BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

IN THE MATTER OF:	)	
	)	PSD APPEAL NO. 09-04
POWER HOLDINGS OF ILLINOIS, LLC	)	

Notice

To:

Eurika Durr
Clerk of the Board
Environmental Appeals Board
U.S. Environmental Protection Agency
1341 G Street, N.W. Suite 600
Washington, D.C. 20005

David C. Bender
McGillivray Westerberg & Bender LLC
305 S. Paterson Street
Madison, Wisconsin 53703

Robert Kaplan
Regional Counsel
Office of Regional Counsel
U.S. Environmental Protection Agency,
Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604-3507

John J. Kim
Chief Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794-9276

Matthew Dunn
Chief, Environmental Enforcement Division
Office of the Attorney General
100 West Randolph Street, 12th Floor
Chicago, Illinois 60601

PLEASE TAKE NOTICE that I have today filed with the Clerk of the Environmental Appeals Board an original and five copies of Permittee's Response to Petition for Review on behalf of the Permittee, POWER HOLDINGS OF ILLINOIS, LLC, a copy of which is herewith served upon you.

Respectfully submitted by,

Patricia F. Sharkey
On Behalf of Power Holdings of Illinois, LLC

Dated: February 25, 2010

McGuireWoods LLP
77 West Wacker Drive
Suite 4100
Chicago, Illinois 60601-1818
(312) 750-8601
Illinois Attorney No. 6181113

Certificate of Service

I hereby certify that on the 25th day of February, 2010, I did send the following document entitled **Permittee's Response to Petition for Review** to the following persons:

Eurika Durr
Environmental Appeals Board
U.S. Environmental Protection Agency
1341 G Street, N.W. Suite 600
Washington, D.C. 20005
(Via Federal Express, Next Day Delivery)

Robert Kaplan
Regional Counsel
Office of Regional Counsel
U.S. Environmental Protection Agency
Region 5
77 W. Jackson Blvd.
Chicago, Illinois 60604-3507
(Via U.S. Mail)

John J. Kim
Chief Legal Counsel
Illinois Environmental Protection Agency
1021 N. Grand Avenue East
Springfield, IL 62794-9276
(Via U.S. Mail)

David C. Bender
McGillivray Westerberg & Bender LLC
305 S. Paterson Street
Madison, Wisconsin 53703
(Via U.S. Mail)

Matthew Dunn
Chief, Environmental Enforcement Division
Office of the Illinois Attorney General
100 West Randolph Street, 12th Floor
Chicago, Illinois 60601
(Via U.S. Mail)

By: Patricia F. Sharkey

McGuireWoods LLP
77 West Wacker Drive
Suite 4100
Chicago, Illinois 60601-1818
(312) 750-8601
Illinois Attorney No. 6181113

\10382419.1

BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In the Matter of:	
Power Holdings of Illinois, LLC	**PSD Appeal No. 09-04**

PERMITTEE'S RESPONSE TO PETITION FOR REVIEW

Patricia F. Sharkey
McGuireWoods LLP
77 West Wacker Drive
Suite 4100
Chicago, Illinois 60601
Direct: (312) 750-8601
Fax: (312) 849-3690
psharkey@mcguirewoods.com

TABLE OF CONTENTS

Page

TABLE OF CONTENTS
(continued)

Page

TABLE OF CONTENTS
(continued)

Page

TABLE OF CONTENTS
(continued)

Page

TABLE OF AUTHORITIES

Page(s)

CASES

STATUTES AND REGULATIONS

FEDERAL

STATE

POWER HOLDINGS EXHIBITS

1. Natural Gas Tariff, Permit Application Supplemental Information – Errata Submittal, December 31, 2008
2. New Source Review Workshop Manual – Draft 1990
3. EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program ("Johnson Memo")
4. Proposed Rule, Prevention of Significant Deterioration (PSD): Reconsideration of Interpretation of Regulations that Determine Pollutants Covered by the Federal PSD Permit Program
5. "Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule;" Proposed Rule
6. Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule
7. NSPS Municipal Landfill Gas
8. California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles; Notice

INTRODUCTION

Power Holdings of Illinois, LLC ("Power Holdings") properly applied for a Prevention of Significant Deterioration ("PSD") permit to construct a substitute or synthetic natural gas ("SNG") manufacturing facility ("Facility") in southern Illinois on October 18, 2007. Certified Index of Admin. Record ("Record"), #1. The Facility is designed to be capable of providing approximately 5% of the natural gas demand in Illinois and to co-generate electricity for its own operations and a small amount for sale to the grid. The Facility will produce SNG by gasifying coal. It is important to understand that coal will be used solely as a feedstock, not a fuel at the Facility. It is also important to understand that gasification is not a combustion process, and the Facility should not be confused with an Integrated Gasification Combined Cycle ("IGCC") power plant. In fact, the only fuel that will be combusted at the Facility[1] is a small amount of natural gas or SNG used to raise the temperature of some of the steam produced for co-generation and to provide the plant warm-up.

The Illinois Environmental Protection Agency ("IEPA"), acting as a delegate of the United States Environmental Protection Agency ("EPA"), published a notification of the draft permit and Project Summary (Pet. Ex. 4) and opened the public comment period on January 17, 2009. Record, #47, 50. A public hearing was held on March 3, 2009. The comment period closed on May 4, 2009. The final Permit was issued on October 26, 2009. Petitioner's Exhibit ("Pet. Ex.") 1. Sierra Club ("Petitioner") filed a Petition for Review of the Permit with the Environmental Appeals Board ("Board") on November 25, 2009. The IEPA submitted the Record to the Board on February 16, 2010.

[1] The design of the Facility results in very low emissions during normal operation. IEPA determined that the Facility is not a major source for Hazardous Air Pollutants (HAPS), and will not cause or contribute to violations of the National Ambient Air Quality Standards ("NAAQS"). Pet. Ex. 4 at 2. All emissions from this Facility will result in Ambient Air Quality impacts less than Significant Air Quality Impact Levels. Pet. Ex. 4 at 17-21.Air Emissions will not have an adverse impact on nearby Class I areas. Pet. Ex. at 4, Pet. Ex. 7 at 56.

IEPA properly issued this Permit pursuant to the Clean Air Act ("CAA") and the regulatory requirements specified in 40 C.F.R. 52.21 which are incorporated in the Illinois State Implementation Plan ("SIP") at 40 C.F.R. 52.738(b). The process by which the Permit was developed was fully consistent with all applicable procedural requirements. IEPA conducted a sound "top down" BACT analysis, selected the cleanest known fuel, and has imposed BACT emission limitations as well as extensive pollution control and operating conditions in the Permit. Moreover, IEPA prepared a thorough Project Summary (Pet. Ex. 4) and responded comprehensively to each of Petitioner's comments in a Responsiveness Summary (Pet. Ex. 7) which is 99 pages long, single spaced. Accordingly, the Permit satisfies all applicable substantive requirements under the PSD program.

Petitioner's allegations that IEPA erred in issuing this Permit are baseless. Although Power Holdings is providing a full discussion of each issue, Petitioner's four allegations can and should be rejected by the Board based on the Petition itself. As a threshold matter, two of Petitioner's four allegations of error, alleging that greenhouse gases ("GHGs") are regulated under the Illinois SIP and the CAA, respectively, and therefore must be considered in a PSD BACT analysis, must be summarily dismissed because they involve non-PSD pollutants which are not within the Board's scope of review in this case. A third allegation, alleging that fuel manufacturing emissions must be considered in the BACT analysis for the fuel combustion emission units, also must be dismissed summarily because this issue was not raised before the IEPA in the permitting process. Petitioner's fourth claim, concerning a non-substantive Flare Minimization Plan, can also be readily rejected based on a review of the relevant Permit conditions (Pet. Ex. 1 at 12-32) and well established Board precedent.

Because Petitioner has failed to allege claims which are properly before the Board and has otherwise failed to carry its burden of demonstrating clear error on the part of IEPA, the Petition must be denied.

SUMMARY OF ARGUMENTS

A. Petitioner contends:

IEPA committed clear error because the final permit fails to include the "flare minimization plans" that define best available control technology ("BACT") for gas flaring, because IEPA filed to subject those plans to the public participation process, and because the permit provides for off-permit modifications to those plans once they are developed.

Response:

Contrary to Petitioner's contention, the Power Holdings' Flare Minimization Plan ("FMP") does not define or otherwise constitute "BACT" for gas flaring under this Permit. As can be seen on the face of the Permit, the FMP contains no substantive BACT standards or requirements and does not provide an exception to any BACT standard or requirement established in the Permit. Therefore, the FMP was not required to be made available for review as a part of the Permit application.

BACT for the flares is detailed in the Permit in the form of BACT emission limitations, including both primary emissions limitations applicable during normal operation and secondary BACT emissions limitations applicable during startup, shutdown and malfunction events, extensive control equipment, work practices, ongoing flare minimization planning requirements, and monitoring and record keeping conditions of this Permit. The FMP is simply a planning document designed to reflect the ongoing flare minimization planning effort.

The FMP is intended to be a living document that will describe equipment and procedures based on the "as built" design of the plant and will record ongoing flare minimization

analysis once the plant is operating. It would defeat the purpose of the FMP under the Permit to require that it be prepared and submitted prior to issuance of the construction permit.

B. Petitioner contends:

IEPA committed clear error by allowing either "synthetic natural gas" or natural gas to be used to fire the "superheaters" at the plant, without addressing the additional emissions associated with synthetic natural gas manufacturing before firing in the superheaters.

Response:

As a threshold matter, this issue was not raised in comments before the IEPA and therefore is not reviewable by the EAB. IEPA responded to the comments that Petitioner did make by amending the Permit to limit the fuel that may be used in the superheaters to natural gas or its emission equivalent, synthetic natural gas ("SNG"). IEPA performed a "top down" BACT analysis and selected the cleanest fuels. However, Petitioner appears to ignore the clear language in the final Permit at Condition 4.2.2.a. Having had its initial "clean fuel" concern addressed, Petitioner now argues for the first time that IEPA failed to consider additional emissions associated with manufacturing SNG when evaluating BACT for the superheater combustion units. In the administrative record before the IEPA, neither Petitioner nor any other person raised this issue.

Even if this issue were reviewable, Petitioner has identified no authority in the CAA or EPA PSD program regulations for EPA or IEPA to consider the emissions associated with manufacturing a fuel when evaluating BACT for combustion units. The PSD program and BACT are based on the "potential to emit" of specific emissions units and sources. In Power Holdings case, the emissions associated with manufacturing SNG are accounted for elsewhere in the Permit. Consideration of the manufacturing "lifecycle" emissions of SNG at the point of combustion would effectively double count those emissions.

C. Petitioner contends:

IEPA committed clear error by refusing to ensure that carbon dioxide and methane emissions comply with 35 Ill. Admin. Code § 201.141, despite the requirement in 42 U.S.C. § 7475(a)(3) and 40 C.F.R. § 52.21(j)(1) that IEPA ensure compliance with all emission standards contained in the State Implementation Plan ("SIP").

Response:

The Board must dismiss this claim based on lack of jurisdiction. Because the approved Illinois SIP for the PSD program consists solely of the federal PSD regulations, the Board has no jurisdiction to review this Illinois state law claim. In fact, the Board has held that states such as Illinois that have been delegated PSD permitting authority, "stand in the shoes" of the U.S. EPA and cannot include a state regulation in their PSD permits without expressly stating that such regulation is not a federally enforceable PSD requirement. Therefore, it would have been error for IEPA to have treated 35 Ill. Admin. Code § 201.141 as an applicable PSD requirement in the Permit, and it would be error for the Board to review this Illinois law claim.

D. Petitioner contends:

IEPA committed clear error by failing to include BACT limits for carbon dioxide and methane emissions, both of which are pollutants subject to regulation under the Clean Air Act through the New Source Performance Standard ("NSPS") for landfills, EPA's approval of the Delaware State Implementation Plan, and through EPA's grant of the California Cars Waiver.

Response:

Because neither carbon dioxide nor methane are pollutants subject to regulation under the CAA, the EAB must dismiss this claim based on a lack of jurisdiction.

Following the Board's directive in *Deseret Power*, EPA on December 18, 2008 published a definitive administrative agency interpretation of national scope, known as the "Johnson Memo," finding that carbon dioxide, methane and other greenhouse gases are not subject to regulation under the Clean Air Act. As the Johnson Memo is established EPA interpretation

filling the void in the law identified by the EAB in *Deseret Power*, the carbon dioxide and methane are non-PSD gases and therefore are not subject to review by the EAB in a PSD permit appeal.

Furthermore, IEPA, as a delegate of EPA, is bound to interpret and implement the federal PSD program adopted pursuant to the CAA in the same manner as EPA would. Therefore, IEPA has no authority to regulate these non-PSD gases in Power Holdings' PSD permit.

None of the EPA regulatory and administrative actions cited by Petitioner resulted in "actual control" of greenhouse gas emissions under the CAA. Furthermore, EPA's interpretation was made in a manner that is consistent with all requirements of administrative law.

EPA has reaffirmed its interpretation in a number of administrative actions since December 18, 2008, including in its October 7, 2009 Proposed Rule upon reconsideration of the Johnson Memo in which EPA expressly stated that the Johnson Memo remains effective EPA interpretation to be applied by permitting authorities pending the reconsideration process.

STANDARD OF REVIEW

The Board does not ordinarily grant review of a permitting authority's final permit decision. *In re ConocoPhillips Co.*, PSD Appeal No. 07-02, slip op. at 11 (EAB June 2, 2008); *In re Amerada Hess Corp.*, 12 E.A.D. 1, 8 (EAB 2005); *In re Sutter Power Plant*, 8 E.A.D. 680, 686-87 (EAB 1999). The Board grants review only in very limited circumstances, where the permitting authority's decision is either (1) based on a clearly erroneous finding of fact or conclusion of law, or (2) involves an important matter of policy or exercise of discretion that warrants review. 40 C.F.R. § 124.19(a); *In re Zion Energy, L.L.C.*, 9 E.A.D. 701, 705 (EAB 2001); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 126-27 (EAB 1999) (*"Knauf I"*); *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764, 769 (EAB 1997). Indeed, the Board's power of review "should be only sparingly exercised." 45 Fed. Reg. 33,290, 33,412 (May 19, 1980);

Amerada Hess, 12 E.A.D. at 8. Rather, most permit conditions should be finally determined at the permit issuer's level. *Id.*; *Knauf I,* 8 E.A.D. at 127.

The petitioner challenging a permit must carry the heavy burden of demonstrating that review is warranted. *ConocoPhillips*, 13 E.A.D. ___ (EAB 2008), PSD Appeal No. 07-02, slip op. at 11; *In re Steel Dynamics, Inc.*, 9 E.A.D. 740, 744 (EAB 2001); *In re Sutter Power Plant*, 8 E.A.D. 680, 687 (EAB 1999); *See* 40 C.F.R. § 124.19(a); *AES Puerto Rico*, 8 E.A.D. at 328; *In re Hawaii Elec. Co.*, 8 E.A.D. 66, 71 (EAB 1998)." To obtain review, a petitioner must describe each objection it is raising and explain why the permit issuer's previous response to each objection was clearly erroneous or is otherwise deserving of review. *Amerada Hess*, 12 E.A.D. at 8; *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 252 (EAB 1999).

When the Board receives a petition to review a PSD permit, it begins its analysis by assessing the petitioner's compliance with a number of important threshold procedural requirements. The Board will determine whether the issues raised in the petition fall within the purview of the PSD program and are thus subject to the Board's jurisdiction. *In re Sutter Power Plant*, Id. at 685. As stated by the Board in *Sutter Power Plant*:

> Under the existing regulatory structure, the Board has jurisdiction to review issues directly related to permit conditions that implement the federal PSD program. *Knauf*, 8 E.A.D. at 161. As we have explained, "The PSD review process is not an open forum for consideration of every environmental aspect of a proposed project, or even every issue that bears on air quality.
>
> In fact, certain issues are expressly excluded from the PSD permitting process. The Board will deny review of issues that are not governed by the PSD regulations because it lacks jurisdiction over them."10 *Id.* at 127; *see id.* at 161–73 (denying review based on lack of jurisdiction to consider issues concerning hazardous or unregulated air pollutant impacts, use of landfill for waste disposal, emissions offsets, NEPA issues, opacity limits, and other issues); *Encogen*, 8 E.A.D. at 259–60 (no jurisdiction to consider acid rain, noise, and water-related issues). *Id.* at 688.

Furthermore, a petitioner must also show that "any issues being raised were raised during the public comment period," in order to demonstrate that an issue has been preserved for review. 40 C.F.R. §§ 124.13, 124.19(a); *Amerada Hess*, 12 E.A.D. at 8; *Encogen*, 8 E.A.D. at 249.

In the limited circumstances in which the Board grants review, the Board looks at whether the permit issuer based the permit on a clearly erroneous finding of fact or conclusion of law. 40 C.F.R. § 124.19(a)(1); *In re Deseret Power Elec. Coop.*, PSD Appeal No. 07-03, slip op. at 20 (EAB Nov. 13, 2008); *In re Dominion Energy Brayton Point*, LLC, 12 E.A.D. 490, 509 (EAB 2006); *In re Inter-Power of N.Y., Inc.*, 5 E.A.D. 130, 144 (EAB 1994). In addition, in its discretion, the Board may evaluate whether the permit issuer abused its discretion or may review important policy considerations. 40 C.F.R. § 124.19(a)(2); *Dominion*, 12 E.A.D. at 509; *Deseret*, Slip op. at 20, 14 E.A.D. _____; *see also, e.g., In re GSX Servs. of S. C., Inc.*, 4 E.A.D. 451, 454 (EAB 1992) (remanding permit based on abuse of discretion); *In re Chem. Waste Mgmt.*, 2 E.A.D. 575, 577 (Adm'r 1988) (granting review and remanding case to region based on policy considerations on issue involving region's exercise of discretion).

Furthermore, petitioners bear the burden of supporting their allegations and must include specific information supporting their allegations. *In re Sutter Power Plant*, 8 E.A.D. 680, 687 (EAB 1999). It is not sufficient simply to repeat objections made during the comment period; instead, a petitioner "must demonstrate why the Region's response to those objections (the Region's basis for its decision) is clearly erroneous or otherwise warrants review." Sutter Power Plant at 687; *In re LCP Chems.*, 4 E.A.D. 661, 664 (EAB 1993); *accord Encogen*, 8 E.A.D. at 251.

It is not enough for Petitioner in this case to simply argue that another interpretation of law is possible. Rather, Petitioner bears the burden of demonstrating that IEPA clearly erred in

its interpretation as reflected in the Permit, the Project Summary and the Responsiveness Summary. As is discussed below, applying its well-established standards of review, the Board must find that Petitioner has failed to allege claims which are properly before the Board and has otherwise failed to carry its burden of demonstrating clear error on the part of IEPA.

ARGUMENT

A. THE FLARE MINIMIZATION PLAN DOES NOT CONSTITUTE BACT AND IS NOT REQUIRED TO ASSURE COMPLIANCE WITH BACT IN THIS PERMIT. THEREFORE, IT IS NOT REQUIRED TO BE INCLUDED IN THE PERMIT AND SUBJECT TO PUBLIC REVIEW AND COMMENT.

The flares that will be utilized at the Power Holdings facility are both for plant safety and pollution control. During startup, shutdown and malfunction events, any gas formed in the gasification block must be exhausted because it cannot be fully processed into the end product. This gas is routed to the flare system to reduce emissions. It is important to understand that, unlike flares used at refineries and many other manufacturing facilities, the Power Holding's gasification plant flares will not be used to vent off-specification gas during normal operation. The only flare emissions allowed during normal operation are from the flare pilot lights.

There is no specific requirement in the 40 C.F.R. § 52.21 PSD regulations for on-going flare minimization planning. Indeed, this requirement has not been included in many PSD permits for facilities utilizing flares to reduce emissions. Including such a requirement in a permit for a facility that does not flare as a matter of normal operation, but only during startup, shutdown and malfunction, is particularly unusual.

The flare minimization planning requirement in this case supplements—indeed, goes a step beyond—the secondary BACT emission limitations that apply during startup, shutdown and malfunction events and the many other elements of the Permit designed to minimize startup and shutdown emissions and to reduce the possibility of system failures. It is a proactive directive to

continually analyze flare events with the goal of reducing the number of those events, but it is not a directive to establish new limits or standards. Most importantly, this planning process does not take the place of or in any way alter the continuous applicability of the flare BACT emission limits and the many other design, pollution control equipment, and work practice requirements in the permit.

Petitioner argues that the Flare Minimization Plan ("FMP") to be produced in this planning process is of "central importance to emissions and BACT limits" in the Power Holdings permit, and, therefore, must be made a part of the permit and subject to public notice and comment. (Pet. for Review 3.) Petitioner further argues that it is unlawful for the FMP to be updated and revised without public notice and comment. In support of its arguments, Petitioner contends that "EPA has long interpreted [its Part 124 regulations] to include a requirement that *substantive plans – especially those affecting emission limits and rates* – be included in the draft and final permit and that the public be given an opportunity to review and comment on those plans." Petition at 4 (emphasis added).

Power Holdings does not disagree with the basic premise that plans which are of "central importance to emissions and BACT limits" or that plans "affecting emission limits and rates" must be included in PSD permits and subject to public scrutiny. However, Petitioner's claim in this case is premised on the mistaken notion that the FMP in the Power Holdings permit "constitutes BACT," is of "central importance to emissions and BACT limits," or "affects emission limits and rates." This assertion is a mischaracterization of the Power Holdings FMP and can be dispelled based on a simple review of the Permit itself.

Unlike the cases that Petitioner cites in support of its contention, the Power Holdings Permit contains an extensive set of BACT design elements, control technologies, work practices,

and numeric primary and secondary emission limits to reduce flare emissions and events. These requirements apply continuously and are not affected by the additional requirement that Power Holdings also continue to try to reduce emissions even further after the construction permit is issued and the plant becomes operational. Indeed, the Power Holdings Permit includes precisely the type of substantive BACT limitations that were not present in the deficient permits and rules that were at issue in the cases cited by Petitioner.

Because the Power Holdings Permit itself contains the BACT requirements for the flares and the FMP does not replace or alter those requirements, the Petitioner and other members of the public have had a full opportunity to review and comment on IEPA's BACT determination for the flares.

1. A Review of the Power Holdings Permit Demonstrates That It Contains a Hard BACT Cap on Flare Emissions and a Thorough Set of Substantive Design and Operational Requirements of the Gasification Block and Associated Flares to Assure Compliance with the BACT Emission Limitations.

The Power Holdings Permit contains over 20 pages of detailed requirements pertaining to the design, control and operation of the flares and associated gasification block equipment, including both primary and secondary numeric BACT emission limitations and an extensive set of requirements designed to reduce foreseeable causes of startup, shutdown and malfunction events and associated emissions and thereby assure compliance with the normal operating and secondary BACT emission limitations. *See* Pet. Ex. 1 at 12-32.

Most significantly, unlike the permits and regulations in the cases cited in the Petition, the Power Holdings Permit contains both normal operating and secondary numeric emission limits for the flares–with the secondary BACT limits placing a hard cap on emissions during startup, shutdown and malfunction events.

Condition 4.1.6.b states:

The emissions from the affected units controlled by flares shall not exceed the following limits. The hourly limits shall apply on a 24-hour block average for pollutants for which continuous emissions monitoring is performed or otherwise on a 3-hour average. The annual limits shall take effect one year after the shakedown of the gasification block is complete.

Pollutant	Hourly Limits (Lbs/Hour)				Annual Limits (Tons/Year, total[a])
	Syngas Flares (combined)		Acid Gas Flares (combined)		
	Normal	Other[b]	Normal	Other[b]	
SO2	0.10	9,510.0	0.10	9,510.00	73.10
NOx	0.16	513.0	0.10	3.70	5.30
CO	0.20	1,279.0	0.10	0.10	18.80
VOM	0.02	105.0	0.01	0.74	1.20
PM	0.10	15.4	0.10	0.11	0.52
Sulfuric Acid Mist	0.02	71.0	0.02	95.0	1.46
Total Reduced Sulfur[d]	---	1.94	---	1.94	1.90
Methanol	---	6.30	---	1.60	0.10
Other Individual HAP[c]	0.01	0.01	0.01	0.01	0.06
Total HAP[s]	0.01	6.31	0.01	1.61	0.19

Notes

a. Total emission of all flares, including periods of startup, shutdown and malfunction or breakdown.

b. Operation during startup, shutdown and malfunction.

c. Individual HAP other than methanol.

d. Total Reduced Sulfur is the combination of hydrogen sulfide, carbonyl sulfide and carbon disulfide.

(Pet. Ex. 1 at 23-24.)

These limits were in the Proposed Permit which was subject to full public review and comment and were not challenged in the Public Comment Period nor are they challenged in the Petition in this appeal. Rather than challenge these limits, Petitioner ignores the very existence of the secondary BACT emissions limits and every other aspect of the very extensive permit

provisions addressing the flare system. Most significantly, Petitioner ignores the fact that these BACT standards cannot be changed by the FMP.

As can be seen from the very low normal emission limits in Condition 4.1.6.b, during normal operation the Power Holdings flares are not in service and the only emissions are from the natural gas pilot lights. As discussed above, this is very different from some operations, such as refineries, which flare off-specification gases as a part of normal operations. Both the emissions from normal operations and the emissions associated with startup, shutdown, and malfunctions (described as "other" in the table above) were included in the Air Emissions Modeling performed for this project which demonstrated that Total Facility Emissions, including Flares, will result in impacts below Significant Ambient Air Quality Impact Levels. *See* Responsiveness Summary, (Pet. Ex. 7 at 17-21).

To understand how comprehensively IEPA has regulated flare emissions under this Permit, Power Holdings believes it is worthwhile to review the many Permit conditions both directly regulating the flares and regulating gasification block activities to avoid emissions during startup and shutdown and to avoid malfunctions resulting in flare events. See Permit, pp. 12- 33. (Pet. Ex. 1).

Some of the Permit conditions affecting *facility design* which assure compliance with the numeric BACT emission limitations for the flares include the following:

- 4.1.1. Requiring low emission alcohol to be used as a start-up fuel, typically cleaning flared syngas prior to flaring, (Pet. Ex. 1 at 12, 13);
- 4.1.2.a.iv. Requiring automatic igniter devices for flare pilot lights, (*Id.* at 14);
- 4.1.2.b.i. Venting only to a flare, oxidizer or combustion device through a closed vent system, (*Id.*);
- 4.1.2.b.ii. Limiting the operating level of the gasifiers to actual working capacity for the gas processing trains, (*Id.*);

- 4.1.2.b.iii. Prohibiting flaring except during start-up, shutdown, or malfunction, (*Id.*)

- 4.1.2.b.iv. Requiring all acid gas streams to be processed in the sulfuric acid plant, (*Id.*);

- 4.1.2.b.v. Minimizing startup emissions by the use of natural gas to preheat a gasifier, use of alcohol during startup of a gasifier, and coordination of the startup and operation of the gas processing trains, (*Id.*);

- 4.1.2.b.vi. Requiring flares to operate in compliance with 40 C.F.R. § 60.18, (*Id.*);

- 4.1.2.b.vii. Requiring only natural gas to be used as fuel for flare pilot lights, (*Id.*);

- 4.1.2.d. Requiring that flare emissions not exceed hard cap hourly limits per 4.1.6 and setting "secondary" BACT hourly limits, (*Id.* at 15, 23, 24);

- 4.1.5-1. Placing numeric limits on fuel input, which has the effect of limiting flare emissions, (*Id.* at 16).

- 4.1.5-1.c. Requiring that each gas processing train be designed, equipped and maintained with an activated carbon bed for removal of mercury from the raw gas, (*Id.* 17).

- 4.1.8-1. Requiring installation of operational instrumentation for monitoring for the gasification block, (*Id.* at 26);

- 4.1.8-2. Requiring installation of operational instrumentation for monitoring for the affected flares, (*Id.* at 26-27) including:

    - Installation of continuous monitoring systems on each affected flare related to the discharge of process gas to a flare for specified parameters in accordance with NSPS, 40 C.F.R. § 60.107(a), i.e., total flow of process gas sent to the flare and H2S and CO content of the process gas sent to the flare;

    - Installation of a thermocouple or other equivalent device per 40 C.F.R. § 70.18(f)(2) for flare pilot flame monitoring;

    - Installation of continuous monitoring systems on each affected flare for the usage of pilot gas and purge gas; and

    - Installation of monitoring devices for continuous monitoring of the liquid level and pressure of the seal drum that serves each affected flare.

The Permit also includes many *operating conditions* to reduce the likelihood that flaring will occur and reduce the emissions associated with any necessary flaring:

- 4.1.7-1. Operational testing is required for the flares after startup, (Pet. Ex. 1 at 24);

- 4.1.8-1. Requires operational monitoring for the gasification block, (*Id.* at 26);

- 4.1.8-2. Requires operational instrumentation and monitoring for the affected flares, (*Id.* at 26, 27) including:

  - Operation and maintenance of the continuous monitoring systems on each affected flare related to the discharge of process gas to a flare for specified parameters in accordance with NSPS, 40 C.F.R. § 60.107(a), i.e. total flow of process gas sent to the flare and H2S and CO content of the process gas sent to the flare;

  - Flare pilot flame monitoring using a thermocouple or other equivalent device per 40 C.F.R. § 70.18(f)(2);

  - Operation and maintenance of the continuous monitoring systems on each affected flare for the usage of pilot gas and purge gas, with readings to be taken at least once every 5 minutes and the average hourly values to be recorded on an hourly and daily basis;

  - Continuous monitoring of the liquid level and pressure of the seal drum that serves each affected flare, according to the manufacturer's specifications and requirements;

  - Monitoring procedures for each affected flare addressing the required monitoring systems for the flare and the associated equipment in the gasification block, including detailed specified information.

- 4.1.9.c. Sampling and analysis every three years of the various gas streams that could be vented to the flares, (*Id.* at 28);

- 4.1.10.c. Detailed recordkeeping requirements for each flare event, including a description of the event, flare involved, cause and probable cause of the event,; confirmation that operating procedures were followed and flare functioned properly; amount and nature of gas vented and whether the gas exceeded specified limits, corrective actions taken during the event.; description of actions taken to prevent or reduce the likelihood of similar future occurrences, (*Id.* at 30);

- 4.1.11.a. and b. Detailed reporting requirements for each flare event, (*Id.* at 30, 31);

- 4.1.11.c. Periodic compliance reports, at least every 6 months, addressing each flaring event, (*Id.* at 31);

- 4.1.11.d. Annual reporting including extensive detailed discussions of flaring activity in prior year, including actions taken to reduce flaring and a listing of any changes made to the FMP, (*Id.* at 31, 32);

- 4.1.12. Monthly reporting during the shakedown period and for 12 months thereafter including activities accomplished and significant events related to emissions from the gasification block, (*Id.* at 32, 33).

The Permit also includes emissions associated with startup, shutdown and malfunction events, including flare events, in the summary of overall permitted emissions from the plant:

Attachment 1: Summary of the Permitted Emissions of the Plant (Tons per Year)

Pollutant	Gasification Block		Steam Super-heaters & Auxiliary Boiler	Startup Burners	Sulfuric Acid Plants	Cooling Tower	Storage Tanks[c]	Material Handling & Storage	Road-ways	Leaking Components	Engines	Total
	Normal[a]	Other[b]										
SO_2	96.6	73.1	3.8	0.1	342.4	----	----				0.2	516.2
NO_x	23.4	5.3	106.7	9.9	38.6	---	---	---	---	---	14.2	198.1
CO	532.5	18.8	121.9	5.0	75.7	---	---	---	---	---	3.1	757.0
VOM	8.01	1.20	15.4	1.0	2.4	1.3	----	---	---	2.5	1.2	33.0
PM	3.8	0.52	31.4	0.5	0.33	6.2	--	14.3	2.0	---	0.3	59.35
Sulfuric Acid Mist	0.05	1.46	----	---	14.4	---		---	---	---	---	15.91
Total Reduced Sulfur	0.43	1.90	---	---	2.4	---	---	---	---	---	---	4.73
Fluorides	0.10	---	---	---	---	---	---	---	---	---	---	0.10
Methanol	7.2	0.10	---	---	---	---	0.79	---	---	1.79	---	9.88
Other Indiv. HAPs[d]	1.14	0.06	4.4	0.1	0.44	---	---	---	---	---	0.60	6.74
Total HAPs	8.34	0.16	4.4	0.1	0.44	--	0.79	---	---	1.79	0.60	16.62

Notes:

a. "Normal" addresses stack emissions of the Gasification Block, including both the AGR Units and the flares, during periods other than startup, shutdown and malfunction.

b. "Other" addresses stack emissions during startup, shutdown and malfunction of the Gasification Block.

c. "Storage Tanks" addresses storage tanks for alcohol and for other organic materials (e.g., diesel fuel).

d. "Other individual HAPs" addresses individual HAPs other than methanol.

(*See* Pet. Ex. 1, Attach. 1 at 1-1.)

In addition to all of the above conditions, the Permit also requires the development of a SSM Plan (Permit Condition 4.1.5-2)[2] and *ongoing flare minimization planning* (Permit Condition 4.1.5-3) to be reflected in the FMP. The FMP must contain detailed information specified in the Permit, Condition 4.1.5-3a, including process flow diagrams, the specific location of various pieces of equipment, a detailed description of procedures to minimize flaring events, a general description of preventive maintenance procedures, details on the procedures for periodic evaluation of the flaring activity generally, and an evaluation of preventative measures to reduce the occurrence and magnitude of flaring, including evaluation in light of past flaring activity. Following shakedown of the gasification block, the Permit requires that additional information gleaned from actual operation be included in the FMP. In addition, the Permit requires review of the FMP on an annual basis and revision to keep it current and to reflect any changes in the operation of the gasification block.

Finally, the Permit requires Power Holdings conduct "event specific investigation or 'Root Cause Analysis' into each 'Flaring Incident'" and submit reports to IEPA for each Root Cause Analysis. (Pet. Ex. 1 at 21.)

As can be seen from the permit, the FMP is not "central" to BACT for the flares nor is it being relied upon to demonstrate compliance with the BACT emission limits or the many other conditions in the permit designed to ensure compliance. While ongoing flare minimization planning is a "best management practices" requirement, the FMP is simply a document designed to reflect that ongoing planning process. It does not contain any substantive requirements itself and cannot supersede any of the many substantive standards in the permit.

[2] The SSM Plan details the specific steps to be undertaken when a startup, shutdown or malfunction event occurs. (Notably, Petitioner has not challenged the SSM Plan required in this Permit.)

2. The Legal Precedents Cited by Petitioner Involve Entirely Different Permits and Plans and Do Not Support a Finding that the FMP in Power Holdings Permit Contains or Affects Substantive BACT Requirements.

As noted above, Petitioner has not challenged the secondary BACT emission limitations for the flares or any of the many substantive requirements for flare design and operation stated in the Permit. Petitioner's sole complaint is that the FMP was not included in the permit application and is subject to development and change in the future without public review.

Petitioner's argument hinges on the notion that the FMP is somehow of "central importance to emissions and BACT limitations" under this Permit. This is simply not the case. As stated above, the Permit in this case does not allow Power Holdings to exceed the specified numeric BACT limits, and the Permit contains an extensive set of design and operational requirements designed to assure compliance with those BACT limits, including provisions that minimize foreseeable flaring events.

Petitioner's mischaracterization of the Power Holdings Permit and the FMP is an attempt to fit a square peg in a round hole. As the Permit does not contain the deficiencies found in the permits in the cases cited, Petitioner ignores what is actually contained in the Power Holdings Permit. While not expressly saying so, Petitioner is actually asking the Board to *extend* its holdings in previous cases beyond the facts and rationale in those cases. Apparently, Petitioner would have the Board extend its prior holdings to *any type of plan* – whether substantive or not. Notably, Petitioner has not pointed to a single substantive requirement in the Power Holdings FMP.

The extension of the law requested by Petitioner is not required by either EPA's Part 124 regulations or the case law and EPA Administrative Orders the Petitioner cites. It's also not a good idea from the perspective of "good air pollution control practices." A broad limitation on future planning activities that do not operate in lieu of substantive standards would significantly

hamstring permitting authorities and PSD permittees in the implementation of many BACT requirements as well as discourage permittees from planning to further reduce emissions.

i. ***EPA's Part 124 regulations do not specify which documents must be included in the Administrative Record.***

Petitioner misstates the requirements of Part 124, asserting that various sections of Part 124, specifically 40 C.F.R. §§ 124.6, 124.10, 124.11, 124.7 and 124.8(4) collectively, require that a plan which is required to be produced under the terms of a permit must precede the permit and be made available for public review prior to permit issuance. As the IEPA Responsiveness Summary explains, this is simply a misreading of Part 124:

> 40 C.F.R. 124.10 merely addresses the availability of the administrative record relied upon by a permitting authority for the processing of a permit application. It does not specify that documents such as Flaring Minimization Plans for the proposed plant must be part of the record.

(Pet. Ex. 7 at 21.)

None of the various Part 124 regulations cited by Petitioner refer to particular information which must be included in the permit application or the final administrative record.

Moreover, Petitioner fails to cite Section 124.9, the one Part 124 regulation which actually discusses what the record for the draft permit must contain. This would be the same information that is required to be made available to the public prior to issuance of the permit. Section 124.9 states:

> (b) For preparing a draft permit under § 124.6, the record shall consist of:
>
> (1) The application, if required, and any supporting data furnished by the applicant;
>
> (2) The draft permit or notice of intent to deny the application or to terminate the permit;
>
> (3) The statement of basis (§ 124.7) or fact sheet (§ 124.8);

(4) All documents cited in the statement of basis or fact sheet; and

(5) Other documents contained in the supporting file for the draft permit.

Notably, Petitioner has failed to allege that any of this information was unavailable to the public at the time that the draft permit was issued. The Project Summary (Pet. Ex. 4), which is the "statement of basis" for the IEPA permit, was made available to the public together with the draft permit. While the Project Summary discusses the key elements of BACT for the flares, including work practices and secondary BACT emissions limits, *Id.* at 9-10, it does not discuss the FMP because, as is discussed below, the IEPA BACT analysis does not rely upon the FMP.

ii. *Power Holdings Permit fully complies with the requirements stated in the Board decision in In Re RockGen Energy Center.*

Petitioner mischaracterizes the Power Holdings permit when it asserts, "Like the startup and shutdown plan at issue in *RockGen*, the Flare Minimization Plan in this case *defines the BACT limits*..." Petition at 4. This statement is entirely untrue as can be seen on the face of the Permit. The IEPA properly responded to this mischaracterization in the Responsiveness Summary, saying:

> The circumstances and type of plan addressed by the EAB in *In re RockGen Energy Center* are different from the Flaring Minimization Plans that must be periodically prepared for the proposed plant. In that case, the Plan would have served as an exception to BACT limits set in the PSD permit.

(Pet. Ex. 7 at 21.)

Without pointing to any exception from the BACT limits set in the permit or any substantive requirement in the FMP, Petitioner asks that the Board blindly accept its bald contention that the Power Holdings FMP somehow "defines the BACT limits" for the flares and therefore contravenes the Board's holding in the *RockGen* case. In fact, the Power Holdings Permit contains exactly the provisions that the Board found were missing in the RockGen permit.

In that case, *In re RockGen Energy Center*, 8 E.A.D. 536 (EAB 1999), the Board reviewed a Wisconsin Department of Natural Resources ("WDNR") PSD permit that "allow[ed] RockGen to *exceed* the permit's emission limitations 'if the emissions are temporary and due to startup or shutdown operations carried out in accord with a plan and schedule approved by the Department.'" *Id.* at 551 (emphasis added). The Board remanded RockGen's permit and ordered the WDNR to issue a permit that looks like the IEPA-issued Power Holdings permit. *Id.* at 558.

The Board required that the WDNR revise the permit to:

> . . . specify and carefully circumscribe in the permit the conditions under which RockGen would be permitted to exceed otherwise applicable emissions limits and establish that such conditions are nonetheless in compliance with applicable requirements, including NAAQS and increment provisions. Under such circumstances, a secondary PSD limit may also be considered, provided it is made part of the PSD permit and justified as BACT.

Id. at 554.

As discussed above, the IEPA included *multiple permit conditions* designed to avoid and reduce flaring in the Power Holdings Permit and also included both normal operating and secondary *numeric BACT emission limits* for flaring. Furthermore, the Permit in this case provides *no circumstances under which Power Holdings will be permitted to exceed these emission limits*. (See Conditions 4.1.2, 4.1.2d, 4.1.6, Pet. Ex. 1 at 13-14, 23-24.). As the Board required in *RockGen*, IEPA reviewed the modeled emissions associated with the secondary BACT limits and found that they would not threaten compliance with applicable NAAQS or exceed Significant Air Quality Impact Levels. (Pet. Ex. 7 at 17-21.)

Petitioner's contention that there is something wrong with permit conditions that are designed to improve emissions over time, such as the Flare Minimization Plan requirements in Power Holdings Permit, is also at odds with the Board's express recommendation in the *RockGen* case that "the State may also require that once the facility is operational any permit

provisions designed to reduce emissions during startup and shutdown be refined over time so as to increase their efficiency and effectiveness." 8 E.A.D. at 554.

iii. *Hyperion Energy Center (U.S. EPA Region 8 , Nov. 14, 2008, Comments to South Dakota DENR on Draft PSD Permit) involved a substantive plan.*

In *Hyperion*, the permit at issue contained no secondary BACT limits, and relied entirely on a post-permit FMP to ensure compliance during flaring events. Referencing *RockGen* as the basis of its decision, Region 8 found that reliance on the post-permit planning document alone to assure compliance did not constitute BACT. (Pet. Ex. 6 at 7-9.) The Region expressed concern about potential emissions during malfunction flaring and potential impacts to the NAAQS:

> [R]egarding protection of NAAQS and increments, if some limit on emissions is needed to protect the NAAQS or increments (or put another way, if uncontrolled flare emissions could threaten NAAQS of increments), then those limits should be met at all times and any flaring above those values should be considered a violation.

(Pet. Ex. 6 at 8.)

Region 8's position in these comments is simply consistent with the Board's instruction in *RockGen*. Petitioner misconstrues the *RockGen* decision and these Region 8 Comments by essentially reading out of these decisions the very basis on which they rest. Nothing in these decisions applies to plans that do not stand in place of BACT limits and do not create any substantive BACT requirements, but rather simply implement the permit's BACT requirement for continuing review and planning. Such a construction would result in a plan that is carved in stone and cannot be improved upon in the light of experience. There is nothing in *RockGen* or these Region 8 Comments that requires such a result.

iv. *In the Matter of WE Energies Oak Creek Power Plant involved substantive plans.*

Petitioner's contention in its challenge to WE's Title V permit before the U.S. EPA Administrator was that various plans were relied upon to assure compliance and to define permit terms. *In re WE Energies Oak Creek Power Plant*, Order Granting In Part and Denying In Part Petition for Objection to permit at 2 (Adm'r, June 12, 2009) (Pet. Ex. 5). Regarding WE's Startup and Shutdown Plan, the Administrator found:

> "NR 436.03(2)(b) *exempts the facility from the opacity limit during startup and shutdown* if such operations are carried out in accord with a WDNR approved SSP. The SSP therefore contains information necessary to determine the applicability of, or the exemption from, the opacity limit. Because the SSP contains information needed to determine and impose the opacity limit, it must be included in the permit application pursuant to 40 C.F.R. 70.5(a)(2) and 70.5.(c).

Id. At 24-25 (emphasis added).

Regarding WE's Malfunction Prevention and Abatement Plan ("MPAP"), the Administrator found that because the *permit required compliance with a MPAP approved by WDNR*, the content of the MPAP is information necessary to impose this applicable requirement. Therefore, the Administrator concluded the MPAP must be in the Title V permit application pursuant to 40 § C.F.R. 70.5(c). In particular, the Administrator noted that the WE permit required an ESP inspection in accordance with an approved MPAP *"as a means of demonstrating and monitoring compliance with the PM limit."* *Id.* At 26. Similarly, for the WE quality control and quality assurance plan ("QCQAP"), the Administrator found that because the permittee was required by Wisconsin regulations to comply with a WDNR approved continuous

monitoring plan for carbon dioxide, the content of the QCQAP "is information necessary to impose these applicable requirements...."[3]. *Id.*

As is clear on the face of the Permit, the Power Holdings FMP is an entirely different type of plan – it is not a plan for operating *in lieu of* an otherwise applicable standard nor is it a means of determining compliance with a BACT limit in the Permit. The Permit does not require that the FMP be approved by the IEPA. This is consistent with the fact that the FMP does not establish, exempt from, or demonstrate compliance with any permit requirement. Rather, the FMP is a record of an ongoing planning process required by the Permit, which, like other records, is required to be developed in the future and maintained by the Permittee for agency review. *See* Permit Condition 4.1.5-2.c.ii, (Pet. Ex. 1 at 19.).[4]

v. *The Appellate Court Clean Water Act regulatory challenges referenced by Petitioner are equally inapposite to this case.*

Petitioner cites two judicial cases in support of its position that plans which "implement and define substantive requirements" must be included in the Permit and subject to public review. *See Waterkeeper Alliance v. EPA*, 399 F.3d 486, 500-04 (2d Cir. 2005) and *Environmental Defense Center, Inc. v. EPA*, 344 F.3d 832, 857-58 (9th Cir. 2003).

Once again, Power Holdings does not disagree with the holdings in these cases. But, like all of the other cases and administrative documents cited by Petitioner, these cases involve deficient permits and/or substantive plans.

---

[3] The WE case involved a Title V permit and plans that were deemed required under the Part 70 regulations, including Section 70.5(c)(5) which requires "Other specific information that may be necessary to implement and enforce other applicable requirements of the Act or of this part or to determine the applicability of such requirements." There is no parallel requirement in Section 52.21 addressing the content of applications for Title I PSD construction permits. Even if there were a parallel provision, the Power Holdings FMP does not implement, enforce, or determine the applicability of any substantive BACT requirement.

[4] The fact that the FMP is not required to be produced (and actually cannot be produced) prior to issuance of the PSD construction permit, does not mean that it will never be subject to IEPA and public review. In Condition 4.1.5-3.c.i of the Permit, the Illinois EPA has required that an initial version of the FMP be submitted to Illinois EPA 90 days prior to initial startup of the gasification block. This assures that the FMP will be available for public review and comment prior to issuance of the Power Holdings' Title V Operating Permit.

The *Environmental Defense Center* case involved a challenge to an EPA general permitting regulation issued under the Clean Water Act that allowed for the issuance of Notices of Intent that effectively operated as permits without opportunity for public participation. 344 F.3d at 857-58. In contrast, the Power Holdings Permit and the supporting BACT analysis, modeling and response to comments were all fully available for public review and comment.

In *Waterkeeper Alliance*, a group of petitioners challenged an EPA Clean Water Act rule that allowed NPDES permits to be issued with no numeric limits and required permittees to develop substantive requirements in "nutrient management plans" that were not subject to agency or public review. 399 F.3d at 500-04. In stark contrast, the Power Holdings Permit includes all of the BACT requirements applicable to the permittee, including numeric emission limits, which are continuously effective under the permit and entirely unaffected by the FMP at issue in this case.

Although not raised by the Petitioner in this case, another more recent and more relevant Appellate Court decision, *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008), reached a similar conclusion based on the same fundamental reasoning. In that case, the D.C. Circuit struck down an EPA rule that relieved permittees from compliance with otherwise applicable Section 112 emission limitations during startup, shutdown and malfunction situations. In lieu of compliance with the otherwise applicable Section 112(h) emissions limitations, the EPA regulations allowed a demonstration of compliance with a general duty to "minimize emissions." The court found that compliance with this general duty did not obviate the need to demonstrate *continuous compliance* with applicable emission limitations. *See* CAA § 302(k); 42 U.S.C. § 7602(K).

Applying the standard articulated by the D.C. Circuit, the Power Holdings Permit assures "continuous compliance" by placing secondary BACT numeric limits on emissions during flare

events. The Power Holdings FMP is not akin to other plans or standards, such as the Nutrient Management Plan in *Waterkeeper*, the SSM Plan in *RockGen*, the FMP in *Hyperion*, the various plans in *WE*, or the SSM plans in *Sierra Club*, all of which were designed to control or minimize emissions *in lieu* of compliance with numeric emission limits. In contrast, the Permit's BACT numeric emission limits are continuously applicable. The flare minimization planning and the FMP in the Power Holdings Permit do not establish an exemption or an alternative BACT standard.

3. Flare Minimization Planning, as Prescribed by This Permit, Cannot Be Performed Prior to Final Plant Design and Is Intended To Be an Ongoing Activity That Incorporates Actual Operational Experience.

In the Responsiveness Summary, IEPA responded to the contention that the FMP should be developed now, when the plant is in the design stage, since minimization of flaring is not only an operational issue. (Pet. Ex. 7 at 22.) IEPA explained:

> The permit properly addresses Flare Minimization Planning as an activity that occurs after the design and construction of the plant is complete, when the proposed plant begins operation and thereafter. The permit also includes other provisions that address the development and design of the plant to prevent and minimize flaring....
>
> Moreover, flaring Minimization Planning, as addressed by this comment, is an activity that cannot be conducted at this time. First, the detailed design of the plant, which would be necessary for the preparation of the initial Flaring Minimization Plan, has not yet occurred. In addition, the Plan addresses operation and maintenance procedures, which while important to the prevention of flaring, cannot be prepared until after the plant is designed and equipment is selected. Accordingly, the permit addresses requirements or specifications that the plant will have to meet. Then, as routine flaring is not allowed by the permit, the focus of Flaring Minimization Planning is to track and address flaring events that could not be foreseen and addressed during the construction and development of the proposed plant. It is inherent that such events will be identified by their actual occurrence and must then be addressed on an event-specific basis.

(Id.)

Addressing why detailed design plans cannot be prepared prior to permitting, IEPA explained:

> As this permit for the proposed plant identifies applicable requirements and sets BACT, this permit and associated permitting process address the 'specifications' that the plant must be designed to comply with. The detailed, engineering design of the plant will be conducted to meet those specifications. Given the magnitude and nature of this project, it is not practical to design the proposed plant before the specifications for the plant are established with the issuance of a construction permit for the plant.

(Pet. Ex. 7 at 22, n.40.)

There are three fundamental reasons that production of the FMP prior to issuance of the PSD permit is not possible if it is to meet its intended purpose. First, since the requirements specified for the FMP in the Permit are not stated in any regulation, Power Holdings could not prepare the FMP until the Permit was actually issued and those permit conditions were known. Second, in order for the FMP to provide more detail than the design features and operational procedures stated in the permit, a detailed "as built" design is required. As IEPA points out, the permit dictates many design details. Thus, the detailed design cannot be produced until the permit requirements are established in the final construction permit. Third, some of the information to be included in the FMP can only be obtained after facility operation commences.

It is hard to imagine how Power Holdings could provide useful process flow diagrams, equipment locations, personnel assignments, or more specific procedures to achieve flare minimization than those already specified in the above referenced Permit conditions *before* the detailed facility design is complete. It's also impossible to evaluate and learn from actual flaring events before the plant is operational. Moreover, to require that highly specific facility information and procedures be projected several years in advance of the facility having an "as

built" design and being ready to commence operation runs the risk of resulting in an FMP that fails to achieve its function of accurately reflecting the actual plant and its operations.

The continuing review of flare minimization practices is a part of the Permit requirement for "good air pollution control practices." (Pet. Ex. 1 at 14-15.) The FMP is designed to be a "living document" reflecting those "good air pollution control practices." While the planning process is a permit requirement, the written plan itself is a *planning tool* for continually evaluating flaring events, not a rigid set of independent requirements or a protocol for demonstrating or ensuring compliance. A future planning process is particularly appropriate and desirable in the context of a construction permit for a new facility, such as Power Holdings, where the detailed facility design is still in progress and there is no history of operations.

B. PETITIONER FAILED TO RAISE THE ISSUE OF INCLUDING MANUFACTURING EMISSIONS IN THE BACT REVIEW OF CLEAN FUELS BEFORE IEPA, THEREFORE THIS ISSUE WAS NOT PRESERVED FOR BOARD REVIEW. FURTHERMORE, IEPA PROPERLY REQUIRED THAT THE CLEANEST COMBUSTION FUEL BE USED.

1. Description of Superheaters

Power Holdings' primary product is synthetic natural gas ("SNG"), also referred to as "substitute natural gas." Power Holdings will also co-generate electricity by collecting the "waste" heat energy from the gasification process and converting that energy to steam. The steam from one of the many heat recovery steam generators at the facility may not be produced at a high enough temperature to be directly used for co-generation. If needed, the superheaters will be used solely for the purpose of raising the temperature of that relatively small volume of steam. These emissions represent only 3% of the total Facility emissions.

The final Permit expressly limits the fuel to be used at the superheaters to natural gas and SNG. (Pet. Ex. 1 at 34; Pet. Ex. 7.) The Permit also requires use of a Selective Catalytic Reduction (SCR) system to even further reduce emissions from the superheaters. See Permit,

Conditions 4.2.2, (Pet. Ex. 1 at 34). Finally, total emissions from the superheaters are subject to a limit based on calculations for natural gas. See Permit (Pet. Ex. 1 at 35, ¶ 4.2.2.c and 37-38, ¶ 4.2.6.a).

As explained by the Illinois EPA in the Responsiveness Summary, Power Holdings' SNG final product will be cleaned-up in Power Holdings' gasification process to constituent levels which are equivalent to and even purer than natural gas. *Responsiveness Summary*, p. 30, Ftnt 59 It is uncontested that SNG and natural gas are chemically equivalent. Both are essentially methane --CH4, and commercially interchangeable. While methane is methane whether it is produced synthetically or extracted from the ground, SNG is actually cleaner than natural gas because the gasification process produces *purer* SNG which does not contain the trace levels of naturally occurring constituents found in geologic natural gas formations. SNG is also required to meet Pipeline Quality Standards and Terms and Conditions[5] to be sold and distributed through the same pipelines as natural gas.

2. The Petitioner Failed to Raise the Issue of Including Manufacturing Emissions in the BACT Review of Clean Fuels for the Superheaters Before IEPA, Therefore This Issue Was Not Preserved for Board Review.

Petitioner's original comment before IEPA was that IEPA had not reviewed the combustion emissions associated with various alternative fuels, i.e., biomass, syngas, SNG and natural gas. *Petitioner Comments* (Pet. Ex. 2 at 38-39). The question regarding the "relative cleanliness of potential fuels for combustion sources" was fully answered in the Responsiveness Summary. Responsiveness Summary (Pet. Ex. 7 at 29-30)

Significantly, in the Petition, Petitioner is no longer questioning the chemical equivalency or combustion emission equivalency of SNG and natural gas. In fact, Petitioner concedes SNG's

[5] See Permit Application, Supplemental Information – Errata Submittal, Dec. 31, 2008, Item XX, Natural Gas Tariff. Record at #31. (Power Holdings Ex. 1).

equivalency and now argues that its real concern is not combustion emissions from SNG, but emissions associated with the manufacturing of SNG:

> IEPA justifies use of either "natural" natural gas (NG) or synthetic natural gas (SNG) "because the properties of SNG as related to emission, i.e. heat content, sulfur content and ash content of SNG, are an must be essentially identical to those of natural gas. Response to Comments (Ex. 7) at 30. *It is clear from this discussion, the context, and IEPA's footnote 59 that IEPA is referring only to emissions from combustion of NG compared to SNG in the superheaters. However, emissions from combustion in the superheaters are not the only emissions associated with SNG.* Using SNG in the superheaters requires manufacturing SNG for the superheaters, which in turn results in additional emissions at the Power Holdings facility…IEPA's analysis failed to account for the additional emissions related to SNG manufacturing when comparing the relative emission profiles."

(Pet. at 8-9.) (emphasis added)

After referencing IEPA's clear explanation of the equivalency of natural gas and SNG, Petitioner makes the leap to assert that IEPA's analysis failed to account for the additional emissions related to NSG manufacturing when comparing the relative emission profiles. Petitioner is arguing for the *first time* that a proper BACT analysis for the superheater conbustins units should have considered not only the criteria pollutants in combustion emissions, but also the criteria pollutants emitted during the manufacture of SNG. This is essentially an argument that a BACT analysis must consider the "lifecycle" emissions of a clean fuel. Petitioner has pointed to no legal support for this assertion and, indeed, as is discussed in Section 5 below, this construction of the BACT requirement is inconsistent with EPA interpretation and the very structure of the CAA NSR program.

Quite apart from the merits of its BACT "manufacturing emissions" contention, Petitioner failed to raise this issue at any time prior to the filing of this Petition. Nor did any other party make this argument before IEPA. Although Petitioner made comments regarding

clean fuels, including comments on natural gas, fuel oil, landfill gas,, and biomass, neither Petitioner nor any other person alluded to emissions associated with the production of any of these fuels.

Failure to raise an issue before the permitting authority precludes consideration of that issue on appeal to the Board.

> The regulations require any person who believes that a permit condition is inappropriate to raise 'all reasonably ascertainable issues and ...all reasonably available arguments supporting [petitioner's] position' during the comment period on the draft permit. 40 C.F.R. 124.13. That requirement is made a prerequisite to appeal by 40 C.F.R. 124.19(a), which requires any petitioner to 'demonstrate that any issue being raised [was] raised during the public comment period...to the extent required[.]

In re ConocoPhillips Co., PSD Appeal No. 07-02, slip op. at 44 (EAB, June 2, 2008). *See also In re Christian County Generation, LLC*, PSD Appeal No. 07-01, slip op. at 11-19(EAB, Jan. 28, 2008); *In re BP Cherry Point*, 12 E.A.D. 209, 218-20 (EAB 2005); *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 249 (EAB 1999).

As stated by the Board in *ConocoPhillips*:

> To allow Petitioners to raise this issue at this stage would frustrate the Agency's important policy of ensuring predictability, efficiency , and finality in the permitting process by allowing the permit issuer the opportunity to address objections to the permit in the first instance.

Slip op. at 50.

The only reference in the record to "lifecycle emissions" is in a chart in Petitioner's May 2009 comments purporting to depict lifecycle *GHG emissions* of various fuels, not criteria pollutants, and several comments at the public hearing addressing lifecycle emissions of CO2. *Petitioner Comments* (Pet. Ex. 2 at 9); *Transcript* (Pet. Ex. 3 at 59, 76, 118). This chart did not depict or reference any other pollutants. Moreover, as thoroughly discussed by IEPA and addressed in this Response, GHG are not subject to regulation under the CAA and thus not required to be reviewed as a part of EPA's BACT analysis. Further, this chart appears to be

based on emissions from a theoretical IGCC power plant and does not reflect the very different nature of the Power Holdings' Facility which produces as its primary product a natural gas substitute, not electricity.

Even regarding GHGs, Petitioner failed to raise this issue with sufficient specificity to require an IEPA response. *ConocoPhillips*, slip op. at 45 ("Issues also must be raised with a reasonable degree of specificity and clarity during the comment period in order for the issue to be preserved for review.") (citing *Shell Offshore*, slip op. at 53 n.55; *In re New England Plating Co.*, 9 E.A.D. 726, 732 (EAB 2001); *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 230-31 (EAB 2000); *In re Maui Elec. Co.*, 8 E.A.D. 1, 9 (EAB 1998); *In re Fla. Pulp & Paper Ass'n*, 6 E.A.D. 49, 54-55 (EAB 1995)). Petitioner's single GHG chart does not meet this standard.

SNG manufacturing emissions, which Petitioner now believes must be included in a proper BACT determination, were never mentioned in Petitioner's comments and are not identified anywhere in this chart. Furthermore, the GHG lifecycle emissions comparison purported to be made in this chart is unsupported by any data or calculations, misleadingly cites a report that does not contain the chart or the assumptions underlying the chart, fails to provide enough information to allow for a determination of the accuracy of the comparison, and, in any event is inapplicable to Power Holdings facility.

3. Even If Petitioner Had Raised and Preserved the Issue of the Manufacturing Lifecycle Emissions of the SNG to be Used at the Superheaters, Lifecycle Emissions Are Not Considered in Establishing BACT in a PSD Permit.

Petitioner points to no statute, no EPA regulation or guidance, and no Board or judicial case law as authority for its claim that emissions generated during the production of Power Holdings' SNG must be considered in determining BACT for the superheater fuel combustion units. In fact, neither the Clean Air Act's Title I, EPA's PSD regulations in 40 C.F.R. § 52.21, nor EPA's guidance in its New Source Review Workshop Manual Draft 1990 ("NSR Manual")

refer to or otherwise contemplate the consideration of lifecycle emissions in BACT analyses or any other part of the NSR program.[6] Clearly, the burden is on the Petitioner to support this novel interpretation and it has not even attempted to do so.

The assertion that a permitting authority must consider a fuel's lifecycle emissions in a PSD permit BACT analysis not only has no legal precedent, it is also inconsistent with the structure of the New Source Review program. The PSD program is triggered based on defined emission sources and thresholds, including definitions of "major emitting facility," "major stationary source," "stationary source," "potential to emit," "emission unit," and "significant." 42 U.S.C. § 7479(1); 40 C.F.R. § 52.21(b)(1), (4),(5),(7) and (23). These terms have never been interpreted to include lifecycle emissions associated with the on-site or off-site production of raw materials or fuels; rather, these terms and the PSD program focus on the "rate of emissions" from any "buildings, structure, facility or installation" associated with individual "emission units" and the facility-wide collection of those emission units. A BACT analysis similarly focuses on feasible emission standards or, alternatively, "design, equipment, work practices, operational standards, or a combination thereof," for "a particular emissions unit" and limits its comparison of alternative control technologies to those which are available for that emission unit. 40 C.F.R. § 52.21(b)(12).

The NSR Manual clearly articulates this unit specific approach and provides no support for Petitioner's novel attempt to insert broader lifecycle emissions into what is already a very complex process. *NSR Manual* (Power Holdings Ex. 2 at B.4-B.5).

[6] The only federal requirement for considering lifecycle emissions emanates from the 2007 Energy Independence and Security Act, which directs EPA to determine the lifecycle GHG footprint of various renewable fuels required to be sold or introduced into commerce in the United States annually. This requirement is decidedly narrow, focuses solely on GHG emissions, and does not constitute or affect regulation of GHG emissions under the CAA. *See* Act, § 202(a)(1).