and February 2011 (1099 mg/l). Chloride levels at the plant outfall for the period of July 25, 2011 to February 27, 2012 ranged from 130 mg/L in July 2011 to 1,000 mg/L in February 2012. Ext. Pet. Exh. C, Ext. Pet. Exh. G at Exh. C, Pet. Resp. to HOO Exh. K.

Petitioners note that the upstream sampling data “continue to show episodic elevated chloride and TDS levels that are associated with snow melt run-off conditions.” Ext. Pet. at 13. Based on data taken during February 2008, petitioners also found that elevated TDS levels could persist over a three-week period when snow melt conditions are prolonged. Ext. Pet. at 14. When TDS levels are elevated in the receiving stream, Huff explained during the R08-9(C) proceedings, “the Lemont Refinery loses its mixing zone for chlorides (and sulfates)...” Ext. Pet., Exh. G at 5; *see also id* at 7 (“Section 302.102(b)(9) prohibits mixing zones for constituents where the water quality standard is already violated in the receiving stream.”). Petitioners indicated this constitutes another reason for this variance request. Pet. Resp. to HOO at 4.

APPLICABLE REGULATIONS

Petitioners seek a variance from TDS water quality standards at 35 Ill. Adm. Code 302.407. Part 302 sets forth water quality standards applicable throughout the State as designated in 35 Ill. Adm. Code 303. *See* 35 Ill. Adm. Code 302.101(a).

Subpart D of Part 302, which contains Section 302.407, sets forth the secondary contact and indigenous aquatic life water quality standards. *See* 35 Ill. Adm. Code 302.201(d). Section 302.407 provides a TDS standard of 1,500 mg/L. Petitioners seek variance relief from this standard regarding the S & S Canal. The S & S Canal is designated among Illinois’ secondary contact and indigenous aquatic life waters, as is the Des Plaines River “from its confluence with the Chicago Sanitary and Shipping Canal to the Interstate 55 bridge.” *See* 35 Ill. Adm. Code 303.441(a), (i). The provision from which petitioners seek relief, Section 302.407, reads in pertinent part:

Section 302.407 Chemical Constituents

Concentrations of other chemical constituents shall not exceed the following standards:

CONSTITUENTS	STORET NUMBER	CONCENTRATION (mg/L)

Total Dissolved Solids	70300	1500

35 Ill. Adm. Code 302.407.

In a recent site-specific rulemaking R06-24⁷, the Board adopted site-specific TDS water quality standards for portions of the Des Plaines River at 35 Ill. Adm. Code 303.445. For the segment of the Des Plaines River currently designated as Secondary Contact and Indigenous Aquatic Life Use waters downstream of the S & S Canal, the TDS water quality standard is 1,686 mg/L. However, Petitioners do not seek relief from this provision, which became effective on February 27, 2007. Section 303.445 reads:

Section 303.445 Total Dissolved Solids Water Quality Standard for the Lower Des Plaines River

- a) Beginning November 1 and continuing through April 30 of each year, the total dissolved solids (TDS) water quality standard for Secondary Contact and Indigenous Aquatic Life Use waters in 35 Ill. Adm. Code 302.407 does not apply to the portion of the Des Plaines River from the ExxonMobil refinery wastewater treatment plant discharge point located at Interstate 55 and Arsenal Road (said point being located in Will County, T34N, R9E, S15, Latitude: 41° 25', 20" North, Longitude: 88° 11', 20" West) and continuing to the Interstate 55 bridge. TDS levels in these waters must instead meet a water quality standard for TDS (STORET Number 70300) of 1,686 mg/L.
- b) Beginning November 1 and continuing through April 30 of each year, the TDS water quality standard for General Use Waters in 35 Ill. Adm. Code 302.208 does not apply to the Des Plaines River from the Interstate 55 bridge to the confluence of the Des Plaines River with the Kankakee River. TDS levels in these waters must instead meet a water quality standard for TDS (STORET Number 70300) of 1,686 mg/L. 35 Ill. Adm. Code 303.445.

⁷ Revisions to Water Quality Standards for Total Dissolved Solids in the Lower Des Plaines River for ExxonMobil Oil Corporation: Proposed 35 Ill. Adm. Code 303.445, R06-24.

The Des Plaines River from the Interstate 55 bridge downstream is designated among Illinois' general use waters. Currently, there is no TDS water quality standard for general use waters. The previous TDS water quality standard for general use waters was repealed under the rulemaking in R07-9, effective September 8, 2008. See R07-9.

VARIANCE PETITION

Petitioners request the Board to extend the PCB 08-33 variance relief for five years, as well as modify the conditions and a number of internal dates within the conditions of the variance, noting relief from Section 302.208(g) is no longer relevant and should be removed. Petitioners have waived hearing. Ext. Pet. at 19, Pet. Resp. to HOO at 1. The petition is supported by the affidavit of Brigitte Postel, who has worked at the Lemont Refinery as Environmental Engineer, Water Coordinator since October 2003. Ext. Pet. Exh. H.

Petitioners represent that they have "undertaken the activities required by the prior variance as required by the prior schedule" and have collected data as required by conditions 3, 4, 5, and 6 of the Order in PCB 08-33. (Ext. Pet. at 4, 7.) In particular, condition 6 requires petitioners to identify any relationship between TDS in the effluent and the receiving streams and to determine a time period that the WGS purge stream would require additional management, treatment or disposal. In an effort to address the requirements of condition 6, petitioners evaluated the TDS information and confirmed results of the modeling done before the first variance was filed. Petitioners state, "[t]his information demonstrates that water from the FCCU unit is a minor contributor to the normal TDS levels in the Ship Canal..." Ext. Pet. at 7.

In light of the data collected and the regulatory developments discussed below, petitioners seek to extend the dates of the current variance "to avoid unnecessary activities." Ext. Pet. at 6. Specifically, petitioners state, "[i]n the next few months, CITGO would be required to undertake various substantive design and other measures which may either not be necessary, or different requirements may be created that are not now expected." Ext. Pet. at 6.

Regulatory Developments Since the 2008 Variance

According to petitioners, since the variance extension was granted in May 2008, "several other material facts have changed" that warrant the extension mostly as a result of two rulemaking: R07-9 Triennial Review and R08-9 CAWS/LDPR. Ext. Pet. at 2.

R07-9 Triennial Review. As noted above, the Board repealed the water quality standard for TDS in general use waters in Section 302.208(g) under rulemaking R07-9, effective September 8, 2008. Ext. Pet. at 3. Since then, petitioners and IEPA have agreed that the monitoring and sampling requirement to collect downstream samples from the Des Plaines River near the I-55 Bridge in Condition 3 of PCB 08-33 was no longer applicable. Ext. Pet. at 7. Additionally, petitioners and IEPA agree that a variance extension from Section 302.208(g) is no longer relevant or necessary. Pet. Resp. to HOO at 1, Agency Rec. at 6.

Petitioners note that, "[t]his leaves the odd situation of there being a water quality standard for TDS in the [S & S Canal], but no TDS standard at all in the general use waters

downstream.” Ext. Pet. at 3. Petitioners explain that CITGO participated in the R07-9 proceedings, requesting the Board exempt its discharge from meeting the TDS water quality standard, but the Board declined to do so. At first notice in R07-9, the Board stated:

While the Board declines to eliminate TDS standard for secondary contact waters, the Board recognizes that CITGO may face some hardship if TDS standard for secondary contact waters is not resolved in a timely manner. Specifically, CITGO may have to expend funds on designing wastewater storage system for wastewater from refinery’s wet gas scrubber in order to comply with CITGO’s variance conditions [PCB 05-85]. In this regard, the Board believes that CITGO has a number of options CITGO can pursue to avoid undertaking any exercise that may be unnecessary in the future, including seeking an extension of the current variance with amended conditions. R07-9 Triennial Review, slip op. at 30 (Sept. 20, 2007).

R08-9 CAWS/LDPR. At the time the variance extension in PCB 08-33 was issued, petitioners anticipated the removal of the TDS standard for the Canal in a pending rulemaking captioned: Water Quality Standards and Effluent Limitations for the Chicago Area Waterway System and the Lower Des Plaines River: Proposed Amendments to 35 Ill. Adm. Code 301, 302, 303 and 304, R08-9. Ext. Pet. at 2. To date, R08-9 (Subdockets C and D) are still pending, and “are being held in abeyance pending submission of a proposed resolution by various parties”. Ext. Pet. at 3-4.

Petitioners’ Proposed Variance Extension Language

Petitioners state, “CITGO has undertaken the activities required by the prior variance as required by the prior schedule, and would propose that the requested variance build upon the prior variance...” Ext. Pet. a 5. Petitioners proposed revisions reflecting an adjusted timeline that would allow petitioners “to avoid unnecessary activities.” Ext. Pet. at 6. Specifically, petitioners propose the following revisions to the Board’s May 15, 2008 order as shown by strike-through and underlining:

The Board grants CITGO and PDVMR a variance from the TDS water quality standards of 35 Ill. Admin. Code ~~302.208(g)~~ and 302.407, subject to the following conditions:

1. The duration of the variance relief from the identified TDS water quality standards is from ~~May 15, 2008~~ [date of Board order] through ~~May 15, 2009~~⁸ [5 years after the date of Board order]. This variance modifies and extends certain conditions of the variance in ~~PCB 05-95, entered April 21, 2005~~; ~~08-33, entered May 15, 2008~~.
2. This variance applies only to petitioners' Lemont Refinery at 135th Street and New Avenue in Lemont, Will County, regarding elevated TDS levels in the effluent of Outfall 001 due to operation of the wet gas scrubber

⁸ Date is May 15, 2013 per May 15, 2008 Board Order in PCB 08-33.

under the Consent Decree entered January 26, 2005⁹, in the United States District Court for the Southern District of Texas, Case No. H-04-3833.

- ~~3. Unless and until the United States Environmental Protection Agency (USEPA) approves the elimination of the general use water quality standard for TDS, petitioners must monitor and collect samples from the Des Plaines River near the I-55 bridge three times per week, during the winter months (December 1 to March 30), and analyze for TDS. Petitioners must submit the TDS sample results monthly to the Illinois Environmental Protection Agency (IEPA).~~
3. Unless and until USEPA approves the elimination of the TDS water quality standard for the Chicago Sanitary and Ship Canal (S & S Canal), petitioners must monitor their water intake from the S & S Canal two times per week, during the winter months (December 1 to March 30) for TDS. Petitioners must submit the TDS sample results monthly to IEPA.
4. Unless and until USEPA approves the elimination of the TDS water quality standard for the S & S Canal, petitioners must monitor TDS in the effluent from Outfall 001 two times per week, during winter months (December 1 to March 30). Petitioners must submit the TDS sample results monthly to IEPA.
5. Unless and until USEPA approves the elimination of the TDS water quality standard for the S & S Canal, petitioners must diligently attempt to identify any relationship between the TDS levels in the effluent from Outfall 001, and the water quality samples required to be collected pursuant to paragraphs 3, and 4, and 5 of this order. ~~To the extent there is a correlation between effluent TDS concentration and any exceedence of an applicable water quality standard for TDS, petitioners must determine the time period that the water from the Fluid Catalytic Converter Unit (FCCU) wet gas scrubber bleed may require additional management or treatment, including holding, treatment, or alternative disposal.~~
6. Unless USEPA has approved the elimination of the TDS water quality standard for the S & S Canal, by ~~45~~ 50 months from the date of the Board order, petitioners must prepare a TDS water quality management plan to identify and minimize its contributions of TDS to the Ship Canal utilizing Best Management Practices ~~to address any contribution from the FCCU wet gas scrubber bleed as determined by the analyses performed pursuant to paragraph 6 of this order.~~ Elements to be considered in developing this plan must may include a system to retain, treat, or dispose of the FCCU wet gas scrubber bleed or any other approach to eliminate wet gas scrubber bleed from Outfall 001 during periods when applicable TDS water quality standards are exceeded. Other options to be considered may

⁹ The Consent Decree was entered January 27, 2005. PCB 05-85, Exh. 1, February 17, 2005.

include holding tanks, ~~deep well disposal, crystallization, and any other technology or management strategy identified~~ and de-icing and softening practices at the Lemont Refinery.

7. Unless USEPA has approved the elimination of the TDS water quality standard for the S & S Canal, by ~~46-51~~ months from the date of the Board order, petitioners must design the TDS water quality management plan/Best Management Plan for the conditions identified in paragraphs 5 and 6 ~~7~~ of this order and submit the plan to IEPA.
8. Unless USEPA has approved the elimination of the TDS water quality standard for the S & S Canal, by ~~48~~ 52 months from the date of the Board order, petitioners must submit to IEPA a wastewater construction permit application for any elements of the TDS water quality management plan/Best Management Plan for which permits or amended permits are required.
9. Unless USEPA has approved the elimination of the TDS water quality standard for the S & S Canal, by ~~54~~ 57 months from the date of the Board order, petitioners must begin construction as needed for an FCCU wet gas scrubber bleed control system and/or implement the TDS water quality management plan/Best Management Plan.
10. Unless USEPA has approved the elimination of the TDS water quality standard for the S & S Canal, by 60 months from the date of the Board order, petitioners must operate any equipment required to be constructed by the TDS water quality management plan/Best Management Plan as needed so as to not cause or contribute to any exceedences of applicable water quality standards ~~due to the operation of the wet gas scrubber identified in paragraph 2 of this order.~~

Ext. Pet. at 4-5, Pet. Resp. to HOO at 1.

These amendments, according to petitioners, will provide a five-year variance that “will really only provide three years of relief by moving the prior schedule back three years.” Ext. Am. Pet. at 6. Moreover, petitioners state that:

[I]f the Board removes the existing water quality standard for TDS in the [S & S Canal], this variance will become moot according to its terms, and not require further action by the Board. Ext. Pet. at 6.

Arbitrary or Unreasonable Hardship

In considering a variance request, the Board is required by Section 35(a) of the Act to determine whether the petitioner has presented adequate proof that it would suffer an arbitrary or unreasonable hardship if required to immediately comply with the Board’s regulation at issue. See 415 ILCS 5/35(a) (2010).

Petitioners state that their request for variance extension is necessitated by the Consent Decree, which was lodged by USEPA to “substantially reduce emissions of sulfur dioxide [SO₂], nitrogen oxides [NO_x] and Particulate Matter [PM].” Ext. Pet. at 15. Petitioners agreed to the reductions and have invested over \$140 million at the Lemont Refinery, “most of which costs are for the very wet gas scrubber which generates the TDS” at issue in the variance extension request. Ext. Pet. at 15.

Petitioners maintain that their contribution of TDS is “readily within the assimilative capacity of the waterway,” and that there is no TDS water quality violation in the S & S Canal “except in association with snow melt conditions.” Ext. Pet. at 15. Moreover, the TDS water quality standards are proposed to be removed in R08-9 for the S & S Canal. Ext. Pet. at 15.

Examined Alternatives

Petitioners investigated methods to avoid discharging the TDS contributions from the WGS into the existing wastewater treatment system, including holding tanks, deep well disposal, electrodialysis, biological sulfate reduction, reverse osmosis, and evaporation. Ext. Pet. at 16. Deep well disposal of the scrubber effluent was rejected by IEPA as an option, according to petitioners, because it would constitute a Class I injection well. Petitioners explain that such wells are not “permissible” in northeastern Illinois because no cap rock exists over the depth to which disposal wells are drilled. Ext. Pet. at 16.

In addition to deep well disposal, petitioners investigated several removal technologies. Petitioners explain that electrodialysis has not been applied in the chemical or refinery industries on this scale; biological sulfate reduction will not reduce the overall TDS concentration because it merely replaces the sulfate ions with carbonate ions; and reverse osmosis concentration is limited because scaling problems would develop given the high concentration of sodium sulfate. Ext. Pet. at 16.

Petitioners also evaluated evaporation, finding it to be the only other potentially available option, but noted that such a massive system has, to their knowledge, never before been constructed. Petitioners describe the evaporation approach as energy intensive, contributing to an increase in carbon dioxide emissions to the atmosphere. According to petitioners, the most energy efficient form of evaporation would be a falling film evaporator with mechanical vapor recompression followed by a crystallizer, centrifuge, and dryer. Petitioners estimated the capital cost in 2011 dollars on the order of \$8,400,000 with costs of operation and depreciation of \$1,200,000 per year, 40 percent of which would be energy costs. Ext. Pet. at 16-17. Overall, petitioners found no technologies for the removal of TDS that were both proven and cost-effective. Ext. Pet. at 17.

Under conditions 6 and 7 of the prior variance extension, petitioners were required to “determine the time period that the water from the FCCU wet gas scrubber may require additional management or treatment, including holding, treatment, or alternative disposal” and to “prepare a TDS water quality management plan . . . to retain, treat, or dispose of the FCCU wet gas scrubber bleed . . . during periods when applicable TDS water quality standards are

exceeded.” Ext. Pet. at 5, PCB 08-33 slip op. at 25. Based on data taken during February 2008, petitioners found that elevated TDS levels could persist over a three-week period when snow melt conditions are prolonged. With a design average permitted discharge of 5.79 million gallons per day (MGD) of wastewater, petitioners calculated the volume of holding tankage would be near 100 million gallons for a 20-day period. Ext. Pet. at 14.

Petitioners suggested instead that a more flexible approach be used to minimize TDS discharges into the S & S canal in the form of “Best Management Practices”. Ext. Pet. at 14-15. Petitioners explain that the flexibility of a plan using Best Management Practices would better fit the episodic nature of water quality conditions and practices being used in other river basins to address snow melt run-off. Ext. Pet. at 19. Petitioners proposed replacing references in the variance conditions to deep well disposal and crystallization with options that would consider “de-icing and softening practices at the Lemont Refinery.” Ext. Pet. at 5.

Additionally, petitioners cite to activities directed by the Army Corps of Engineers related to preventing Asian Carp from reaching Lake Michigan that “have a substantial impact on aquatic life and the uses of the [S&S Canal] adjacent to and downstream of the Refinery.” Ext. Pet. at 17-18.

Petitioners conclude that requiring control of the increased wastewater discharge would impose on them an arbitrary and unreasonable hardship:

CITGO is not the cause of any current water quality standard exceedance; upstream conditions in the Ship Canal from snow melt conditions exceed the existing TDS standard, and the Agency has asked the Board to remove that standard as well. Further, CITGO is investing substantial monies in the Refinery to substantially reduce air emissions and substantially reducing the overall environmental releases from the Refinery, and the wastewater discharge involved is relatively modest. Ext. Pet. at 18.

Environmental Impact

When deciding to grant or deny a variance petition, the Board is required to balance the petitioner’s hardship in complying with Board regulations against the impact that the requested variance will have on the environment. See Monsanto Co. v. PCB, 67 Ill. 2d 276, 292, 367 N.E.2d 684, 691 (1977). Petitioner must establish that the hardship it would face from denial of its variance request would outweigh any injury to the public or the environment from granting the relief, and “[o]nly if the hardship outweighs the injury does the evidence rise to the level of an arbitrary or unreasonable hardship.” Marathon Oil Co. v. IEPA, 242 Ill. App. 3d 200, 206, 610 N.E. 2d 789, 793 (5th Dist. 1993).

Petitioners state that “there is no benefit to the public or the environment by compelling such compliance” with the existing TDS water quality standards. Ext. Pet. at 20. In the original proceeding, testimony was presented that, because TDS is composed of a variety of anions and cations, “there are no ‘toxicity’ values that can be applied to the generic TDS parameter.” PCB 08-33 slip op. at 21-22 (May 15, 2008). Petitioners state, and IEPA does not dispute, that neither

the S & S Canal nor the downstream Des Plaines River has been listed by IEPA as impaired for TDS. Ext. Pet. at 13. Huff also testified that “sodium sulfate, at the proposed levels discharged, will not impact the aquatic community in the Chicago Sanitary and Ship Canal or in the Des Plaines River” and that there is “no adverse effect on aquatic life due to TDS and sulfate levels.” PCB 08-33 slip op. at 22 (May 15, 2008).

On the other hand, petitioners have invested \$140 million in the Lemont Refinery under the Consent Decree and projected reductions in “SO₂ emissions by 15,300 tons/year, NO_x emissions by 1,100 tons/year, and PM emissions by 92 tons/year.” Ext. Pet. at 15.

Furthermore, petitioners emphasize that, since the previous variance extension was granted, the Board has eliminated the TDS water quality standard for general use waters in R07-9. Petitioners report that the Board is considering IEPA’s proposal to eliminate the TDS water quality standard for the S & S Canal in R08-9. Ext. Pet. at 2-3.

Consistency with Federal Law

Under Section 35 of the Act (415 ILCS 5/35 (2010)), the Board may grant a variance only to the extent that doing so is consistent with applicable provisions of federal law. In PCB 05-85 and PCB 08-33, IEPA concluded that granting the requested variance would not be inconsistent with the Clean Water Act or any other federal standard. PCB 08-33 slip op. at 22 (May 15, 2008). In this proceeding for an extension of the variance relief, petitioners maintain that they have again satisfied this requirement. Ext. Pet. at 15.

Agency Recommendation

IEPA recommends that the Board grant petitioners’ requested variance extension for five years from the date of the Board’s order, subject to a modification and an additional condition set forth in IEPA’s recommendation. Ext. Agency Rec. at 6.

IEPA suggests striking the petitioners’ suggested variance language seeking relief from 302.208(g), which IEPA states is unnecessary since the TDS water quality standard applicable to general use waters was removed by the Board in 2008. Ext. Agency Rec. at 6, 8. The additional condition IEPA suggests that the Board add to the compliance plan would require petitioners to “provide chloride data for their effluent to ensure that any future chloride water standard can be met.” Ext. Agency Rec. at 6.

Regarding issues of both environmental impact and arbitrary or unreasonable hardship, IEPA states, “the underlying facts in this proceeding are identical to those considered by the Board in PCB 08-33 and PCB 05-85.” IEPA thus maintains that the Board’s previous findings regarding environmental impact and hardship are still applicable to this case. Ext. Agency Rec. at 4-6.

DISCUSSION

The Act authorizes the Board to grant variances, “beyond the limitations prescribed in this Act, whenever it is found, upon presentation of adequate proof, that compliance with any

rule or regulation . . . would impose an arbitrary or unreasonable hardship.” 415 ILCS 5/35(a). Petitioners are requesting an extension of a 2008 variance issued by the Board in PCB 08-33 where the Board granted a variance from two of the Board’s water quality standards for TDS (35 Ill. Adm. Code 302.208(g), 302.407). Ex. Pet. at 4. The petitioners request a variance for 5 years from the date of the Board order. Ex. Pet. at 4.

To obtain a variance, petitioners must establish that the hardship from denying the variance from Sections 302.208(g) and 302.407 “outweighs any injury to the public or the environment” from granting the variance. Marathon Oil Co. v. IEPA, 242 Ill. App. 3d 200, 206, 610 N.E.2d 789, 793 (5th Dist. 1993). If petitioners only show that compliance will be difficult, “that proof alone is an insufficient basis” for granting the variance. *Id.* Thus, “only if the hardship outweighs the injury does the evidence rise to the level of an arbitrary or unreasonable hardship.” *Id.*

The Board finds, as it did in PCB 08-33 and PCB 05-85, that the Petitioners have established that the hardship they would experience outweighs any injury to the public or the environment from granting the relief. As discussed below, the Board additionally finds that petitioners have adequately addressed any potential alternatives; and that granting petitioners’ variance is consistent with federal law. In so finding, the Board of course notes that the IEPA does not dispute petitioners’ proof as outlined below.

Petitioners investigated methods to avoid discharging the TDS contributions from the wet gas scrubber into the existing wastewater treatment system, including holding tanks, deep well disposal, electrodialysis, biological sulfate reduction, reverse osmosis, and evaporation. Ext. Pet. at 16. The Board takes note of the petitioners’ progress toward compliance, including reporting the TDS results of samples relating to the chlorides upstream of the Refinery, the correlation between effluent TDS concentration and any exceedence of an applicable water quality standard for TDS, and the contribution with the water from the FCCU unit to normal TDS in the Ship Canal. Ext. Pet. at 7.

With regard to environmental impact, petitioners explain that the Refinery “has only a modest theoretical impact on the Ship Canal,” during stream low flow conditions, and taking into account loading from outfall 001 (which includes the WGS contribution). Ext. Pet. at 11. The sulfate and TDS levels in the waterways after complete mixing based on actual discharge concentrations and flow would increase only as follows: 18 mg/L sulfate and 25 mg/L TDS at the Des Plaines River at the I-55 Bridge and 21 mg/L sulfate and 29 mg/L TDS at the S & S Canal. *Id.* at 12. Notably, petitioners contend that their investment of over \$140 million at the Refinery pursuant to the 2003 Consent Decree is projected to reduce SO₂ emissions by 15,300 tons/year, NO_x emissions by 1,100 tons/year, and PM emissions by 92 tons/year. *Id.* at 15.

Conditions

The Board grants petitioners’ requested extension of variance from 35 Ill. Adm. Code 302.407, subject to the conditions proposed by petitioners, and modified by IEPA and the Board. Section 36(a) of the Act (415 ILCS 5/36(a) (2010)) provides that “[i]n granting a variance the Board may impose such conditions as the policies of this Act may require.” The conditions are

those set forth as a compliance plan in the petition, modified by IEPA's recommendation, supplemented by petitioners in their response to the hearing officer order, and further modified by the Board.

IEPA proposed striking the petitioners' suggested variance language seeking relief from Section 302.208(g) as unnecessary since the Board repealed the TDS water quality standard for general use waters in R09-7, effective September 8, 2008. Agency Rec. at 6. Petitioners agreed that relief from Section 302.208(g) was no longer relevant and should be removed. Pet. Resp. to HOO at 1. The Board will therefore consider the petitioners' request for a variance only from Section 302.407.

IEPA also recommended adding a condition to "provide chloride data for [petitioners] effluent to ensure that any future chloride water standard can be met." Ext. Agency Rec. at 6. Although IEPA only requested adding a requirement for chloride data in the effluent, the petitioners responded by suggesting that chlorides be added to TDS as parameters to be monitored and reported for both conditions 3 and 4. Pet. Resp. to HOO at 5. The Board notes that condition 3 relates to the intake, while condition 4 relates to the effluent.

To that end, the Board finds sampling the influent would be prudent for the sake of comparison in quantifying the petitioners' incremental impact on the receiving stream. As indicated by the data provided, the petitioners have already been monitoring chloride in their influent and effluent, so the Board will modify the conditions to reflect the petitioners' current ongoing efforts. Therefore, the Board will add a requirement for chloride data in the influent and effluent under conditions 3 and 4. The Board will also include chloride with TDS under proposed condition 5 such that:

petitioners must diligently attempt to identify any relationship between the TDS and chloride levels in the effluent from Outfall 001, and the water quality samples required to be collected pursuant to paragraphs 3 and 4 of this order.

Additionally, to address the possible increase of TDS above levels presented in the petition due to any increased production at the Lemont Refinery, petitioners propose the following condition be added to the terms of the variance extension:

11. Petitioners shall assess, on an annual basis, the quantity of TDS incrementally being added to the wet gas scrubber. If the amount of incremental TDS exceeds, or threatens to exceed, 215,000 pounds as a daily average on an annual basis, then petitioners shall either reduce its incremental TDS discharge to below 215,000 pounds on a daily average or submit a request for another variance with appropriate conditions. Pet. Resp. to HOO at 6.

In addition, Section 36(b) of the Act provides that if the Board grants a variance, the Board must do so "upon the condition that the person who receives such variance shall make such periodic progress reports as the Board shall specify." 415 ILCS 5/36(b) (2010). Under the proposed condition 7 of the variance extension, by 51 months from the date of today's order,

unless USEPA has approved elimination of the TDS standard for the S & S canal, petitioners must design a TDS water quality management plan/Best Management Practices Plan to identify and minimize its contributions of TDS to the S & S Canal. Condition 7 also requires that petitioners submit the plan to IEPA.

If the Board's decision does not effectuate the intent of the parties, or if any condition imposed by the Board is objectionable, petitioners may decline to execute the certificate of acceptance set forth below, and either or both parties may file a motion to reconsider. *See* 35 Ill. Adm. Code 101.520, 101.902, 104.240, 104.248.

CONCLUSION

The Board finds that petitioners will incur an arbitrary or unreasonable hardship absent grant of this extension of variance relief from the TDS secondary contact and indigenous aquatic life water quality standards of 35 Ill. Adm. Code 302.407. The Board finds that issuance of the variance extension is not inconsistent with federal law and will not significantly impact public health or the environment. Finding relief from 35 Ill. Adm. Code 302.208(g) no longer applicable, the Board therefore grants petitioners the requested five year variance extension, but only from 35 Ill. Adm. Code 302.407, subject to the conditions set forth this order. As requested by petitioners, this variance begins today.

This opinion constitutes the Board's findings of fact and conclusions of law.

ORDER

The Board grants CITGO Petroleum Corporation and PDV Midwest Refining, L.L.C. (petitioners) a variance from the Total Dissolved Solids (TDS) water quality standards of 35 Ill. Adm. Code 302.407, subject to the following conditions:

1. The duration of the variance relief from the identified TDS water quality standards is five years, from October 18, 2012 through October 18, 2017. This variance modifies and extends certain conditions of the variance in PCB 08-33, issued May 15, 2008.
2. This variance applies only to petitioners' Lemont Refinery at 135th Street and New Avenue in Lemont, Will County, regarding TDS concentrations in the effluent of Outfall 001 due to operation of the wet gas scrubber under the Consent Decree entered January 27, 2005, in the United States District Court for the Southern District of Texas, Case No. H-04-3833.
3. Unless and until the United States Environmental Protection Agency (USEPA) approves the elimination of the TDS water quality standard for the Chicago Sanitary and Ship Canal (S & S Canal), petitioners must monitor their water intake from the S & S Canal two times per week, during the winter months (December 1 to March 30) for TDS and chlorides. Petitioners must submit the TDS and chloride sample results monthly to the Illinois Environmental Protection Agency (IEPA).

4. Unless and until USEPA approves the elimination of the TDS water quality standard for the S & S Canal, petitioners must monitor TDS and chlorides in the effluent from Outfall 001 two times per week, during winter months (December 1 to March 30). Petitioners must submit the TDS and chloride sample results monthly to IEPA.
5. Unless and until USEPA approves the elimination of the TDS water quality standard for the S & S Canal, petitioners must diligently attempt to identify any relationship between the TDS and chloride levels in the effluent from Outfall 001, and the water quality samples required to be collected pursuant to paragraphs 3 and 4 of this order.
6. Unless USEPA has approved the elimination of the TDS water quality standard for the S & S Canal, by 50 months from the date of the Board order, petitioners must prepare a TDS water quality management plan to identify and minimize its contributions of TDS to the Ship Canal utilizing Best Management Practices. Elements to be considered in developing this plan may include a system to retain, treat, or dispose of the FCCU wet gas scrubber bleed or any other approach to eliminate wet gas scrubber bleed from Outfall 001 during periods when applicable TDS water quality standards are exceeded. Options to be considered may include holding tanks and de-icing and softening practices at the Lemont Refinery.
7. Unless USEPA has approved the elimination of the TDS water quality standard for the S & S Canal, by 51 months from the date of the Board order, petitioners must design the TDS water quality management plan/Best Management Plan for the conditions identified in paragraphs 5 and 6 of this order and submit the plan to IEPA.
8. Unless USEPA has approved the elimination of the TDS water quality standard for the S & S Canal, by 52 months from the date of the Board order, petitioners must submit to IEPA a wastewater construction permit application for any elements of the TDS water quality management plan/Best Management Plan for which permits or amended permits are required.
9. Unless USEPA has approved the elimination of the TDS water quality standard for the S & S Canal, by 57 months from the date of the Board order, petitioners must begin construction as needed for an FCCU wet gas scrubber bleed control system and/or implement the TDS water quality management plan/Best Management Plan.
10. Unless USEPA has approved the elimination of the TDS water quality standard for the S & S Canal, by 60 months from the date of the Board order, petitioners must operate any equipment required to be constructed by the TDS water quality management plan/Best Management Plan as

needed so as to not cause or contribute to any exceedences of applicable water quality standards.

11. Petitioners shall assess, on an annual basis, the quantity of TDS incrementally being added to the wet gas scrubber. If the amount of incremental TDS exceeds, or threatens to exceed, 215,000 pounds as a daily average on an annual basis, then petitioners shall expeditiously either reduce their incremental TDS discharge to below 215,000 pounds on a daily average or submit a variance request for another variance with appropriate conditions.

IT IS SO ORDERED.

If petitioners choose to accept this variance extension, they must, within 45 days after the date of this opinion and order, file with the Board and serve on IEPA a certificate of acceptance and agreement to be bound by all the terms and conditions of the granted variance. "A variance and its conditions are not binding upon the petitioner until the executed certificate is filed with the Board and served on the Agency. Failure to timely file the executed certificate with the Board and serve the Agency renders the variance void." 35 Ill. Adm. Code 104.240. The form of the certificate follows:

CERTIFICATE OF ACCEPTANCE

I (We), CITGO/PDV Midwest Refining, having read the opinion and order of the Illinois Pollution Control Board in docket PCB 12-94, dated October 18, 2012, understand and accept the opinion and order, realizing that this acceptance renders all terms and conditions of the variance set forth in that order binding and enforceable.

Petitioners: CITGO PETROLEUM CORPORATION
PDV MIDWEST REFINING, L.L.C.,

By: Yvonne Jeanneret
Authorized Agent

Title: Environmental Manager, Lemont Refinery

Date: Nov. 2, 2012

Section 41(a) of the Environmental Protection Act provides that final Board orders may be appealed directly to the Illinois Appellate Court within 35 days after the Board serves the order. 415 ILCS 5/41(a) (2010); *see also* 35 Ill. Adm. Code 101.300(d)(2), 101.906, 102.706. Illinois Supreme Court Rule 335 establishes filing requirements that apply when the Illinois Appellate Court, by statute, directly reviews administrative orders. 172 Ill. 2d R. 335. The Board's procedural rules provide that motions for the Board to reconsider or modify its final orders may be filed with the Board within 35 days after the order is received. 35 Ill. Adm. Code 101.520; *see also* 35 Ill. Adm. Code 101.902, 102.700, 102.702.

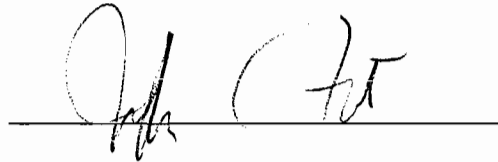
I, John T. Therriault, Assistant Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on October 18, 2012, by a vote of 4-0.



John T. Therriault, Assistant Clerk
Illinois Pollution Control Board

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 enclosed **Certificate of Acceptance** by First Class Mail, postage prepaid, on November 8, 2012.

A handwritten signature in cursive script, appearing to read "John C. H.", is written over a solid horizontal line.