BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:	)	
	)	ORDER RESPONDING TO
UNITED STATES STEEL	)	PETITIONER'S
CORPORATION – GRANITE CITY	)	REQUEST THAT THE
WORKS	)	ADMINISTRATOR
	)	OBJECT TO ISSUANCE OF STATE
CAAPP Permit No. 96030056	)	OPERATING PERMIT
Proposed by the Illinois	)	
Environmental Protection Agency	)	Petition Number V -2011-2
	)	

ORDER GRANTING IN PART AND DENYING IN PART
PETITION FOR OBJECTION TO PERMIT

INTRODUCTION

On May 2, 2011, pursuant to its authority under the Illinois Clean Air Act Permitting Program (CAAPP), the Illinois Environmental Protection Act, 415 ILCS 5/39.5, title V of the Clean Air Act (Act), 42 U.S.C. §§ 7661-7661f, and the United States Environmental Protection Agency's (EPA) implementing regulations in 40 C.F.R. Part 70 (Part 70), the Illinois Environmental Protection Agency (IEPA) issued a title V operating permit to United States Steel Corporation – Granite City Works (USGW). Located in Granite City, Madison County, Illinois, USGW manufactures iron and steel products. USGW's manufacturing processes involve raw material processing and preparation, coke production, coke oven gas by-products recovery, iron production, steel production, and steel finishing.

On August 16, 2011, the Interdisciplinary Environmental Clinic at the Washington University School of Law submitted to the EPA on behalf of the American Bottom Conservancy (the Petitioner) a petition requesting that EPA object to issuance of the USGW title V permit pursuant to section 505(b)(2) of the Act and 40 C.F.R. § 70.8(d). The Petitioner alleges that (1) the permit's use of emission factors fails to provide periodic monitoring designed to ensure compliance with permit limits and lacks practical enforceability; (2) several permit limits lack adequate periodic monitoring requirements to ensure compliance with the limits; (3) the permit fails to respond to EPA's Order dated January 21, 2011, with respect to excess emissions associated with startup, breakdown, and malfunctions; and (4) the permit fails to respond to EPA's Order to include applicable requirements from the related construction permit for a new

Gateway Energy & Coke Company coke plant that IEPA considers to be part of the USGW facility.

EPA has reviewed the Petitioner's allegations pursuant to the standard set forth in section 505(b)(2) of the Act, which requires the Administrator to issue an objection if the petitioner demonstrates to the Administrator that the permit is not in compliance with the requirements of the Act. *See also* 40 C.F.R. § 70.8(d); *New York Public Interest Research Group* v. *Whitman*, 321 F.3d 316, 333 n.11 (2d Cir. 2003).

Based on a review of the available information, including the petition, the permit record, and relevant statutory and regulatory authorities and guidance, I grant in part and deny in part the Petitioner's request to object for the reasons set forth in this Order.

STATUTORY AND REGULATORY FRAMEWORK

Section 502(d)(1) of the Act, 42 U.S.C. § 7661a(d)(1), calls upon each state to develop and submit to EPA an operating permits program intended to meet the requirements of title V of the Act. EPA granted final full approval of the Illinois title V operating permit program effective November 30, 2001. 66 Fed. Reg. 62946 (December 4, 2001).

All major stationary sources of air pollution and certain other sources are required to apply for title V operating permits that include emission limitations and other conditions necessary to assure compliance with applicable requirements of the Act, including the requirements of the applicable State Implementation Plan (SIP). *See* sections 502(a) and 504(a) of the Act, 42 U.S.C. §§ 7661a(a) and 7661c(a). The title V operating permit program generally does not impose new substantive air quality control requirements (referred to as "applicable requirements"), but does require that permits contain monitoring, recordkeeping, reporting, and other requirements sufficient to assure compliance with applicable requirements. 57 Fed. Reg. 32250, 32251 (July 21, 1992). One purpose of the title V program is to "enable the source, states, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements." *Id.* Thus, the title V operating permit program is a vehicle for ensuring that air quality control requirements are appropriately applied to facility emission units and for assuring compliance with such requirements.

Under section 505(a) of the Act, 42 U.S.C. § 7661d(a), and the relevant implementing regulations at 40 C.F.R. § 70.8(a), states are required to submit each proposed title V operating permit to EPA for review. Upon receipt of a proposed permit, EPA has 45 days to object to final issuance of the permit if EPA determines the permit is not in compliance with applicable requirements or the requirements of Part 70. 40 C.F.R. § 70.8(c). Section 505(b)(2) of the Act provides that, if EPA does not object to a permit on its own initiative, any person may petition

the Administrator, within 60 days of expiration of EPA's 45-day review period, to object to the permit. 42 U.S.C. § 7661d(b)(2); *see also* 40 C.F.R.§ 70.8(d). The petition must "be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period)." 42 U.S.C. § 7661d(b)(2). In response to such a petition, the Administrator must issue an objection if a petitioner demonstrates that a permit is not in compliance with the requirements of the Act. *Id.; see also* 40 C.F.R. § 70.8(c)(l); *New York Public Interest Research Group, Inc.* v. *Whitman,* 321 F.3d 316, 333 n.11 (2nd Cir. 2003). Under section 505(b)(2) of the Act, 42 U.S.C. § 766ld(b)(2), the burden is on the petitioner to make the required demonstration to EPA. *Sierra Club* v. *Johnson,* 541 F.3d 1257, 1266-1267 (11th Cir. 2008); *Citizens Against Ruining the Environment* v. *EPA,* 535 F.3d 670, 677-678 (7th Cir. 2008); *Sierra Club* v. *EPA,* 557 F.3d 401, 406 (6th Cir. 2009); *MacClarence* v. *EPA,* 596 F.3d 1123, 130-31 (9th Cir. 2010) (discussing the burden of proof in title V petitions). If, in responding to a petition, EPA objects to a permit that has already been issued, EPA or the permitting authority will modify, terminate, or revoke and reissue the permit consistent with the procedures set forth in 40 C.F.R. §§ 70.7(g)(4), (5)(i)-(ii) and 70.8(d).

BACKGROUND

USGW first applied for a title V permit (also called CAAPP permit) in March 1996. IEPA determined in May 1996 that the application was complete and published a draft permit for public comment in 2003. USGW submitted a supplemental permit application in 2007 to address maximum achievable control technology (MACT) standards. IEPA considered this application a supplement to the 1996 application and, therefore, did not perform a second completeness determination. IEPA issued a new draft title V permit and Project Summary (IEPA's Statement of Basis) for public comment in October 2008. IEPA held a public hearing regarding the new draft permit on December 2, 2008, and provided follow-up answers in January 2009 to questions it could not answer at the time of the hearing. Subsequently, on February 27, 2009, the Petitioner submitted written comments on the draft permit to IEPA. EPA received the proposed permit for its 45-day review on June 19, 2009. EPA did not object to the permit, and IEPA issued the final title V permit for the facility, along with a response to public comments, on September 3, 2009.

On October 1, 2009, Robert R. Kuehn, on behalf of the American Bottom Conservancy, submitted a petition requesting that EPA object to the USGW title V permit pursuant to section 505(b)(2) of the Act, 42 U.S.C. § 766ld(b)(2), and 40 C.F.R. § 70.8(d). *See In the Matter of United States Steel Corporation – Granite City Works,* Petition Number V-2009-03 (January 31, 2011). The petition alleged that (1) the permit failed to include all applicable permits and permit requirements; (2) the permit failed to provide periodic monitoring sufficient to assure

compliance; (3) the permit lacked compliance schedules to remedy all current violations; (4) the permit unlawfully exempted emissions during startup, shutdown, and malfunctions; (5) the permit failed to include compliance assurance monitoring requirements; and (6) numerous permit provisions were not practically enforceable. *Id*. at 1. On January 31, 2011, EPA granted in part and denied in part the petition, pursuant to section 505(b)(2) of the Act and 40 C.F.R. § 70.8(d) (2011 Order). The 2011 Order directed IEPA to issue a revised permit that satisfies EPA's objections consistent with the 2011 Order and the procedures set forth in 40 C.F.R. §§ 70.7(g)(4), (5)(i)-(ii) and 70.8(d).

On March 16, 2011, IEPA issued a draft revised title V permit and a Statement of Basis for public comment in response to the 2011 Order. IEPA invited public comment on the draft revised permit during the period March 16, 2011, through March 25, 2011. On March 25, 2011, the Petitioner submitted written comments on the draft revised permit to IEPA. EPA did not receive a proposed permit for its 45-day review, and did not object to the permit. IEPA issued the final revised title V permit, along with a response to public comments, on May 2, 2011.[1] IEPA made a number of improvements in the permit in response to EPA's 2011 Order.

Under the statutory timeframe in section 505(b)(2) of the Act, 42 U.S.C. § 7661d(b)(2), August 16, 2011, was the deadline to file a petition requesting that EPA object to the final USGW permit. The Petitioner submitted its petition to EPA on August 16, 2011. Accordingly, EPA finds that the Petitioner timely filed its petition.[2]

Environmental Justice Considerations

In the Introduction Section of its petition, which precedes the specific claims, the Petitioner describes the area surrounding the Granite City facility as an overburdened community, and states that, "[d]ue to the living conditions in and around Granite City, this permit must be reviewed in the environmental justice context." Petition at 4. The Petitioner cites to Executive Order 12898, and states that environmental justice is a "key component of federal decisionmaking." *Id*. In these introductory comments, the Petitioner states:

[1] Also in October 2009, USGW petitioned the Illinois Pollution Control Board (Illinois PCB) to review the USGW title V permit, challenging certain terms and conditions of the permit. USGW requested Illinois PCB to stay the effective date of the permit until the permit appeal was resolved. The Illinois PCB granted a full stay of the USGW title V permit on November 19, 2009, pending resolution of the permit appeal. The permit appeal was resolved with the issuance of the revised CAAPP permit on May 2, 2011. Thus, the USGW title V permit became effective for the first time on May 2, 2011.

[2] Prior to filing its petition, Petitioner contacted EPA on May 16, 2011, inquiring about EPA's view of the deadline to file a petition to object to the final revised title V permit for USGW, in light of IEPA's failure to provide a proposed permit to EPA for review under section 505(a) of the Act, 42 U.S.C. § 7661d(a), and the implementing regulations at 40 C.F.R. § 70.8(a). EPA responded to Petitioner's inquiry on June 16, 2011, and stated that EPA would accept a petition to object through August 16, 2011. Petitioner submitted its petition to EPA on August 16, 2011; therefore, the petition is timely.

> While ABC appreciates that environmental justice considerations do not provide a basis for creating new emission limits in the context of this Title V/CAAPP permit, the compelling environmental justice circumstances inform the necessity for adequate periodic monitoring and practical enforceability to ensure that USS-GCW actually complies with all applicable emission limits.

Id at 5. The Petitioner's specific monitoring and practical enforceability claims are raised in Section II of the petition, and are summarized in the Issues Raised by the Petitioner in Sections II-IV of this order.

Executive Order 12898, signed by President Clinton on February 11, 1994, focuses federal attention on the environmental and human health conditions of minority populations and low-income populations with the goal of achieving environmental protection for all communities. Executive Order (EO) 12898 also is intended to promote non-discrimination in federal programs substantially affecting human health and the environment, and to provide minority and low-income communities access to public information on, and an opportunity for public participation in, matters relating to human health or the environment. It generally directs federal agencies to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. Attention to environmental justice in the implementation of federal environmental programs is a priority for EPA. *See generally*, Office of Environmental Justice *Plan EJ 2014* (September 2011) (outlining EPA's efforts to promote environmental justice and identifying environmental justice and permitting as a focus area).[3]

Environmental justice issues can be raised and considered in the context of a variety of actions carried out under the Act. Title V generally does not impose new, substantive emission control requirements, but provides for a public and governmental review process and requires title V permits to assure compliance with all underlying applicable requirements. *See, e.g., In the Matter of Marcal Paper Mills*, Petition No. II-2006-01 (Order on Petition) (November 30, 2006), at 12. Title V can help promote environmental justice through its underlying public participation requirements and through the requirements for monitoring, compliance certification, reporting and other measures intended to assure compliance with applicable requirements.

The Petitioner has not raised any specific claim regarding environmental justice, and has not identified any distinct environmental justice-related duty or responsibility it believes Illinois has violated. Rather, as noted above, the Petitioner states that "[d]ue to the living conditions in and around Granite City, [the USGW permit] must be reviewed in an environmental justice context."

[3] This document is available at http://www.epa.gov/environmentaljustice/resources/policy/plan-ej-2014/plan-ej-2011-09.pdf).

Petition at 4. The Petitioner asserts that environmental justice considerations heighten the already strong legal requirements to ensure that USGW is operating within its permit limits. *Id*. at 5. The Petitioner also states that based on available demographic and health information, "there is a compelling need for full public disclosure, detailed statements of the legal and factual bases for all permit conditions, and careful, extensive monitoring of USGW's air pollution emissions." *Id*. at 5-6. Finally, the Petitioner summarizes its title V claims, stating:

> The revised permit fails to require USS-GCW to conduct monitoring sufficient to determine whether it is complying with its emission limitations, contains compliance loopholes regarding excess emissions, and fails to include all applicable requirements.

Petition at 7. EPA has thoroughly reviewed and evaluated the title V objections submitted by the Petitioner, discussed below. EPA acknowledges that the immediate area around the USS-GCW facility is home to a high density of low-income and minority populations and a concentration of industrial activity, and thus raises potential environmental justice concerns. Focused attention to the adequacy of monitoring and other compliance assurance provisions is warranted in this context. As explained below, where the Petitioner has demonstrated that the permit fails to assure compliance with applicable requirements, EPA is granting the petition.

ISSUES RAISED BY THE PETITIONER

I. The Revised Permit's Use of Emission Factors Fails to Provide Periodic Monitoring Designed to Ensure Compliance with Permit Limits, and Lacks Practical Enforceability.

The Petitioner raises four issues regarding the revised permit's use of emission factors for periodic monitoring. The Petitioner alleges that a) IEPA states that "emission factors" set forth in the permit are actually permit limits, but because what IEPA calls "traditional emission factors" are tools for calculating emissions rather than emission limits, and since the permit repeatedly uses the phrase "emission factor" without expressly indicating that they are indeed enforceable limits, the permit language could undermine the enforceability of the emission factor limits; b) as issued, the revised permit lacks periodic monitoring requirements to ensure compliance with the "emission factor" limits as well as many of the corresponding "maximum emission" limits in the permit; c) the permit inappropriately authorizes USGW to set, unilaterally, without IEPA review and approval and without notice to or input from EPA or the public, the emission factors that will be used to determine whether its operations comply with permit limits; and d) the permit is entirely silent on periodic monitoring to ensure compliance with the emission limits in Conditions 7.5.6.c-g, governing basic oxygen furnace operations. Petition at 7-13. These allegations are discussed in more detail below.

I.A. IEPA States that "Emission Factors" Set Forth in the Permit are Actually Permit Limits but the Permit Language Could Compromise the Practical Enforceability of those Limits.

The Petitioner's Allegations:

The Petitioner alleges that IEPA did not substantively revise the emission factor provisions contained in the following permit conditions as directed by EPA in the 2011 Order: Conditions 7.1.6.b.i-iv (emission limits for the blast furnace and steel making material handling operations, basic oxygen furnace (BOF) additive system, flux conveyor and transfer points, and iron pellet screen); Conditions 7.4.6.b-f (emission limits for blast furnace operations: casthouse baghouse, blast furnace uncaptured fugitives, blast furnace charging, slag pits, and iron spout baghouse); Conditions 7.5.6.c-g (emission limits for BOF operations: BOF electrostatic precipitator (ESP) stack, BOF roof monitor, hot metal desulfurization and hot metal transfer, hot metal charging and ladle slag skimming, and argon stirring station and material handling tripper (Ladle Metallurgy Baghouse # 2)); and Conditions 7.6.6.a-e (emission limits for continuous casting operations: deslagging station (Baghouse #1) and associated material handling system, caster molds, casters spray chambers, slab cut-off, and slab ripping).[4] Petition at 9. The Petitioner claims that instead of changing the emission factor provisions, IEPA offered in its response to comments a different explanation of the intended function of those provisions. *Id*. The Petitioner alleges that, according to IEPA, the "emission factors" provisions in the permit were actually emission limits ("emission factor limits" or "factor limits") rather than periodic monitoring mechanisms. *Id*. (citing IEPA's Response to Comments at 4-7). The Petitioner agrees that the numerous permit conditions that set forth "emission factors" actually express enforceable emission limits, but argues that the permit language could undermine the enforceability of the emission factor limits. *Id.* at 10. The Petitioner points to the confusion that could be caused by IEPA's reference to "traditional emission factors," which are tools for calculating emissions rather than emission limits, and the permit's repeated use of the phrase "emission factor" without express indication that these terms are indeed enforceable limits. *Id*. The Petitioner claims that while the revised permit adopts the "emission factor" language from the underlying production increase permit,[5] that language is not dispositive and is not adequate to ensure enforceability, because the fact that "emission factors" are actually limits is not evident

[4] Petitioner notes that IEPA relocated the following provisions in the revised permit: iron pellet screen emissions provision was moved from the blast furnace section, condition 7.4.6.g, to material handling and processing section, condition 7.1.6.b.v., and continuous casting production and emission limits from underlying permit 95010001 were moved from condition 7.6.7 to condition 7.6.6. Petition at 8.

[5] Petitioner is referring to Construction Permit 95010001, which was originally issued on January 25, 1996, for an increase in the allowable production rate of iron (from 2,372,500 to 3,165,000 net tons per year) and steel (from 2,774,000 to 3,580,000 net tons per year). IEPA determined that the increases in emissions of SO_2 and CO from the project covered under this construction permit were significant under the Prevention of Significant Deterioration (PSD) rules in 40 C.F.R. § 52.21. Therefore, Permit 95010001 contains PSD terms and conditions for CO and SO_2 and non-PSD terms and conditions for other regulated pollutants.

on the face of the permit. *Id*. According to the Petitioner, IEPA must incorporate the understanding expressed in the Response to Comments directly into the revised permit. *Id*.

EPA Response:

The Petitioner has questioned the practical enforceability of the limits stated as "emission factors" and the corresponding "maximum emissions" limits in a number of permit conditions derived largely from Construction Permit 9501000l. In the 2011 Order, I granted the Petitioner's request to object to the permit's use of unsupported emission factors in certain conditions of the initial permit, based on EPA's understanding that the specific, numerical emission factors in the permit were to be used in periodic monitoring to assure compliance with the "maximum emissions" limits expressed in tons per year.[6] 2011 Order at 13-33. IEPA has since clarified that these specific, numerical emissions factors are in fact emission limits, and are not used for periodic monitoring. Response to Comments at 4-5. IEPA states that comments related to emission factors "appear to reflect a misunderstanding about the specific, numerical 'emission factors' in the revised CAAPP Permit." *Id*. IEPA explains that the numerical "emission factors" specified in the permit should be treated as emission limits, similar to the limits on annual emissions from those operations, and that the revised permit requires recordkeeping of the actual emission factors that are used on a routine basis to determine actual emissions. *Id*.

The Petitioner states that the revised permit uses the term "emission factor" in numerous places without clearly distinguishing whether that term refers to emission factors (that are used to verify compliance with emission limits) or if it refers to emission limits. However, the Petitioner has also stated that "ABC accepts IEPA's explanation, and agrees that the numerous permit conditions that set forth 'emission factors' actually express enforceable emission limits." Petition at 10. For each condition containing the term "emission factor" that the Petitioner has cited, the plain face of the permit condition states that emissions "shall not exceed the following limits."[7] Also, the permit record clearly explains that in the cited provision, the terms "emission factors" and "maximum emissions" are actually emission limits. The Petitioner has not demonstrated that the use of the term "emission factors" in the permit conditions would render the requirements unenforceable in practice. EPA finds that the provisions cited by the Petitioner accurately reflect the underlying applicable requirements from Construction Permit 95010001. Therefore, I deny the petition with respect to the permit's use of the term "emission factor" to describe both emission limits and monitoring methodology. However, because I am granting the Petition on other issues as described below, which will necessitate changes to the permit, IEPA

[6] EPA granted Petitioner's request to object with respect to the permit's use of unsupported emission factors in each of the following conditions of the initial permit: conditions 7.4.6.b-g – blast furnace emissions; conditions 7.5.6.c-i – basic oxygen furnace emissions; conditions 7.6.7.a-e – continuous casting emissions; condition 7.11.7.b – internal combustion engine (emergency generator) emissions. These emission factors are expressed primarily as pounds per ton of production.

[7] Conditions 7.1.6.b.i-iv; Conditions 7.4.6.b-f ; Conditions 7.5.6.c-g; and Conditions 7.6.6.a-e.

may wish to take this opportunity to change the term "emission factors" to clarify that the emission factors are, in fact, limits.

I.B-D. As Issued, the Revised Permit Lacks Periodic Monitoring Requirements to Ensure Compliance with the "Emission Factor" Limits as Well as Many of the Corresponding "Maximum Emission" Limits in the Permit.

The Petitioner's Allegations:

The Petitioner alleges that the revised permit lacks periodic monitoring provisions for many of the emission limits (both "emission factor'' limits and maximum emission limits) from permit 95010001. Petition at 10-11. The Petitioner alleges that while the permit record states that emission factors will be used to determine compliance with many of the emission limits from permit 95010001, neither IEPA nor EPA nor the public knows what emission factors will be used to determine whether USGW is complying with many of the emission limits from permit 95010001. *Id*. at 10-11. The Petitioner alleges that the revised permit as issued fails to explain what the emission factors will be or whether they will be representative of [USGW's] operations." *Id*. at 11-12.

The Petitioner further alleges that the revised permit authorizes USGW to set, unilaterally, without IEPA review and approval and without notice to or input from EPA or the public, the emission factors that will be used to determine whether USGW's operations comply with permit limits. *Id*. at 11-12. The Petitioner claims the revised permit authorizes USGW to determine its own compliance test and allows USGW to determine and notify IEPA in the future, by no later than January 2012 (or 30 days after the effective date of the permit, whichever is later), of the emission factors that USGW deems appropriate for determining compliance with the emission limits from permit 95010001. *Id*. at 11-12 (citing Condition 5.9.6.c). The Petitioner claims the revised permit's only provisions regarding USGW's accountability for complying with the emission factor limits are the requirements that it maintain records indicating how it decides to determine compliance with those limits, and update those records as necessary. *Id*. (citing Conditions 7.1.9.h. 7.3.10.e.vi, 7.4.9.i, 7.6.9.c, and 7.10). The Petitioner alleges that the revised permit's reliance solely on a "to be determined later" approach to periodic monitoring falls far short of the periodic monitoring requirements of title V of the Act. *Id*. at 10-11. The Petitioner claims there is no provision for IEPA to review and approve, or require USGW to revise, the emission factors that USGW chooses, nor is there any provision for EPA or the public to comment on the emission factors that USGW elects to use for periodic monitoring of the emission limits from permit 95010001. *Id*. at 11. The Petitioner claims this type of periodic monitoring is not practically enforceable, and fails to ensure enforceability. *Id* at 12.

The Petitioner also alleges that the permit lacks any provision that specifically addresses compliance with the emission limits in Conditions 7.5.6.c-g, governing BOF operations. *Id*. at 11-13. The Petitioner alleges that although the revised permit contains emission factor limits and corresponding maximum emission limits for the BOF operations in Conditions 7.5.6.c-g, it does not contain periodic monitoring requirements for BOF operations. *Id*. at 12-13. The Petitioner asserts that this "omission is particularly glaring in light of the significant emissions associated with, and spotty compliance history of, the facility's BOF operations." *Id*.

The Petitioner requests EPA to object to the revised permit and require IEPA to include periodic monitoring provisions in the permit, rather than simply create a mechanism for them to be determined at a later date. *Id*. at 12.

EPA Response:

Section 504(c) of the CAA requires all title V permits to contain monitoring requirements to assure compliance with permit terms and conditions. 42 U.S.C. § 7661c(c). EPA's Part 70 monitoring rules (40 C.F.R. § 70.6(a)(3)(i)(A) and (B) and 70.6(c)(1)) must be interpreted to carry out section 504(c) of the Act's directive. *Sierra Club* v. *EPA*, 536 F.3d 673 (D.C. Cir. 2008). As a general matter, permitting authorities must take three steps to satisfy the monitoring requirements in EPA's Part 70 regulations. First, under 40 C.F.R. § 70.6(a)(3)(i)(A), permitting authorities must ensure that monitoring requirements contained in applicable requirements are properly incorporated into the title V permit. Second, if the applicable requirement contains no periodic monitoring, permitting authorities must add "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit." 40 C.F.R. § 70.6(a)(3)(i)(B). Third, if there is some periodic monitoring in the applicable requirement, but that monitoring is not sufficient to assure compliance with permit terms and conditions, permitting authorities must supplement monitoring to assure such compliance. 40 C.F.R. § 70.6(c)(l). *In the Matter of CITGO Refining & Chemicals Co.*, Petition No. VI-2007-01 (Order on Petition) (May 28, 2009) at 6-7 (*CITGO Order*).

The rationale for the monitoring requirements selected by a permitting authority must be clear and documented in the permit record (*e.g.*, in the Statement of Basis). *See* 40 C.F.R. § 70.7(a)(5); *see also CITGO Order* at 7. Furthermore, permitting authorities do not have the discretion to issue a permit without specifying the monitoring methodology needed to assure compliance with applicable requirements in the title V permit. *In the Matter of Wheelabrator Baltimore, L.P., Permit No. 24-510-01886* (Order on Petition) at 10 (April 14, 2010) (*Wheelabrator*). In *Wheelabrator*, the permit condition in question required the source to develop a way to convert data in order to demonstrate compliance with Prevention of Significant Deterioration (PSD) emission limits. *Id.* at 11. Both the establishment and approval by the permitting authority of this conversion method were to occur "outside of the title V permitting

process." *Id.* EPA found this methodology "inconsistent with the requirements of section 504(c) of the Act to include – *in the title V permit* – monitoring to assure compliance with applicable requirements," and instructed the permitting authority to revise the permit to explicitly include the conversion method that would assure compliance with the emission limits. *Id.* (emphasis in original).

The recordkeeping requirements requiring USGW to keep on file the emission factors used for the purpose of periodic monitoring are not sufficient to assure compliance with the emission factor limits. The permit conditions do not contain monitoring sufficient to assure compliance with the emission factors limits. The record for the USGW permitting action does not specify a preliminary set of IEPA-approved emission factors that will be used by USGW to demonstrate compliance, how the emission factors were derived, whether the emission factors are indicative of the emissions at the USGW facility, or an explanation of why use of the emission factors is adequate to assure compliance with the emission factor and maximum annual limits. The recordkeeping requirements in the permit do not specify the emission factors or equations that USGW intends to use to demonstrate that emissions from the affected emission units are complying with the permit limits in Conditions 7.1.6(b)(i)-(iv), 7.4.6(b)-(f), 7.5.6(c)-(g), and 7.6.6(a)-(e). The permit does not specify how IEPA and USGW plan to determine actual emissions from the source to demonstrate compliance with these permit limits.

In response to public comment, IEPA stated that the permit includes procedural requirements to facilitate supervision of emission factors by IEPA "and potential public involvement." Response to Comments at 29-30, 61 (citing Condition 5.9.6(c)).[8] IEPA explained that the submittal of copies of such records to IEPA "will facilitate oversight or surveillance" by IEPA of the emission factors used by USGW, and will enable the public to readily obtain copies of these records under Illinois' Freedom of Information Act and to review these records. *Id*. IEPA explained in the Statement of Basis that USGW will reevaluate emission factors "that are used to routinely determine emissions for comparison to permit limits" when "new data becomes available to assure that the [emission factors] that it uses are adequate, *i.e.*, they do not understate emissions." Statement of Basis at 145. However, the permit does not specify how IEPA will assure that emission factors used to verify compliance with the "emission factor" or the "maximum emissions" limits are representative of USGW's operations. Because the permit does not explicitly require IEPA's review and approval of the emission factors prior to their use by the

[8] Condition 5.9.6(c) of the permit states: "For certain records related to emission factors or emission rates required to be kept by this permit for various emission units at this source, as specifically identified in other conditions of this permit, the Permittee shall submit a copy of the records to the Illinois EPA as provided below: i) Copies of initial records shall be submitted to the Illinois EPA within 15 days of the date that the Permittee prepares these records for subject unit(s), which shall in no case be later than January 20, 2012, or 30 days after the effective date of this permit, whichever date is later. ii) Thereafter, copies of revised records shall be submitted to the Illinois EPA with the emission test reports for subject emission unit(s) if the records were revised as a consequence of emission testing or otherwise within 15 days of the date that the Permittee completes the preparation of revised records for subject unit(s)." Permit at 34.

source, the source could select whichever emission factor appears to demonstrate compliance. The permit also does not provide a means for the public to comment or EPA to review the monitoring methodology chosen by the source, *i.e.*, the selected emission factors.

In short, the permit fails to specify the monitoring methodology and also fails to provide a mechanism for review of the methodology by IEPA, the public, and EPA after the permit is issued. It is impossible to know whether the periodic monitoring chosen by the source assures compliance with the permit terms and conditions as required by 40 C.F.R. §§ 70.1(b) and 70.6(c)(1) because that monitoring has not been determined yet. IEPA must determine and adequately support a mechanism to assure compliance with the applicable emission limits in Conditions 7.1.6(b)(i)-(iv), 7.4.6(b)-(f), 7.5.6(c)-(g), and 7.6.6(a)-(e). IEPA must include in the permit itself the monitoring methodology for determining compliance with these limits. If using emission factors, IEPA must propose the actual emission factors in the permit or supporting permit record, and provide supporting documentation for the accuracy and appropriateness of those emission factors, such as historical source test data or other available information. If source test data are not readily available for a specific emission unit, as IEPA asserts, other sources of emission factors (including published literature and material and energy balances) must be reviewed and cited for acceptable emission factors prior to issuing the permit.

For the reasons provided above, I grant this claim and direct IEPA to specify in the permit and make available for public comment the emission factors or equations that USGW initially intends to use to demonstrate compliance with emission factor limits and maximum emission limits contained in the permit conditions identified by the Petitioner, including a clear explanation of how the emission factors will be used to determine compliance. IEPA should also specify in the permit and make available for public comment a provision on how the emission factors or equations will be updated as new emissions information becomes available for the affected operations. Alternatively, IEPA must specify an alternative periodic monitoring methodology in the permit that is adequate to demonstrate compliance with the permit limits cited by the Petitioner.

With regard to the BOF operations, the recordkeeping requirements (Condition 7.5.9.f) existed in the public comment version of the revised permit but were omitted in the final permit, on which the petition was based. IEPA subsequently revised the permit on May 3, 2012, and included the missing condition. The Petitioner's claim that the permit does not have any recordkeeping or periodic monitoring requirements for the BOF limits is therefore moot because IEPA has added the same recordkeeping requirements for those limits as it has for similar limits, as discussed above.

II. Several Additional Permit Limits Lack Adequate Periodic Monitoring Requirements.

As further discussed below, the Petitioner alleges that the revised permit's periodic monitoring requirements are not sufficient to assure compliance with emission limits contained in the following conditions of the revised permit:

II.A. Condition 7.3.3.f - Coke Oven Gas Flare

The Petitioner's Allegations:

The Petitioner alleges that the frequency of required opacity observations for the coke oven gas (COG) flare is inadequate to assure continuous compliance with the opacity limit for the COG flare. Petition at 13. The Petitioner claims that the permit's requirement for USGW to conduct monthly visible emissions observations of the COG flare, followed by opacity observations if visible emissions are observed, is inadequate to assure compliance with the 30 percent opacity limit for the COG flare. *Id*. (referring to Condition 7.3.3.f, which sets a 30 percent opacity limit for the COG flare, and Condition 7.3.8.c, which requires monthly visible emissions observations of the flare followed by opacity observations if visible emissions are observed).

The Petitioner alleges that although the permit requires that two of the twelve observations per year occur during wind speeds of at least 16 miles per hour (mph), IEPA has not demonstrated that the monitoring frequency is sufficient to assure continuous compliance with the opacity limit. *Id*. The Petitioner states that "[v]ariations in the size, shape, and combustion efficiency of the flare, and the potential for visible emissions to occur, are not limited to the two times a year that [USGW] is required to perform observations of the flare at elevated wind speeds." *Id*. According to the Petitioner, unless more frequent monitoring is required, emissions from the COG flare have the potential to exceed the 30 percent opacity limit without observation or documentation by the facility. *Id*. at 14. The Petitioner claims IEPA has not demonstrated that monthly observations of the flare are "sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit." *Id*. (quoting 40 C.F.R. § 70.6(a)(3)(i)(B)).

The Petitioner requests EPA to object to the permit and direct IEPA to demonstrate how the monitoring requirements in the permit are sufficient to assure compliance with the 30 percent opacity limit for the COG flare or, failing that, require additional periodic monitoring for the COG flare. *Id*.

EPA Response:

During the public comment period, the Petitioner commented that IEPA's lack of periodic monitoring for the COG flare's 30 percent opacity limit is unacceptable and asserted that IEPA's

reasoning that the permit would prohibit visible emissions from the COG flare is unsound. Response to Comments at 18 (citing Statement of Basis at 81). The Petitioner stated in its comments, "The permit should require routine opacity observations, such as daily observations, to assure compliance with 35 IAC 212.123." *Id*. The Petitioner also commented that annual observations for visible emissions from the flare are not frequent enough because "factors such as high wind speed could negatively affect the flare's combustion efficiency, increasing the potential for visible emissions from the flare." *Id*. at 19. In response to the Petitioner's comments on this issue, IEPA revised the permit and required monthly observations for the COG flare for the presence of visible emissions, immediately followed by opacity observations if visible emissions are present. IEPA explained in the Response to Comments and Statement of Basis that these observations for visible emissions would be adequate periodic monitoring to address the opacity limit despite high wind speeds because "multiple observations would occur each year under a variety of wind speed conditions." IEPA also revised the permit to require at least two of the observations for visible emissions each year to occur during conditions of elevated wind speed (defined by IEPA as at least 16 miles per hour). While the Petitioner acknowledged IEPA's explanation and the permit's revised monitoring requirements, the Petitioner did not specify in the petition a monitoring frequency that it considers adequate. The Petitioner merely stated that "Unless more frequent monitoring is required, emissions from the flare have the potential to exceed the 30 percent opacity limit without observation or documentation by the facility." Petition at 14.

Although the Petitioner suggested in its comments that the draft permit should require daily observations for visible emissions, the Petitioner did not propose an alternate testing frequency in its petition nor did the Petitioner provide an analysis of why an alternate testing frequency was more appropriate for this specific emissions unit. As a threshold matter, EPA has previously determined that flare performance is not significantly affected by wind speeds up to 22 mph. *See Parameters for Properly Designed and Operated Flares, Report for Flare Review Panel*, EPA Office of Air Quality Planning and Standards (OAQPS) (April 2012)[9] Furthermore, IEPA did explain that multiple observations under a variety of wind speed conditions would occur. IEPA also revised the permit to require observations at elevated wind speed, which it defines as at least 16 mph. Therefore, it is reasonable to conclude that the monitoring requirements in the revised permit are sufficient to assure compliance. Because IEPA has explained in the permit record why the revised permit's periodic monitoring requirements are sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the COG opacity limits, consistent with 40 C.F.R. § 70.6(a)(3)(i)(B), and the Petitioner has not demonstrated that an alternate testing frequency is more appropriate, I deny the petition with respect to the above monitoring claims.

[9] This document is available at http://www.epa.gov/ttn/atw/flare/2012flaretechreport.pdf.

II.B. Condition 7.4.3.b.i - Uncaptured Blast Furnace Casthouse

The Petitioner's Allegations:

The Petitioner alleges that the frequency of required opacity observations for the blast furnace casthouse is inadequate to assure continuous compliance with the 20 percent opacity limit for the blast furnace casthouse.[10] Petition at 14. The Petitioner alleges that the permit's requirement for USGW to conduct opacity observations for uncaptured particulate matter from any opening in a blast furnace casthouse on at least five out of seven operating days or weekly, depending on the previous opacity observations, is inadequate to assure continuous compliance with the 20 percent opacity limit for uncaptured particulate matter from the blast furnace casthouse. *Id*. (referring to Condition 7.4.3.b.i, which sets a 20 percent opacity limit for uncaptured particulate matter from any opening in a blast furnace casthouse, and Condition 7.4.7.b.i, which requires opacity observations on at least five out of seven operating days or weekly, depending on the previous opacity observations).

The Petitioner alleges that the permit relies on recordkeeping for "process upsets" and occurrences of "additional opacity," yet it neither defines "process upsets" nor "additional opacity." *Id*. at 14-15. The Petitioner states: "Because the permit fails to define 'process upsets' or 'additional opacity,' the conditions under which [USGW] is required to keep records of its casthouse operations are not clearly specified." *Id*. at 15 (quoting Condition 7.4.9(h)(vii)). The Petitioner claims that as a result of this alleged deficiency, Condition 7.4.9.h.vii lacks practical enforceability. *Id*.

The Petitioner also alleges that even if the permit defined "process upsets" and "additional opacity," Condition 7.4.9(h)(vii) assumes that USGW detects all of the upsets that result in additional opacity, which is not necessarily true. *Id*. The Petitioner further claims that even if USGW records an upset associated with increased opacity emissions, "it is unclear whether the facility is required to record an actual opacity observation for uncaptured blast furnace casthouse emissions or simply provide a general 'discussion' of opacity as a part of the recordkeeping requirements." *Id*. The Petitioner claims that without an actual opacity observation, "these records will not provide sufficient information to determine compliance with the opacity limit." *Id*. Consequently, according to the Petitioner, IEPA has not demonstrated that recordkeeping for upsets in combination with opacity observations on a weekly or daily basis, depending on prior opacity observations, is sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit. *Id*. (citing 40 C.F.R. § 70.6(a)(3)(i)(B)). The Petitioner requests EPA to object to the issuance of the permit and direct

[10] The blast furnace casthouse is subject to 40 C.F.R. Part 63, Subpart FFFFF (National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities), which is the source of the 20 percent opacity limit. *See* 40 C.F.R. § 63.7790(a) and Paragraph 7 of Table 1 of 40 C.F.R. Part 63, Subpart FFFFF.

IEPA to demonstrate how the monitoring requirements in the permit are sufficient to assure compliance with the limit or, failing that, require additional periodic monitoring. *Id*.

EPA Response:

During the public comment period, the Petitioner commented that IEPA had not supported its requirements in the permit that sometimes require opacity observations on at least five out of seven operating days and sometimes require opacity observations on a weekly basis. Response to Comments at 21. The Petitioner's comments observed that the permit allows weekly observations where prior observations show a margin of compliance, *i.e.*, that the opacity is less than 18 percent. *Id.* The Petitioner commented that IEPA's explanation that adjusting the frequency of monitoring based on prior observations because violations "would be expected to result from a gradual deterioration of the capture system and/or pollution prevention measures for the casthouse" is inconsistent with prior violations at this unit. *Id*. The Petitioner's comments stated that two prior incidences of violations at the unit occurred because of "upsets" or "unknown causes," not because of a gradual deterioration of the system. *Id*. The Petitioner suggested that the permit should require daily observations to assure compliance with the standard. *Id*. In response to the Petitioner's comments on this issue, IEPA revised the permit to require enhanced recordkeeping requirements for the blast furnace casthouse. IEPA explained that although violations of the opacity limits can result from "upsets," requiring relevant records for operation of the casthouse is more effective in identifying upsets than more frequent opacity observations. *Id*. at 21-22. According to IEPA, direct recordkeeping would potentially address all upset events whereas opacity observations would only identify incidents of excess opacity coinciding with the periods when opacity observations are being conducted. *Id*. IEPA also explained that weekly opacity observations will enable the source to make timely repairs or take other appropriate actions in response to elevated levels of opacity before actual opacity would ever exceed 20 percent. Statement of Basis at 87.

The Petitioners have not demonstrated that the selected monitoring is inadequate. As an initial matter, EPA notes that while the Petitioner acknowledged IEPA's explanation and the permit's recordkeeping requirements, the Petitioner did not specify in the petition a monitoring frequency that it considers adequate. The Petitioner largely recited its comments on the draft permit and IEPA's response before concluding that "IEPA has not demonstrated that recordkeeping for upsets in combination with opacity observations on a weekly or daily basis, depending on prior opacity observations is 'sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit.'" Petition at 14-15. Although the Petitioner suggested in its comments that the draft permit should require daily observations for visible emissions, the Petitioner did not propose an alternate testing frequency in its petition, nor did the Petitioner provide an analysis of why an alternate testing frequency was more appropriate for this specific emissions unit other than merely stating that the permit's testing frequency in

combination with recordkeeping for "process upsets" is inadequate. Moreover, the Petitioner's allegation in its petition that Condition 7.4.9.h.vii (recordkeeping requirements for the blast furnace casthouse) lacks practical enforceability because the permit fails to define "process upsets" is without merit. In response to public comment, IEPA defined "upsets" as "sudden, transitory events that are not related to deterioration of the capture and control systems on the casthouse ... [such as] the missed stop on 'B' Furnace…" Response to Comments at 21 and FN 39.[11]

The Petitioner has not demonstrated that IEPA's explanations in the Response to Comments and Statement of Basis are unreasonable. The Petitioner has not demonstrated that the frequency of opacity observations for uncaptured emissions from the blast furnace casthouse is inadequate to assure continuous compliance with the 20 percent opacity limit for the blast furnace casthouse. The Petitioner has also failed to specify what frequency of observations or records would be adequate. For the above reasons, I deny the petition with respect to these monitoring claims.

II.C. Conditions 7.4.5-3.c and 7.4.5-3.d.i.A - Blast Furnace Gas Flares

The Petitioner's Allegations:

The Petitioner alleges that the frequency of required visible emissions observations for the blast furnace gas (BFG) flares (BFG Flare #1 and BFG Flare #2) is inadequate to assure continuous compliance with the no visible emissions limits for the BFG flares. Petition at 15. The Petitioner alleges that the permit's requirement for USGW to conduct monthly visible emissions observations of the BFG flares, followed by opacity observations if visible emissions are observed, with at least two observations made during elevated wind speeds of at least 16 mph each year, is inadequate to assure continuous compliance with the visible emissions limits for the BFG flares. *Id*. (referring to Conditions 7.4.5-3.c and 7.4.5-4.d.i.A, which prohibit BFG Flare #1 and BFG Flare #2 from emitting any visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, and Condition 7.4.7.d, which requires monthly visible emissions observations, followed by opacity observations if visible emissions are observed, with at least two observations made during elevated wind speeds of at least 16 mph each year). The Petitioner alleges that, as in the case of the COG flare, variation in the size, shape, and combustion efficiency of the flares and the potential for visible emissions to occur is not limited to the two times a year that USGW is required to perform observations of the flares at elevated wind speeds. *Id*. at 16. The Petitioner asserts that unless more frequent monitoring is required, emissions from BFG Flare #1 and BFG Flare #2 have the potential to produce visible emissions without proper observation or documentation by the facility. *Id*.

[11] In addition, the permit states that "process upsets" include "refractory clay falling into the trough during a missed stop." Permit at 176.

The Petitioner alleges IEPA has not demonstrated that monthly observations of the BFG flares are "sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit." *Id*. (citing 40 C.F.R. § 70.6(a)(3)(i)(B)). The Petitioner requests EPA to object to the permit and direct IEPA to demonstrate how the monitoring requirements in the permit are sufficient to assure compliance with the limits or, failing that, require additional periodic monitoring. *Id*.

EPA Response:

During the public comment period, the Petitioner commented that while the permit prohibits visible emissions from BFG flares 1 and 2 at all times except for periods not to exceed a total of five minutes during any two consecutive hours, the periodic monitoring to assure compliance with this requirement requires observations for visible emissions to be conducted on an annual basis. Response to Comments at 22-23. The Petitioner commented that IEPA has not adequately explained how annual observations would be sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the applicable visible emissions standard. *Id*. The Petitioner also noted that high wind speed negatively affects the combustion efficiency of the flares, increasing the potential for visible emissions. *Id*. The Petitioner suggested that the revised permit should require more frequent observations of the flare, such as daily observations. *Id*. In response to the Petitioner's comments on this issue, IEPA revised the permit to require monthly observations of each BFG flare for the presence of visible emissions followed by opacity observations if visible emissions are observed. IEPA also amended the revised permit to require multiple opacity observations each year under a variety of wind speed conditions. IEPA explained that more frequent opacity observations are not necessary because, unlike petroleum refinery gas and other waste gases, BFG does not vary significantly in composition and heat content. *Id*. IEPA also stated that it is expected, at least initially, that USGW will elect to verify proper operation of BFG Flare #1 by daily inspections to confirm the presence of a flame at the flare tip. *Id*. at FN 45.

The Petitioner has not demonstrated how IEPA's explanation in response to public comments is deficient or what level of additional monitoring is necessary. The Petitioner merely acknowledges IEPA's explanation in the Response to Comments that "variability in the composition of BFG is not likely to result in visible emissions from the flares" and that "environmental factors such as elevated wind speed may impact the combustion efficiency of the [BFG flares] and potentially lead to visible emissions," but does not suggest a monitoring frequency that would be more appropriate for these flares. Although the Petitioner suggested in its comments that the draft permit should require daily observations for visible emissions, IEPA explained in the permit record why the revised permit's monthly monitoring frequency, with some visible emissions observations occurring at high wind speeds, is sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the

opacity limits. The Petitioner did not explain why a specific alternate testing frequency was more appropriate for this specific emissions unit. Because IEPA has responded to the Petitioner's comments on this issue, and the Petitioner has not demonstrated how the revised monitoring requirements are deficient, I deny the petition with respect to these monitoring claims.

II.D. Conditions 7.7.3.b and 7.7.3.g - Slab Reheat Furnaces

The Petitioner's Allegations:

The Petitioner alleges that the use of semi-annual opacity observations to determine compliance with the PM_{10} emission limits for the slab reheat furnaces, with PM_{10} testing only upon IEPA's request, does not constitute adequate periodic monitoring. Petition at 16. Specifically, the Petitioner claims the monitoring requirements in Condition 7.7.9.a, requiring semi-annual opacity observations for each affected slab reheat furnace unless no visible emissions are observed during the first 12 minutes of observation, with testing for emissions from the slab reheat furnaces only required upon written request from IEPA, are not sufficient for demonstrating compliance with the PM_{10} emission limits in Conditions 7.7.3.b and 7.7.3.g.[12] *Id*.

While acknowledging IEPA's explanation that it is appropriate for the permit to "rely primarily on observations of visible emissions and opacity as those observations will directly confirm good combustion and proper operation," the Petitioner asserts that "[w]ithout an established correlation between opacity and PM_{10} emissions, it is unclear how compliance with the PM_{10} limits will be determined based on opacity observations of the slab reheat furnaces if opacity is observed." *Id*. at 16-17 (quoting Response to Comments at 25). The Petitioner alleges that the permit does not specify an opacity level that would correspond to an exceedance of the PM_{10} limits in Conditions 7.7.3.b and 7.7.3.g. *Id*. at 17. Pointing to IEPA's statement that "some opacity" from the slab reheat furnaces "should not be considered a significant departure from the normal conditions of a furnace," the Petitioner alleges that "there is no discussion of the range of opacity levels associated with normal conditions of the [slab reheat furnaces] or how those opacity levels compare to the PM_{10} limits." *Id*. (citing Response to Comments at 25). The Petitioner alleges IEPA has not demonstrated that semi-annual opacity observations are "sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit." *Id*. (citing 40 C.F.R. § 70.6(a)(3)(i)(B)). The Petitioner requests EPA to object to the permit and direct IEPA to demonstrate how the monitoring requirements in the permit are sufficient to assure compliance with the limits or, failing that, require additional periodic monitoring. *Id*.

[12] Condition 7.7.3.b sets a PM_{10} emission limit of 38.7 ng/J (0.09 lb/mmBtu) of heat input for the slab reheat furnaces and condition 7.7.3.g sets a PM_{10} emission limit of 22.9 mg/scm (0.01 gr/scf) for the slab reheat furnaces. If visible emissions are not observed, then neither PM_{10} limit applies.

EPA Response:

EPA previously objected to the initial permit because IEPA failed to provide adequate support for the periodic monitoring associated with the PM_{10} emission limit for the slab reheat furnaces. 2011 Order at 29-30. In response to the 2011 Order, IEPA added requirements to Conditions 7.7.8(a)-(b) and 7.7.9(a)-(b) of the revised permit. Statement of Basis at 154. The revised permit changed the PM_{10} testing requirement for the slab reheat furnaces from once in five years to "upon written request." In addition, Condition 7.7.9(a) of the revised permit requires semi-annual opacity observations to determine compliance with the PM_{10} emission limits in addition to the initial opacity tests required by Condition 7.7.8(c). IEPA explained that it removed the mandatory testing requirement for the reheat furnaces because the testing for Reheat Furnace 4 conducted in August 2010 effectively served to fulfill this requirement over the five year term of the title V permit. Response to Comments at 25-26.

During the public comment period, the Petitioner commented that opacity observations are insufficient to assure compliance with the PM_{10} limits on the slab reheat furnaces because there is no way to derive PM_{10} emissions from opacity observations. Response to Comments at 24. Recognizing that the permit had changed from the one previously issued in 2009, which required PM_{10} testing once every five years, the Petitioner commented that one past test result does not guarantee that PM_{10} emissions will not exceed limits in perpetuity, even with the demonstration of a large measure of compliance. *Id*. The Petitioner suggested that the revised permit should require PM_{10} emission testing in the event that visible emissions are observed from a furnace. *Id*. In response to the Petitioner's comments on this issue, IEPA stated that since all four reheat furnaces fire COG and natural gas, and because the testing of Reheat Furnace 4 in August 2010 showed compliance with applicable PM_{10} standards "with a substantial margin of compliance," the testing of Reheat Furnace 4 eliminated support for a requirement for testing emissions of PM_{10} from the remaining three slab reheat furnaces during the term of the title V permit. Response to Comments at 25-26. IEPA further stated that it is sufficient that the visible emissions observations be conducted on a semi-annual basis, as only gaseous fuels are used in the reheat furnaces. IEPA explained that since particulate emissions from the slab reheat furnaces result from combustion of gaseous fuel in the furnaces, it is appropriate to rely on opacity observations as the principal element of periodic monitoring for PM_{10} emissions from the slab reheat furnaces since those observations will directly confirm good combustion and proper operation. Response to Comments at 24-25. IEPA stated that the emissions of particulate matter from the reheat furnaces are minimized as the furnaces are fired with gaseous fuels. *Id*.

It is clear from the permit record that IEPA determined that for these specific emission units, good combustion is the key to maintaining low PM_{10} emissions from the furnaces. Therefore, as explained by IEPA, the role of observations of visible emissions and opacity would be to confirm

that the furnaces are operating in a manner such that the quantitative measurements of particulate matter emissions during testing should be considered to reflect or be representative of their emissions. Response to Comments at 24. The permit record indicates that the PM_{10} emissions testing conducted in August 2010 on Reheat Furnace 4 confirmed IEPA's prior assessment that PM_{10} emissions from the reheat furnaces are expected to be low since the PM_{10} emissions result from combustion of gaseous fuel. [13] IEPA acknowledged that a precise rate of particulate matter emissions "cannot be mathematically derived from the opacity of emissions," but added that such precision is not needed to utilize opacity as an element of periodic monitoring. Response to Comments at 25. Additionally, in defending its reliance on prior source test results on Reheat Furnace 4 as an indication of future compliance with the applicable PM_{10} limits, IEPA stated:

> While an emission test that shows compliance does not guarantee that emissions will not exceed an applicable limit in perpetuity, even when the particular test shows a large margin of compliance….such a test is nevertheless a strong indication of future compliance over the limited five-year term of a CAAPP permit. This is especially true in the absence of factors that would introduce significant variability into the emission rate of a unit, notably the performance of add-on control equipment. As such, as applied to [particulate matter] emissions of the reheat furnaces, which are not equipped with particulate control equipment, this observation in this comment is not of any particular value as related to the Monitoring requirements for these furnaces… Moreover, as all four reheat furnaces fire COG and natural gas and the testing of Furnace 4 showed compliance with applicable [particulate matter] standards with a substantial margin of compliance, the testing of Reheat Furnace 4 also eliminated support for a requirement for testing emissions of PM_{10} from Furnace 1, 2 or 3 during the term of this CAAPP permit.

Id. at 25-26.

Although one prior source test on an emission unit does not necessarily assure future compliance with emission limits, EPA believes that PM_{10} emissions from typical slab reheat furnaces result primarily from combustion of fuels in the reheat furnaces. Consequently, the types of fuels burned in the furnaces have a direct impact on the amount of PM_{10} emissions emitted by the furnaces. Pursuant to Condition 7.7.6(b) of the USGW permit, the slab reheat furnaces are only allowed to burn natural gas and COG as a fuel. Permit at 229. Because the USGW permit only allows combustion of gaseous fuels in the slab reheat furnaces, and since combustion of gaseous fuels generally results in lower PM_{10} emissions than liquid or solid fuels (*e.g.*, fuel oil or coal), EPA expects that future PM_{10} emissions from these units would be low compared to what

[13] IEPA provided data from the most recent emission testing for Reheat Furnace 4, in August 2010, which showed that measured particulate matter emissions were less than a fraction of the applicable standards, with a compliance margin of over 90 percent. Statement of Basis at 108, FN 124.

emissions would be if the units were allowed to burn liquid or solid fuels. It is thus reasonable for opacity observations to be used as a periodic monitoring tool for PM_{10} emissions from the slab reheat furnaces.

Without an established mathematical correlation between opacity and PM_{10} emissions, it is generally difficult to calculate a precise amount of PM_{10} emissions corresponding to a specific opacity level. However, IEPA has provided several reasons why a correlation is not necessary for these specific emission units, including the observed historical performance of these units, previous source test data, the absence of factors that would introduce significant variability into the PM_{10} emission rates (e.g., no add-on control equipment on any of the units), and the fact that the units will only burn gaseous fuels which generally results in low PM_{10} emissions. Response to Comments at 25. In its petition, the Petitioner has failed to demonstrate that the bases laid out by IEPA are unreasonable and that the prescribed monitoring for the slab reheat furnaces is inadequate to assure compliance with the PM_{10} limits. The Petitioner has not refuted IEPA's assertion that since the slab reheat furnaces only burn gaseous fuels, they are expected to have very low PM_{10} emissions relative to the applicable PM_{10} standard – at least over the five-year term of the permit.

The Petitioner has failed to provide an analysis to demonstrate how the required visible emissions monitoring is inadequate to assure compliance with the PM_{10} limit or is insufficient to yield reliable data from the relevant time period that is representative of compliance with the PM_{10} limit. For the above reasons, I deny the petition with respect to these monitoring claims.

III. The Revised Permit Fails to Respond to EPA's Order with Respect to Excess Emissions Associated with Startup, Breakdown, and Malfunctions.

The Petitioner's Allegations:

The Petitioner alleges that IEPA failed to correct deficiencies with the permit's startup, breakdown and malfunctions (SSM) provisions as directed by the 2011 Order. Petition at 17-24.[14] The Petitioner alleges that the revised permit authorizes USGW to operate in excess of emission limits during malfunctions or breakdowns, and to violate limits during startup, in advance of those events having occurred and without having received event-specific information required by the Illinois SIP. *Id*. at 17; 23 (citing 35 IAC § 201.262 and Conditions 7.2.5-4, 7.2.5-5.a, 7.3.5, 7.4.5-2.b.i.A, 7.4.5-2.b.ii.A, 7.5.5-2.b.i, 7.7.5.a, 7.10.3.i, and 7.10.3.j). The Petitioner alleges IEPA did not implement any of the permissible options directed by EPA in the 2011 Order; namely (1) explain how IEPA determined in advance that USGW had already satisfied

[14] The Petitioner generally alleges USGW failed to satisfy the SIP's startup, shutdown, and malfunction (SSM) provisions. We note that the SIP at 35 IAC §§ 201.261, 201.262, and 201.265 specifically contains provisions related to startup, breakdown, and malfunction.

the requirements of 35 IAC § 201.262; or (2) make changes to the permit to ensure that IEPA authorizations are granted only after receiving and considering factual support specific to each SSM event. *Id*. at 17-18 (citing the 2011 Order at 39-40).

Noting that IEPA disavowed having made any advance determinations that USGW has already satisfied the SIP's SSM requirements, the Petitioner alleges that IEPA made no material changes to the permit conditions, and instead IEPA emphasized the recordkeeping and reporting requirements it added to the revised permit. *Id*. at 18 (citing Statement of Basis at 36-38 and Response to Comments at 37-38). The Petitioner asserts that IEPA's interpretation of the permit's SSM conditions is inconsistent with the permit conditions themselves and with the underlying SIP provisions. *Id*. at 19. According to the Petitioner, most people reading the permit without the benefit of the Statement of Basis and Response to Comments would not reach the same conclusions as IEPA regarding the permit's SSM provisions. *Id*. at 20. The Petitioner alleges that the minor wording changes IEPA made to the permit seem only to reinforce the concern that IEPA has pre-approved emission violations during startup. *Id*. at 19. The Petitioner states that although IEPA removed the word "violation" from the malfunction conditions, the revised permit nonetheless pre-approves USGW's operation in excess of permit limits. *Id*. The Petitioner explains, "[b]ecause the permit is enforceable and the Statement of Basis and Response to Comments are not, the permit conditions that expressly authorize [USGW] "to violate" or "to operate in excess of" emission limits, are at best ambiguous - if not directly contradictory to IEPA's off-permit explanations." *Id*. at 20.

The Petitioner further alleges that despite IEPA's off-permit explanation of the nature of the advance authorization granted in the permit, IEPA did not follow the Illinois SIP procedures when it granted USGW advance permission to violate or operate in excess of permit limits during SSM events. *Id*. at 19-24. The Petitioner explains that USGW's application to continue operation during SSM events did not comply with the Illinois SIP since it did not provide all of the information required by the Illinois SIP, such as the anticipated quantities of emissions during malfunction or breakdown and the specific measures USGW would take to minimize the length and frequency of emissions during SSM events. *Id*. at 21-23 (citing 35 IAC §§ 201.261 and 201.262), and CAAPP permit application, Request to Continue Operation During Malfunction or Breakdown, Coke Quenching at 1. The Petitioner requests EPA to object to the revised permit and direct IEPA to revise the permit language to comply with the Act and the Illinois SIP. *Id*. at 24.

EPA Response:

The Petitioner has raised questions concerning whether IEPA is appropriately interpreting and implementing the SSM provisions of the Illinois SIP. EPA notes that at the time of the 2011 Order, IEPA had not presented an interpretation of its SIP at 35 IAC §§ 201.261 and 201.262 in

the USGW permit record. In responding to the 2011 Order, however, IEPA explained its interpretation of the provisions for malfunction, breakdown, and startup events in its SIP at 35 IAC §§ 201.261 and 201.262 regarding USGW's permit application and permit conditions. IEPA explained that the authorization provided during the permitting stage is not a pre-determination that the source's exceedances do not constitute a violation of the standards. [15]

As a preliminary matter, EPA believes that the permit conditions at issue are worded in a manner consistent with IEPA's stated interpretation of its SIP. Consistent with IEPA's interpretation, EPA notes that the Illinois SIP at 35 IAC §§ 201.261 and 201.262 allows the source to request advance permission to continue operation during startups and malfunctions and requires that such authorization must be obtained at the permitting stage. According to 35 IAC § 201.265, the granting of permission to operate during a malfunction or breakdown, or to violate applicable state standards during startup is a *prima facie* defense to an enforcement action. In keeping with the two-step process delineated by IEPA in its Statement of Basis and Response to Comments, the permit provides authorization for USGW to operate "in excess" or "in violation" of standards, but makes clear that such authorization "does not shield the Permittee from enforcement for any such violation and only constitutes a *prima facie* defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization." *See, e.g.,* Permit at 75. IEPA explained that "[g]enerally, these terms and conditions require efforts to minimize emissions as well as recordkeeping and reporting for malfunction, breakdown and startup events." Response to Comments at 38. The permit contains requirements for records of malfunctions or breakdowns. The permit conditions for the coke oven batteries, blast furnace operations, slab reheat furnaces, and boilers contain requirements to follow startup procedures, as well as recordkeeping and reporting requirements.

The Petitioner has demonstrated, however, that even accepting IEPA's interpretation of the SIP as a two-step process, USGW's application for authorization to emit in excess of the emissions limitations does not comply with the Illinois SIP at 35 IAC § 201.261(1) regarding the information required to be furnished in order to receive preauthorization to operate during startup, breakdown, and malfunction events. Accordingly, IEPA did not comply with the Illinois SIP at IAC § 201.262 regarding the standards for granting USGW advance permission to operate during startup, breakdown, and malfunction events.[16] Because the granting of approval to

[15] EPA notes that issues regarding whether the existing provisions in the Illinois SIP comply with the Act are outside the scope of the present review. EPA has entered into a settlement agreement which, among other matters, obligates EPA to respond to a petition for rulemaking from the Sierra Club concerning existing provisions in SIPs related to excess emissions from sources during periods of startup, shutdown, or malfunction that may be contrary to the Act and EPA's policies addressing such emissions. In addition to other matters, the Sierra Club petition referenced in the settlement agreement requests EPA to examine whether the regulations at 35 IAC §§ 201.261, 201.262 and 201.265 are consistent with the Act.

[16] IAC § 201.262 provides that permission shall not be granted to allow violation of the applicable state standards during startup unless the applicant has affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual startups and frequency of startups. USGW did not quantify

operate is contained within the permit's terms and conditions and such approval is dependent on the adequacy of the source's application for authorization, the Petitioner has also demonstrated that the permit's terms and conditions are flawed. The Petitioner has demonstrated that IEPA failed to follow its SIP where it approved an application that does not provide the specific information required by the SIP for approval to continue to operate during a malfunction or breakdown event and to exceed the applicable standard during a startup event. USGW's application did not comply with the plain language of the SIP's requirements for a request for permission because it did not include the required information regarding anticipated quantities of emissions, among other things. Therefore, I grant the petition with respect to the Petitioner's claim that the USGW application for permission to continue operations during startup, breakdown, and malfunction events did not include all of the information required by the Illinois SIP; consequently, I also grant the Petitioner's claim regarding the inadequacy of the permit's terms and conditions, insofar as they approved USGW's application for permission. IEPA may not, in accordance with the plain language of its SIP, grant permission to USGW to operate during startup, breakdown, and malfunction events absent an application from USGW that contains all of the information required by the Illinois SIP at IAC § 201.261(1) and IAC § 201.262, including anticipated quantities of emissions during malfunctions and breakdowns, and a full accounting of all measures undertaken to minimize startup emissions, duration of individual startups and frequency of startups.

IV. The Revised Permit Fails to Respond to EPA's Order to Include Applicable Requirements.

The Petitioner's Allegations:

The Petitioner alleges that IEPA has not adequately responded to the 2011 Order that granted the Petitioner's request to object with respect to IEPA's failure to include applicable requirements from four new source review permits in the initial title V/CAAPP permits. Petition at 24-25 (citing the 2011 Order at 3-5). The Petitioner claims the revised permit includes requirements from three of those permits, but does not include any requirements from the coke plant permit issued March 13, 2008, to Gateway Energy & Coke Company c/o SunCoke Company (Gateway). *Id*. at 24. The Petitioner alleges that IEPA did not address the Gateway coke oven permit in the Statement of Basis, except to state that it would be issuing a separate title V/CAAPP permit to Gateway for its coke oven plant at the USGW facility. *Id*. at 24-25.

startup emissions in their startup, breakdown, and malfunction application as required by IAC § 201.261(1). IEPA has not explained how it determined that USGW had affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual startups and frequency of startups.

The Petitioner specifically takes issue with "the interminable delay in issuing" a separate permit to Gateway for the operations it controls. *Id*. The Petitioner explains that it is now more than three years since IEPA issued a major new source review construction permit for Gateway, and two years since IEPA issued the initial title V permit for the several operations at USGW, yet IEPA has not even issued a draft title V permit for the Gateway coke oven plant. *Id*. The Petitioner claims IEPA made no commitment as to when such permit might be issued. *Id*. The Petitioner requests EPA to object to the permit and direct IEPA to promptly issue a title V permit for the Gateway coke oven plant, with specified deadlines for issuing the draft and final versions of that permit. *Id*

EPA Response:

In response to public comment on this matter, IEPA stated that Gateway will be issued a separate title V permit. Response to Comments at 48. IEPA stated that the title V permit that IEPA will eventually issue to Gateway will contain applicable requirements relative to that facility and need not be addressed in the permitting action for USGW. *Id*. Additionally, Condition 5.1.7 of the USGW permit provides that Gateway has elected to obtain a separate title V permit for its operations.

Permitting authorities may issue multiple title V permits to a single title V source so long as each facility's compliance obligations are clear, and so long as all applicable requirements are contained in a title V permit. *See In re: Shaw Industries, Inc., Plant No. 80, Dalton, Georgia Carpet Manufacturing*, Pet. No. IV-2001-9 (November 15, 2002), at 4-5; *In re: Shaw Industries, Inc., Plant No. 2, Dalton, Georgia Manufacturing*, Pet. No. IV-2001-10 (November 15, 2002), at 4-5; see also 40 CFR 70.2 ("*Part 70 permit* or *permit* (unless the context suggests otherwise) means any permit or group of permits covering a part 70 source that is issued, renewed, amended, or revised pursuant to this part."). [17] The Petitioner has not demonstrated that IEPA's plan to issue a separate CAAPP permit for Gateway is unreasonable, or inconsistent with previous EPA orders and guidance. Although in its 2011 Order EPA instructed IEPA to include in the USGW title V permit the requirements contained in Permit 06070020, the coke plant permit for Gateway, in responding to comments on this issue at that time, IEPA had not expressed its plan to issue a title V permit for Gateway. Therefore, it was reasonable at that time to require IEPA to include the requirements of the Gateway coke plant permit into the USGW title V permit. Concerning whether there has been an impermissible delay in issuing the Gateway title V permit, the Petitioner has not demonstrated that this is a deficiency in the permit at issue in this petition. The petition before EPA does not concern the Gateway title V permit,

[17] *See also* the following EPA memoranda: Steven Riva, Chief, Permitting Section, Air Programs Branch, Region 2, to Michael Rodburg, Esq., November 25, 1997; Cheryl Newton, Chief, Permits and Grants Section, Region 5, to Robert Hodanbosi, Chief, Division of Air Pollution Control, Ohio EPA , July 15, 1997; Matt Haber, Chief, Permits Office, Region 9, to Jennifer Schlosstein, November 27, 1996.

which has not been issued. Therefore, I deny the petition with respect to the Petitioner's claim that the USGW permit must include requirements from construction permits issued to Gateway.

V. CONCLUSION

For the reasons set forth above and pursuant to section 505(b)(2) of the CAA and 40 C.F.R. § 70.8(d), I hereby grant in part and deny in part the Petition dated August 16, 2011.

DEC -3 2012

Date

Lisa P. Jackson
Administrator