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

In re:	)	
Sumas Energy 2 Generation Facility	)	PSD Appeal Nos. 02-10 & 02-11
PSD Permit No. EFSEC/2001-02	)	

ORDER REMANDING IN PART AND DENYING REVIEW IN PART

I. *INTRODUCTION*

The Province of British Columbia, Canada and Environment Canada[1] have filed petitions for review of a Prevention of Significant Deterioration ("PSD") permit issued jointly by U.S. EPA Region 10 (the "Region") and the State of Washington's Energy Facility Site Evaluation Council ("EFSEC") on September 6, 2002.[2] The permit would allow the construction and operation of an electrical generating facility in Sumas, Washington, near the Canadian border. EFSEC and the Region share responsibility for implementing the federal PSD regulations in the

[1] Environment Canada is the Canadian Federal Government's environmental protection agency.

[2] The EFSEC has provided the Board with relevant portions of the administrative record. Exhibits contained in this record will be cited as follows: "EFSEC Record, Exh. ___."

State of Washington pursuant to a delegation agreement.[3] For the reasons stated below, we remand in part and deny review in part.

II. BACKGROUND

A. *Statutory and Regulatory Background*

The Clean Air Act ("CAA") established the PSD program to regulate air pollution in certain areas, known as "attainment" areas, where air quality meets or is cleaner than the national ambient air quality standards ("NAAQS"),[4] as well as unclassifiable areas that are neither "attainment" nor "non-attainment." CAA §§ 160-169, 42 U.S.C. §§ 7470-7479.[5] The statutory

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[3] Under the delegation agreement with the Region, the State has primary responsibility for implementing the federal PSD program. Since the State acts as EPA's delegate, the permit is considered an EPA-issued permit and is subject to review by this Board. *See In re Three Mountain Power, LLC,* PSD Appeal No. 01-05, slip op. 3 n.1 (EAB, May 30, 2001), 10 E.A.D. ___; *In re W. Suburban Recycling & Energy Ctr., L.P.*, 6 E.A.D. 692, 695 n.4 (EAB 1996) ("For purposes of part 124, a delegate State stands in the shoes of the Regional Administrator [and must] follow the procedural requirements of part 124. * * * A permit issued by a delegate is still an 'EPA-issued permit' * * *.") (quoting 45 Fed. Reg. 33,413 (May 19, 1980)). However, under the delegation agreement, the Region has retained authority over the nitrogen dioxide ("NO_2") increment. Thus, when PSD permits are issued for major sources of nitrogen oxides ("NO_X), EFSEC and the Region issue PSD permits jointly. *See* Agreement for Partial Delegation of the Federal PSD Program by the United States Environmental Protection Agency (EPA) to the [EFSEC], Exh. 1 to EPA Region 10's Response to Environment Canada's and British Columbia's Petitions for Review.

[4] The NAAQS are "maximum concentration 'ceilings'" for particular pollutants, "measured in terms of the total concentration of a pollutant in the atmosphere." U.S. EPA Office of Air Quality Planning & Standards, New Source Review Workshop Manual (1990) at C.3. NAAQS have been set for six criteria pollutants: sulfur oxides, particulate matter, NO_2, carbon monoxide (CO), ozone, and lead. 40 C.F.R. §§ 50.4-.12.

[5] Areas may also be designated as "nonattainment," meaning that the concentration of a pollutant in the ambient air exceeds the NAAQS for the pollutant. CAA § 107(d)(1)(A)(ii), 42 U.S.C. § 7404(d)(1)(A)(ii). The PSD program is not applicable, however, in nonattainment areas. *See* CAA § 161, 42 U.S.C. § 7471.

PSD provisions are carried out through a regulatory process that requires preconstruction permits for new major stationary sources, such as the proposed facility in Sumas, Washington. *See* 40 C.F.R. § 52.21.

Applicants for PSD permits must demonstrate, through analyses of the anticipated air quality impacts associated with their proposed facilities, that their facilities' emissions will not cause or contribute to an exceedance of any applicable NAAQS or air quality "increment." CAA § 165(a)(3), 42 U.S.C. § 7475(a)(3); 40 C.F.R. § 52.21(k)-(m).[6] In addition, the CAA and the PSD regulations require, among other things, that major new stationary sources employ the "best available control technology" ("BACT") to limit emissions of certain pollutants. CAA § 165(a)(4), 42 U.S.C. § 7475(a)(4); 40 C.F.R. § 52.21(j)(2). BACT is defined in the PSD regulations as follows:

> [BACT] means an emissions limitation * * * based on the maximum degree of reduction for each pollutant subject to regulation under [the] Act which would be emitted from any proposed major stationary source * * * which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source * * * through application of production processes or available methods, systems, and techniques * * * for control of such pollutant.

40 C.F.R. § 52.21(b)(12.). As the Board has noted on prior occasions, "the requirements of preventing violations of the NAAQS and the applicable PSD increments, and the required use of BACT to minimize emissions of air pollutants, are the core of the PSD regulations." *In re Hillman Power Co.*, PSD Appeal Nos. 02-04, 02-05, and 02-06, slip op. at 6 (EAB, July 31,

[6] Air quality increments represent the maximum allowable increase in a particular pollutant's concentration that may occur above a baseline ambient air concentration for that pollutant. *See* 40 C.F.R. § 52.21(c) (increments for six regulated air pollutants).

2002), 10 E.A.D. ___ (quoting *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 247 (EAB 1999); *see also* U.S. EPA Office of Air Quality Planning & Standards, *New Source Review Workshop Manual* (draft Oct. 1990) ("NSR Manual").

The NSR Manual sets forth a "top down" process for determining BACT for a particular regulated pollutant. The process includes five steps: (1) identifying all "available"[7] control options for a particular regulated pollutant; (2) analyzing the control options' technical feasibility and eliminating "technically infeasible" options;[8] (3) ranking feasible options in order of effectiveness for the pollutant under review; (4) evaluating the energy, environmental, and economic impacts; and (5) selecting the most effective control alternative not eliminated in step four as BACT. NSR Manual at B.5-.9; *see In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 129-31 (EAB 1999) (expounding on steps in top-down analysis).

[7] Here the term "available" is defined to mean "those air pollution control technologies or techniques with a practical potential for application to the emissions unit and the regulated pollutant under evaluation." NSR Manual at B.5.

[8] This step involves first determining for each technology whether it is "demonstrated," that is, installed and operated successfully elsewhere. NSR Manual at B.17-.18. A control technology that is "demonstrated" for a given type or class of sources is assumed to be technically feasible unless source-specific factors exist and are documented to justify technical infeasibility. *Id*. at B.21. If a technology is not "demonstrated," then it will be deemed technically feasible only if it is "available" and "applicable" to the equipment under consideration. *Id*. The term "available" in this context is used to refer to whether the technology is commercially available. *Id*. at B.17. An available technology is considered "applicable" if it can be installed and operated on the source type under consideration. *Id*.

B. *Factual Background*

On January 4, 1999, Sumas Energy 2, Inc. ("SE2") submitted a permit application for construction and operation of a 660-megawatt electrical generating facility in Sumas, Washington, about one-half mile south of the U.S.-Canadian border. As originally proposed, the facility would be fueled by both natural gas and diesel fuel. Following the rejection of its initial application, SE2 submitted a revised permit application on June 29, 2001. Under the revised application, the facility would be fueled exclusively by natural gas. EFSEC issued a preliminary approval of the PSD permit on September 28, 2001, and sought public comments. Public hearings were held on October 30, 2001, in Everson, Washington, and on November 1, 2001, in Bellingham, Washington. The public comment period closed on November 1, 2001. EFSEC and the Region issued the final PSD permit on September 6, 2002. EFSEC issued a response to public comments on the same date.

The area in which the facility is to be located is designated as attainment with regard to all pollutants regulated by the NAAQs. As currently configured, the facility has the potential to emit nitrogen oxides (NO_X), particulate matter (PM_{10}), volatile organic compounds, and sulfur dioxide (SO_2) in quantities sufficient to trigger the protections of the PSD program, *see* EFSEC Final Approval of the [PSD] and Notice of Construction ("EFSEC Final Approval") at 2,[9] and, thus, the facility is subject to BACT requirements for each of these pollutants. *See* 40 C.F.R. § 52.21(j)(2). According to the final permit, the facility will combust only natural gas and will consist of two combustion turbines, one steam turbine, two electrical generators, and two heat

[9] EFSEC Record, Exh. I-5.

recovery steam generators. Based on a BACT analysis preformed by EFSEC, BACT for the facility was determined to include the following: (1) standard dry low NO_X burners with selective catalytic reduction ("SCR") for NO_X control; (2) catalytic oxidation for CO control; and (3) good combustion practice, using only natural gas, for VOC, PM_{10}, sulfur oxides, and organic toxic air pollutants control. EFSEC Final Approval at 3 (EFSEC Record, Exh. I-5).[10]

On October 4, 2002, the Province of British Columbia, Canada (the "Province") filed a petition for review with the Board. *See* [Province's] Petition for Review. With the Board's permission, the Province filed a supplemental brief on November 5, 2002. *See* Brief Supplementing Arguments in Petition for Review ("Province's Supplemental Brief") (Nov. 5, 2002). Environment Canada ("EC") filed its petition with the Board on October 10, 2002. *See* Letter from Kirk Johnstone, to Clerk of the Environmental Appeals Board, with attached petition ("EC Petition") (Oct 10, 2002). Both the Region and SE2 filed responses to the Petitions for review on December 11, 2002. *See* EPA Region 10's Response to Environment Canada's and British Columbia's Petitions for Review ("Region's Response") (Dec. 11, 2002); Sumas Energy 2's Response to Petitions for Review ("SE2's Response") (Dec. 11, 2002). On January 10 and 13, 2003, respectively, the Province and EC requested leave to file briefs with the Board replying to the Region's and SE2's responses. Petitioners' replies were attached to the

[10] Emissions from the facility will be released into an airshed that EFSEC described as "the triangle-shaped Fraser Valley delta, including both the United States and Canadian territory, between the Strait of Georgia and the City of Hope, bounded on the north by the Coastal Mountains, and on the South by the Cascade Mountains to the northern slope of the Alger Hills south of Bellingham." Site Certification Agreement between the State of Washington and [SE2] at 19, EFSEC Record, Exh. H-5.

requests. *See* Petitioner's Reply Brief ("Province's Reply") (Jan. 10, 2003); Environment Canada's Reply Brief ("EC's Reply") (Jan. 13, 2003). By order dated January 23, 2003, the Board granted Petitioners' requests to file reply briefs and incorporated the briefs into the administrative record before the Board. The Board also allowed SE2 to file a surreply. SE2 filed its Surreply on January 28, 2003. *See* Sumas Energy 2's Surreply ("SE2's Surreply") (Jan. 28, 2003). The Board denied the Province's request to file a rebuttal to SE2's Surreply, based on the Board's determination that the issues before it had "been adequately briefed and that further briefing [would] not materially assist the Board in its understanding of the issues * * *." Order Denying Motion to File Rebuttal (Feb. 20, 2003).

III. *DISCUSSION*

A. *Standard of Review*

The Board's review of PSD permitting decisions is governed by 40 C.F.R. part 124, which "provides the yardstick against which the Board must measure" petitions for review of PSD and other permit decisions. *In re Maui Elec. Co.*, 8 E.A.D. 1, 7 (EAB 1998). Pursuant to those regulations, a decision to issue a PSD permit will ordinarily not be reviewed unless the petitioner shows that the permit condition in question is based on : (1) a finding of fact or conclusion of law that is clearly erroneous; or (2) an exercise of discretion or an important policy consideration that the Board should, in its discretion, review. 40 C.F.R. § 124.19(a); *In re Three Mountain Power*, PSD Appeal No. 01-05, slip op. at 12 (EAB, May 30, 2001), 10 E.A.D. ___; *In re Steel Dynamics, Inc.*, 9 E.A.D. 740, 743 (EAB 2001). The burden of demonstrating that review is warranted rests with the petitioner, who must state any objections to the permit and

explain why the permit issuer's previous response to those objections is clearly erroneous, an abuse of discretion, or otherwise warrants review. *In re Hillman Power Co., L.L.C.,* PSD Appeal Nos. 02-04, 02-05, and 02-06, slip op. at 10 (EAB, July 31, 2002), 10 E.A.D. ___.

In addition, before evaluating whether an issue is appropriate for Board review, this Board has repeatedly stated that the issue must have been *specifically* raised during the comment period.[11] *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). On this basis, we have often denied review of issues raised on appeal that were not raised with the requisite specificity during the public comment period. *See New England Plating*, 9 E.A.D. at 733-34 (comment asserting that an NPDES permit limitation should be relaxed did not reveal an intention to request a delayed effective date if the Region decided not to relax the limit in question); *Maui*, 8 E.A.D. 8-12 (comments raising general issue of whether particular fuel was

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[11] Pursuant to 40 C.F.R. § 124.13:

> all persons who believe any condition of a draft permit is inappropriate * * * must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period (including any public hearing) * * *.

In order to justify review by the Board, a petitioner must demonstrate:

> that any issues being raised in an appeal were raised during the public comment period (including any public hearing) to the extent required by these regulations * * *.

40 C.F.R. § 124.19(a).

obtainable from fuel suppliers were not sufficient to preserve objection on appeal that, in a prior decision, the permit issuer determined this fuel was "available" for purposes of determining BACT); *In re Fla. Pulp & Paper Ass'n*, 6 E.A.D. 49, 54-55 (EAB 1995) (denying review on the basis that a comment regarding one aspect of testing sludge required by an NPDES permit was not sufficient to preserve for appeal the question of legal authority to require any sludge testing); *In re Pollution Control Indus. of Ind., Inc.* 4 E.A.D. 162, 166-69 (EAB 1992) (denying review because comments on two aspects of testing requirement in permit were not sufficient to raise, on appeal, general objections to any testing requirement).[12]

Adherence to this requirement in 40 C.F.R. § 124.13 is necessary to ensure that the permitting authority has the first opportunity to address any objections to a draft permit, and that the permit process will have some finality. As we stated in *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 250 (EAB 1999), "[t]he effective, efficient, and predictable administration of the permitting process demands that the permit issuer be given the opportunity to address potential

[12] A petitioner may not rely on the history of a facility or a permit alone to preserve an issue; rather, consistent with the regulations, the issue must have been properly raised during the comment period to be preserved for appeal. *See New England Plating*, 9 E.A.D. at 734 n.18 ("[T]he public comment period is a contained process, and * * * the permitting authority is not obligated to consider and address the full panoply of issues that may have been raised at one point in a multi-year permitting process and that may or may not still be in dispute at the time of the public comment period.") (citing, *In re City of Phoenix, Ariz., Squaw Peak & Deer Valley Treatment Plants*, 9 E.A.D. 515, 525-26 (EAB 2000)). Thus, a permit issuer is under no obligation to address an issue, *sua sponte*, simply because the issue had been raised at some earlier stage in the permitting process. This would place an undue burden on the permit issuer and undermine the orderly process established by the permitting regulations. *New England Plating*, 9 E.A.D. 734 n.18; *see also In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 120 (EAB 1997) (permit review process would be unmanageable if a permit issuer were required to discuss every issue raised during the development of the draft permit prior to the public comment period).

problems with draft permits before they become final." Indeed, allowing a petitioner to raise for the first time on appeal concerns that could have been brought to the attention of the permitting authority, would leave the PSD permit system open-ended, frustrating the objective of repose and introducing intolerable delay. These concerns are no less valid where, as here, the Petitioner is a government entity. Adherence to this requirement thus ensures that the permit issuer "has the opportunity to address potential problems with the draft permit before the permit becomes final, thereby promoting the Agency's longstanding policy that most permit issues should be decided at the Regional level, and to provide predictability and finality to the permitting process." *In re Sutter Power Plant* 8 E.A.D. 680, 687 (EAB 1999); *see also New England Plating*, 9 E.A.D. at 732).

B. *Environment Canada Petition*

EC raises one objection to the permit.[13] In particular, EC contends that condition 11 of the final permit (addressing operation of the facility during startup and shutdown) erroneously includes the phrase "either fuel."[14] According to EC, this phrase was

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[13] EC's original petition raised a second objection to the permit. EC argued that the cost of health effects from emissions should have been included in the BACT economic cost analysis. This argument, however, was later withdrawn by EC. *See* EC's Motion to Withdraw Argument that the Cost of Health Effects Should be Included in the BACT Analysis (Jan. 10, 2003). By order dated January 23, 2003, the Board granted EC's motion to withdraw this argument.

[14] Permit condition 11 states, in relevant part, as follows:

11. Startup and shutdown operation:

11.1 Startup is defined as any operating period that is ramping up from less than partial load (70%), and ends when the operating rate has exceeded

(continued...)

mistakenly retained from the draft permit which proposed to authorize the use of both natural gas and oil to fuel the facility. EC Petition at 1. Because the final permit requires that the facility use only natural gas, EC argues that these references to "either fuel" should have been removed. *Id*. EC notes that, in EFSEC's Responsiveness Summary, EFSEC indicated that references to "either fuel" would be eliminated from the final permit. EC further argues that condition 1 of the permit, which requires that the facility be fueled by natural gas, should be amended to state that this condition "cannot be altered in the future." *Id.* In its response, the Region states that the "either fuel" language:

> was inadvertently retained from earlier drafts of the permit. As EFSEC explained in response to public comments, the final PSD permit should have reflected that SE2 may only fuel its combustion turbines with natural gas. This omission was a typographical error which will be corrected.

Region's Response at 23 (citations omitted).

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[14](...continued)
partial load (70%), and the earlier of these events occurs:

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11.1.2 One of the following time limits have been reached, as applicable:

1.1.2.1 Six hours have elapsed since **either fuel** was first introduced to the applicable turbine on a cold startup. A cold startup occurring after the applicable turbine has been shut down for seventy-one hours or more.

1.1.2.3 One and one-half hours elapsed since **either fuel** was first introduced to or the beginning of the ramp-up of the applicable turbine on a hot startup. A hot startup is any startup occurring after the applicable turbine has been shut down for eight hours or less.

EFSEC Final Approval at 9.

Upon review, the Board concludes that, because the Region has agreed that the permit's references to "either fuel" were inadvertently retained from the draft permit and should, therefore, be deleted, permit condition 11 must be remanded so that the errors can be corrected and the permit reissued in corrected form. With regard to EC's assertion that language should be added to condition 1 of the permit stating that the requirement that the facility use only natural gas "cannot be altered in the future," EC has failed to convince us that review is warranted. EC's petition provides no explanation as to why such a condition is required under the CAA or its implementing regulations, and we, in the past, have resisted arguments that would serve to constrain potential future changes to operations or permit terms. *See In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 253 (EAB 1999) ("The regulations do not require that future operational changes, which require modification of a permit, be considered as part of the initial application process."); *In re P. R. Elec. Power Auth.*, 6 E.A.D. 253, 258 (EAB 1995) ("any consideration of what [the permittee] might or might not do in terms of future expansion of the facility is premature and not appropriate for consideration in this proceeding."). EC's assertion in this regard is therefore rejected.

C. *Province of British Columbia Petition*

The Province raises essentially four arguments in support of its petition for review. These are: (1) the BACT analysis failed to consider permit limitations on startup and shutdown operations (*see* Province's Supplemental Brief at 26); (2) EFSEC failed to consider more stringent Canadian air quality standards in determining BACT (*see id.* at 33); (3) the EFSEC's Responsiveness Summary failed to thoughtfully and fully consider public comments (*see id.* at 41); and (4) SE2's proposal to offset NO_x and PM_{10} emissions by reducing actual emissions elsewhere in the Fraser Valley airshed is insufficient to offset the added air pollution from the facility (*see id*. at 42).[15] For the following reasons, none of these arguments convinces us that review is warranted.

1. *BACT Analysis Pertaining to Startup and Shutdown*

The Province's primary assertion is that the EFSEC, in its BACT analysis, failed to adequately consider heightened emissions of NO_X, SO_2, and PM_{10} during startup and shutdown of the facility. In this regard, the Province challenges Permit Conditions 11.3 (Emissions limits for NO_X during startup and shutdown), 11.4 (Emissions limits for SO_2 during startup and shutdown); and 11.6 (Emissions limits for PM_{10} during startup and shutdown). *See*

[15] In its Petition for Review, filed on October 4, 2002, the Province also sought review of condition 5 which establishes emissions limits for NO_x. In its supplemental brief filed on November 5, 2002, however, the Province appears to abandon this argument. *Compare* Province's Petition for Review at 1 *with* Province's Supplemental Brief at 2. Even if it was not the Province's intent to abandon the argument, the supplemental brief fails to provide sufficient support for the assertion. The Province has therefore failed to meet its burden of establishing that review is warranted on this issue. *See In re Tondu Energy Co.*, 9 E.A.D. 710, 725 (EAB 2001) (mere allegations of error in the BACT analysis are insufficient to meet a petitioner's burden of proof in seeking review).

Supplemental Brief at 2, 25. According to the Province, the five-step BACT analysis, summarized above, was erroneous because it failed to reflect consideration of heightened emissions of these pollutants during startup and shutdown. As discussed below, the Province has failed to convinced us that review of the permit on this ground is warranted.

As stated above, the Province's primary argument in support of review by this Board is that EFSEC's BACT analysis was erroneous because the analysis failed to adequately consider the effects of increased emissions during the startup and shutdown of the facility. A review of the record, however, leads us to conclude that neither the Province's nor other comments submitted during the comment period were sufficient to preserve this issue for appeal. While the Province's comments reflect concerns regarding increased emissions during startup and shutdown, nowhere do they suggest a flaw in the BACT analysis. Thus, the particular issue that the Province now attempts to raise on appeal – that the BACT analysis relating to startup and shutdown was erroneous – was not preserved for review by the Board.

In its comments on the draft permit (EFSEC Record, Exh. G-7), the Province raised several arguments concerning startup and shutdown, including the following: (1) an appropriate upper limit on NO_x emissions during startups and shutdowns should be established; (2) the draft permit makes no provisions for increased VOC emissions during startup and shutdown of the facility; (3) CO emissions limits during startup and shutdown should be reduced; (4) potential maximum annual emissions for NO_x, CO, and VOC need to be revised upwards to account for possible higher emissions during startup and shutdown of the facility; (5) the permit should

include conditions to avoid startups during periods when smog conditions are anticipated; (6) the fact sheet should describe the direct and indirect limitations the permit will place on startups and shutdowns and assess air quality impacts associated with those events; and (7) the draft permit does not include an annual or hourly CO limit during startups.

In none of these comments does the Province take issue with EFSEC's BACT analysis. Indeed, the term BACT is never mentioned in reference to emissions limitations during startup and shutdown of the facility, despite the fact that the issue was reasonably ascertainable at that time.[16] Rather, the Province's comments, for the most part, simply suggest that the permit include additional emissions limits to address concerns related to air quality. Nothing in these comments was sufficient to apprise EFSEC that the Province was alleging that EFSEC had failed to conduct a top-down BACT analysis regarding emissions during startup and shutdown.[17] Review is therefore denied on this issue. *See In re Sierra Pacific Indus.,* PSD Appeal No. 02-13,

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[16] *See* 40 C.F.R. § 124.13 (all "reasonably ascertainable issues" must be submitted by the close of the public comment period to be preserved for review); *In re New England Plating Co*., 9 E.A.D. 726 (EAB 2001)(denying review where petitioner failed to raise reasonably ascertainable issue during comment period); *In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 119-20 (EAB 1997) (same).

Contrary to the Province's suggestion in its reply (Province's Reply at 5), the test for determining if the requirement to raise all reasonably ascertainable issues has been met is not whether an issue was reasonable ascertainable to the permit issuer, but whether the issue was reasonably ascertainable to the petitioner, and whether the issue was brought to the attention of the permit issuer with sufficient specificity during the comment period. *See supra* n.12.

[17] In its reply brief, the Province asserts that other commenters raised this issue during the comment period. Province's Reply Brief at 5. Upon reviewing the citations provided, however, we concluded that while other commenters suggested the need for additional controls during startup and shutdown to address air quality concerns, none of these comments asserted that EFSEC's BACT analysis was flawed in any way.

slip op. at 10 (EAB, Jan. 7. 2003), 11 E.A.D. ___ (denying review on adequacy of BACT analysis where petitioner failed to assert any specific errors in the BACT determination during the public comment period).[18]

Moreover, we note that with respect to the startup and shutdown issues that the Province did bring to EFSEC's attention, the record reflects a thorough and considered response by EFSEC. In particular, the Fact Sheet accompanying the permit stated, in part, as follows:

> During startup and shutdown, either or both the SCR or CO combustion catalyst systems may not be in the normal operating temperature range. In the respective case, NO_x and/or CO emissions concentrations cannot be controlled below the emission limits specified in the draft PSD permit for normal operation. However, if any combustion is occurring through a turbine, the hot exhaust gasses are passing through the catalyst beds. The catalyst beds would heat up very rapidly during startup, and would cool down very slowly during shutdown. Consequently, the period of uncontrolled NO_x and/or CO emissions would be relatively short, and unlikely to encompass the full period of startup and shutdown.
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> Sulfur oxide and particulate mass emissions are directly related to fuel consumption. They are not significantly affected by the operation of the SCR or CO combustion catalyst system. They decrease in direct proportion to fuel consumed in the combustion turbines and duct burners. VOC emissions appear to increase relative to fuel consumption during startup or shutdown due to inferior combustion dynamics during these periods. However, 75% of the modeled VOC emissions are attributable to operation of the duct burners. Operation of the duct burners during startup and shutdown is very unlikely. Consequently, even under the inferior combustion conditions of startup and shutdown, VOC emissions would be below modeled levels.

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[18] The Province has also made related objections to Findings 8 and 22 of the final permit. In particular, the Province states that Finding 8 of the permit is flawed because it "determines BACT for the facility and does not include limits on startups and shutdowns." Province's Supplemental Brief at 2. Presumably for the same reason, the Province also objects to the statement in Finding 22 that all NSR and PSD requirements have been satisfied. Aside from the above-mentioned objections to EFSEC's BACT analysis, the Province does not articulate a separate rationale for its objections to these findings. Therefore, the Province's objections to Findings 8 and 22 are rejected for the same reasons discussed in this Order.

Nonetheless, EPA guidance indicates that if emission limits specified for normal operation are not feasible under startup or shutdown, PSD permits must specify startup and shutdown emission limits that are protective of the NAAQS. The proposed permit has specified such conditions:

- NO_x is a NAAQS based on an annual average. The annual limit is retained under startup and shutdown. The sum of all NO_x emissions from the facility, including emissions during startup and shutdown, would not exceed the annual limit established in the permit.

- The BACT-based short-term limit for CO under normal operation is one five-thousandth of the NAAQS. The increased allowable CO emission concentration during startup and shutdown retains a large protective margin. It is below the U.S. significant impact level (SIL), less than 5% of the NAAQS, and about 12% of the Canadian air quality standard for CO.

- As stated above, sulfur oxide and particulate mass emissions decrease with fuel consumption. Conditions related to startup and shutdown operation do not threaten NAAQS protection relative to these pollutants. For purposes of compliance reporting, sulfur oxide and PM_{10} emissions are determined from fuel use. The sum of all sulfur oxide and particulate matter emissions from the facility, including emissions during startup and shutdown, would not exceed the daily limits established in the permit.

- A parametric equation relating fuel use to VOC emissions was determined from the vendor's operating data. The permit requires the facility to calculate VOC emissions during startup and shutdown for comparison to the specified mass emission limit. The sum of all VOC emissions from the facility, including emissions during startup and shutdown, would not exceed the daily limits established in the permit.

Draft Fact Sheet for Prevention of Significant Deterioration, Sept. 28, 2001 (EFSEC Record, Exh. F-2 at 14-15) (footnotes omitted)). Further, in responding to comments on the draft permit regarding the need for additional permit controls during startup and shutdown of the facility, EFSEC stated:

3.1.2 Startup and Shutdown Conditions

> Startup and Shutdown (SU/SD) conditions are short-term events. During these events, the emissions control equipment cannot operate at full efficiency. Consequently, it is unreasonable to set emission limits that are as stringent as those determined to be * * * BACT under normal operating conditions. Nonetheless, New Source Review guidance requires that emission limits be set that assure no violation of the NAAQS. The conditions specified in the permit have been specified accordingly.

Responsiveness Summary at 7 (EFSEC Record, Exh. I-10).[19] In response to concerns about VOC emissions during startups, EFSEC stated:

> VOC *concentrations* in the stack exhaust will be *higher* during SU/SD until the system warms up. However, stack exhaust *volume* is in direct proportion to operating rate. In other words, during SU/SD, the concentration goes up, but mass goes *down*. The net result is a mass emission of VOC's during SU/SD that is unlikely to exceed short term emission rates during normal operation.

Id. at 12 (emphasis in original). Responding to the Province's concerns regarding CO emissions, EFSEC stated:

> The CO emission limit in the notice of construction for SU/SD results in ambient air concentrations of 5% of the NAAQS and 12% of the Canadian Air Quality Standard. As discussed in General Response 3.1.2 [(quoted above)], the indicated emission concentration limit satisfies the requirements under [PSD] for environmental protection.

Id. at 13. Regarding the interplay between startup and shutdown and maximum annual limits for NO_x, CO and VOC, EFSEC stated:

> As specified in the draft permit, NO_x emissions during SU/SD must be counted toward the annual emission limit (see permit condition 11.3.2), and VOC emissions must be counted towards the daily limit (see permit condition 11.5.2). Condition 5.4 of the Notice of Construction has been modified to explicitly require that total mass emission of CO during startup and shutdown are included in determination of compliance with the annual CO mass emission limit.

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[19] The Province does not dispute that the permit's emissions limitations will ensure compliance with all applicable NAAQS.

Id. Finally, in response to the Province's assertion that the permit should include provision to avoid startups during the daytime to avoid short-term impacts to ground level ozone, EFSEC stated that the permit "will meet all state and federal requirement that are protective of the NAAQS, and will not threaten attainment of Canadian standards or exacerbate non-attainment in the Fraser Valley."[20] *Id.*

We note further that, in response to comments on the draft permit, EFSEC included significantly more restrictive limitations on emissions during startup and shutdown in the final permit. *Compare* Condition 8 of draft permit (EFSEC Record, Exh. L-73) *with* Condition 11 in final permit (EFSEC Record, Exh. I-5). For example, whereas the draft permit exempted startup and shutdown emissions from the permit's emissions limitations, the final permit requires that all emissions associated with startups and shutdowns must be included in determining compliance with all of the permit's annual emission limits. *See* Final Permit Condition 11. In addition, the final permit narrowly defines the time frame for startup and shutdown and requires continuous monitoring to assure that emissions during this time frame are accounted for in determining the facility's annual emissions. *Id*. Further, the final permit imposes daily limits for SO_2, volatile organic compounds, PM_{10}, and sulfuric acid mist. These limits apply during startup and shutdown. *Id*. at 11.4.3, 11.5.2. and 11.6.3. Finally, as the Province itself recognizes, the

[20] The Province's brief also suggests that the permit should preclude the simultaneous startup or shutdown of the facility's two turbines "to avoid the cumulative impacts of the concurrent emission spikes from the two units." Province's Supplemental Brief at 30. Because this issue was not specifically raised during the comment period, however, it was not preserved for review. *In re New England Plating Co.,* 9 E.A.D. 726, 732 (EAB 2001).

number of times the facility can legally startup and shutdown is indirectly limited by the overall limits on annual emissions. *See* Province's Supplemental Brief at 26.

In short, our decision not to grant review of the Province's BACT-based challenge to the permit's startup and shutdown provisions does not mean that the Province's concerns regarding startup and shutdown have gone unaddressed. To the contrary, the record reflects a serious effort by EFSEC, including a number of changes to the draft permit to make it more protective, in response to those startup and shutdown issues the Province did raise during the comment period.[21]

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[21] Contrary to the Province's assertions, neither EFSEC's determination regarding startup and shutdown of the facility, nor the Board's decision not to grant review on this issue, runs afoul of EPA guidance or the Board's decision in *In re Rockgen Energy Ctr.,* 8 E.A.D. 536 (EAB 1999). As EPA guidance indicates, exceedances of emissions limitations are not uncommon during startup and shut down, but can be reduced or eliminated with careful planning. *See, e.g.,* Memorandum from John B. Rasnic, Director, Stationary Source Compliance Division, Office of Air Quality Planning and Standards, U.S. EPA, to Linda M. Murphy, Director, Air, Pesticides and Toxics Management Division, U.S. EPA Region I (Jan. 28, 1993) ("Rasnic Memo"). In particular, EPA guidance states, in part, that:

> Startup and shutdown of process equipment are part of the normal operation of a source and should be accounted for in the planning, design and implementation of operating procedures for the process and control equipment. Accordingly, it is reasonable to expect that careful and prudent planning and design will eliminate violations of emissions limitations during such periods.

Rasnic Memo at 2. Based on our review of the record, EFSEC appears to have given adequate consideration to controlling emissions during startup and shutdown. Indeed, the Fact Sheet makes explicit reference to the Rasnic Memo and makes clear that emissions during startup and shutdown will not result in exceedances of the NAAQS. Fact Sheet at 14 (EFSEC Record, Exh. F-2). Nothing in the Province's Petition or in the record convinces us that EFSEC determination in this regard was erroneous.

In *Rockgen*, this Board remanded a permit, in part, because it did not appear as if the

(continued...)

2. *Consideration of Canadian Air Quality Standards in Determining BACT*

The Province has also asserted that EFSEC's BACT analysis was flawed in that it failed to consider the impacts of emissions on ambient air quality in Canada. However, because this issue was not raised during the comment period, it was not preserved for review. Although the Province raised general concerns regarding the impact of the facility on Canadian air quality, the Province did not challenge EFSEC's BACT analysis on this basis. Thus, for same reasons discussed above, review is denied on this issue.

Moreover, we note that with respect to the concerns that were raised regarding the impact of the facility on Canadian air quality, the record indicates that EFSEC did indeed consider and respond to such concerns. For example, the Fact Sheet prepared along with the draft permit indicates that EFSEC collected and considered data on ambient air quality and concluded that emissions would not exceed standards established to protect human health and the environment. In this regard, the Fact Sheet states:

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[21](...continued)
permitting authority sufficiently considered permit controls on emissions during startup and shutdown. Rather, the permit simply stated that the facility could exceed the permit's emissions limits, if such exceedances were temporary and carried out in accordance with a plan to be developed at a later date. *Rockgen*, 8 E.A.D. at 551. As the Board stated: "although the permit appear[ed] to contemplate that emissions in excess of the limits established in the permit may well occur during startup and shutdown, it [did] not appear as if [the permit issuer] gave sufficient consideration to appropriate measures to minimize or eliminate such emissions. " *Id.* at 553. Indeed, the Board stated that the permit condition in question appeared to have "been added as an afterthought in response to language suggested by [the permittee] four days before the permit was issued." *Id*. In contrast, as stated above, in the present case the EFSEC gave considerable consideration to emissions during startup and shutdown and has included permit conditions designed to control such emissions. *Rockgen* is therefore distinguishable from the present case.

> PSD rules require an ambient air quality impacts analysis (40 CFR Part 52.21) from any facility emitting pollutants in significant quantities. Limiting increases in ambient concentrations to maximum allowable increments prevents significant deterioration of air quality.
>
> SE2 submitted a preliminary modeling analysis to EFSEC proposing the modeling approach. EFSEC's permit writing contractor agreed with the analysis and determined that pre-construction monitoring would not be required. The 1985-89 surface observations at Abbotsford Airport [collected by the Canadian Climate Service] provided the necessary meteorological data for the modeling exercise. Monitoring data from Abbotsford for 1996-99 [collected by Greater Regional Vancouver District] provided the estimates for background criteria pollutant concentrations. SE2 applied this data along with the anticipated pollutant emissions in a sophisticated and generally accepted model to determine the air quality impact of the proposed facility.
>
> Ambient impact analysis indicates that all regulated pollutants are well below ambient air quality standards established to protect human health and welfare.

EFSEC Fact Sheet (Sept. 28, 2001) at 15 (EFSEC Record, Exh. F-2) (citations omitted). Further, following its review of the permit application, EFSEC concluded, with regard to NO_x, that:

> [T]he NO_x emission controls meet the legal requirement to be protective of all NAAQS standards at all times, be it during start-up and shut-down periods, or during normal operation of the facility. Even the higher rate of NO_x emissions during part of the startup period is not near the level that might threaten short-term NO_x objectives in Canada, or create a ground-level ozone problem. The [EFSEC] notes the testimony of Sanya Petrovic that startup and shutdown do not raise additional health concerns since they will not have significant effects on the ambient concentration of pollutants attributable to the facility. The [EFSEC] finds that the conditions set by the PSD permit with regard to startup and shutdown adequately protect the air quality in the region.

Findings of Fact, Conclusions of Law, and Order Recommending Approval of Site Certification on Condition at 41 (EFSEC Record, Exh. H-1) (citations omitted). We note further that, in its Responsiveness Summary, EFSEC stated:

> EFSEC has given extensive consideration to concerns expressed by the Canadian environmental agencies and Canadian citizens' comments. In particular, EFSEC invited the Canadian environmental agencies to submit analyses of the potential impact of [the facility] on Canadian territory. The modeling analysis considered

> in preparation of this permit did not show that [the facility] threatens attainment of Canadian standards or exacerbates non-attainment.

Responsiveness Summary at 13 (EFSEC Record, Exh. I-10). Finally, as stated above, in response to a request that the permit include provisions to avoid startups during high smog conditions, EFSEC stated that the "permit will meet all state and federal requirements that are protective of the NAAQS, and will not threaten attainment of Canadian standards or exacerbate[] non-attainment in the Fraser Valley." *Id*.

Thus, EFSEC considered the impacts of emissions on Canadian ambient air quality.[22] While the Province clearly disagrees with EFSEC's conclusions, the Province has failed to meet its burden of demonstrating that EFSEC's determination was erroneous or otherwise warrants review.[23] *See In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 201 (EAB 2000) ("In general, [the

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[22] The Province has also asserted that EFSEC failed to respond to a comment submitted by a Mr. Mike Lepage stating that ammonia emissions would result in cumulative and substantial air quality impacts. Province's Supplemental Brief at 42. The province cites to Mr. Lepage's testimony before the EFSEC on October 31, 2001. The Board has reviewed the citation provided and concludes that Mr. Lepage did not explicitly raise this issue with the EFSEC. However, we note that in responding to another comment regarding ammonia emissions, EFSEC stated: "The ambient concentrations of ammonia salts resulting from ammonia slip are a tiny fraction of any known health or environmental risk." Responsiveness Summary at 14.

[23] We note that section 115 of the Clean Air Act provides a mechanism for addressing pollution emitted in the United States which may reasonably be anticipated to endanger public health or welfare in a foreign country. CAA § 115, 42 U.S.C. § 7415. Further, as the Region has pointed out, a bilateral treaty exists between the governments of the United States and Canada outlining how the U.S. and Canada will address concerns on projects likely to cause significant trans-boundary pollution. *See* Agreement Between the Government of Canada and the Government of the United States of America on Air Quality ("Agreement"), exh. 2 to Region's Response. Article XI of the Agreement provides for consultation between the parties on any matter within the scope of the agreement. Article XIII of the Agreement provides a process for (continued...)

Board] accord[s] deference to permitting agencies when technical issues are in play."); *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 403 (EAB 1997) ("The Board traditionally assigns a heavy burden to persons seeking review of issues that are quintessentially technical.").

3. *Response to Comments*

The Province argues that EFSEC failed to adequately respond to comments regarding emissions during startup and shutdown of the facility. We disagree.

Under the procedural rules governing PSD permits, permitting agencies must "briefly describe and respond to all significant comments on the draft permit." 40 C.F.R. 124.17(a)(2). As discussed above, the record indicates that EFSEC considered and responded to comments relating to emissions during startup and shutdown. Indeed, EFSEC revised the permit in response to these comments. While EFSEC may not have responded with the degree of detail that the Province would have liked, the rules require only that the responses are thorough enough to encompass the issues raised by commenters. *See In re Hillman Power Co.*, PSD Appeal Nos. 02-04, 02-05, and 02-06, slip op. at 32 n.20 (EAB, July 31, 2002), 10 E.A.D. ___.[24] Based on

[23](...continued)
settling disputes that may arise between the two countries in dealing with trans-boundary air pollution problems. To date, the Canadian Government has apparently not invoked the provisions of this accord. *See* EC's Reply at 4.

[24]*See also In re NE Hub Partners, L.P.,* 7 E.A.D. 561, 583 (EAB 1998) (permitting agency need not respond to each comment in an individualized manner; response need not be of the same length or level of detail as the comment) , *review denied sub. nom. Penn Fuel Gas, Inv. v. U.S. EPA*, 185 F.3d 862 (3d Cir. 1999).

the record before us, we concluded that EFSEC has satisfied this requirement. The Province's arguments in this regard are therefore rejected.

4. *Offsets*

As part of its application to EFSEC for site certification, SE2 offered to offset NO_x and PM_{10} emissions by reducing actual emissions elsewhere in the Fraser Valley. *See* Findings of Fact, Conclusions of Law, and Order Recommending Approval of Site Certification On Condition, at 34 (Exh. 55 to Region's Response). In response to a comment questioning SE2's ability to obtain offsets and, thus, whether SE2's offset proposal would be sufficient to address residents' health concerns, EFSEC stated:

> The council has required that [SE2] procure offsets in the Fraser Valley airshed. If [SE2] is not able to negotiate such offsets, [SE2] must make a payment into a fund to be administered jointly by the Washington Department of Ecology and the British Columbia Ministry of Water, Land and Air Protection, or other agencies or organizations approved by EFSEC, and the funds to be used for the improvement of air quality in the Fraser Valley Airshed. The impact of the offsets will therefore provide a net benefit to the Fraser Valley airshed * * *.

Responsiveness Summary at 15-16.

The Province asserts that "[t]o the extent that the BACT analysis or the permit decision relies on SE2's offset proposal, such reliance is misplaced." Province's Supplemental Brief at 42. According to the Province, it is unlikely that offsets will be available in sufficient quantities to benefit the Fraser Valley airshed or that any financial payment will provide any benefits to surrounding communities. *Id*. at 43.

From the record before us, it does not appear as if the offset requirement was intended to meet any requirement within the purview of the federal PSD program, and nothing in the Province's brief indicates otherwise. The Board's jurisdiction is limited to reviewing PSD permit requirements. *See In re Three Mountain Power, L.L.C.,* PSD Appeal No. 01-05, slip op. at 30 (EAB, May 30, 2001), 10 E.A.D. ___ (denying review of offset provision for lack of jurisdiction). Although EFSEC included the offset requirement as part of the facility's site certification, the requirement does not appear in the PSD conditions of the final permit. *See* EFSEC Record, Exh. I-5. Thus, it is not subject to review by this Board. *See* 40 C.F.R. § 124.19 (providing for review of "any condition" of a PSD permit); *In re Carlton, Inc. N. Shore Power Plant*, 9 E.A.D. 690, 692-92 (EAB 2001) (EAB review limited to PSD requirements); *In re Milford Power Plant*, 8 E.A.D. 670, 673 (EAB 1999) (same); *In re Knauf Fiber Glass*, 8 E.A.D. 121, 172 (EAB 1999) (Board will not review issues outside the scope of the PSD program). Moreover, the issue of whether, or to what degree, EFSEC relied on the offset proposal as part of its BACT analysis was not raised during the comment period. 40 C.F.R. § 124.13. Review is therefore denied on this basis as well.

IV. *CONCLUSION*

The permit is remanded. On remand, EFSEC is ordered to remove references to "either fuel" in Permit Condition 11.[25] Review is denied on all other issues.

So ordered.[26]

Dated: March 25, 2003

ENVIRONMENTAL APPEALS BOARD

/s/
Scott C. Fulton
Environmental Appeals Judge

[25] Because we are remanding only so that a technical error can be corrected in a reissued permit, there will be no further review by this Board absent any argument that, on this narrow issue, the permit issuer has erred in the reissued permit. Accordingly, we would expect that, upon permit reissuance, Petitioners' administrative remedies will have been exhausted.

[26] The three-member panel deciding this matter is comprised of Environmental Appeals Judges Scott C. Fulton, Edward E. Reich, and Kathie A. Stein. *See* 40 C.F.R. § 1.25(e)(1) (2002).

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Order Remanding in Part and Denying Review in part in the matter of Sumas Energy 2 Generation Facility, PSD Appeal Nos. 02-10 & 02-11, were sent to the following persons in the manner indicated:

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/s/
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