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2000 05 02
File: 5280-25 MAY 02 2000

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**ENERGY FACILITY SITE
EVALUATION COUNCIL**

Dear Mr. Fiksdal:

Re: Comments on the DEIS for the Proposed S2GF Project

This letter contains the comments on the Draft Environmental Impact Statement (DEIS) for the Sumas Energy 2 Generation Facility (S2GF).

In the Energy Facility Site Evaluation Council (EFSEC) letter of April 6, 2000, which extended the comment period to May 2nd, that letter noted that the "comments on the DEIS shall address either the adequacy of the document or merits of the alternatives or both and shall be as specific as possible". Reference was also made to WAC 197-11-550 which sets out the types of comments expected concerning a DEIS. This letter is intended to address our view of the deficiencies in the DEIS on the above noted basis.

The comments are referenced by section in the DEIS in the remainder of this letter.

1.1 Introduction

The Introduction notes that the DEIS includes an evaluation of "potential direct, indirect, and cumulative impacts". Our comments concerning the DEIS are predicated on that commitment to incorporate those types of impacts into the DEIS.

Section 1.1 describes the S2GF as a "merchant plant" but the DEIS does not appear to contain a clearly delineated marketing plan for the proposed project with the exception of brief comments in the Summary and Section 3.9.3.2. While it is recognized that some of

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the marketing aspects are proprietary, more detail is required (e.g., expected future requirements of and shortfalls in relevant Canadian and U.S. markets) to assess the potential direct, indirect and cumulative effects of this proposed project. Under the State Environmental Policy Act (SEPA), WAC 197-11-080, worst case assumptions can be used. Those assumptions should be incorporated into the DEIS.

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1.5.1 Water Supply

The City of Abbotsford had some negotiations with the City of Sumas about selling well water for the proposed project. However, that was before the broader impact of the S2GF project was understood by City of Abbotsford and the revised project Application was available for review in January 2000.

1.5.2 Transmission Lines

The City of Abbotsford understands that the National Energy Board (NEB) and, at its discretion, the provincial government can require an environmental assessment of the implications within Canada from the proposed project (under Section 4 of the B.C. Environmental Assessment Act). Section 1.5.2 of the DEIS should acknowledge this point.

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The transmission lines are incorporated into various sections of the DEIS. Given the substantive impacts of the proposed transmission line from S2GF through the City of Abbotsford to the BC Hydro's Clayburn Substation located to the north of the city centre, this transmission line cuts across the valley and is seen to have the following adverse impacts:

- A significant obstruction to vistas from the City of Abbotsford towards such views as Mount Baker;

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- A visually unacceptable impact for many of our residents with a consequential loss of property values;
- An economic loss to the City and downtown business owners who have made a major effort to revitalize the City's older downtown area;
- The socioeconomic effects to our residents, businesses and the City can affect other programs funded by the otherwise higher economic activity.

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While we understand that a number of studies have been conducted to address the effect of transmission lines on communications systems, radio reception and public health, sectors of our community are seeking further reassurance in the DEIS that those concerns have been adequately addressed.

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1.6 Summary of Potential Impacts, Mitigation Measures, and Significant Unavoidable Adverse Impacts

Rather than address the same issue twice, the issues are addressed as they occur in the remainder of the DEIS.

3.1.2.1 Ambient Air Quality Standards

The Draft EIS, dated March 2000, references the Canadian Environmental Protection Act (CEPA), and in particular Canada's maximum desirable, acceptable and tolerable objectives and GVRD's ambient objectives established under that Act.

However, the March DEIS does not acknowledge the updated criteria under review by the Canadian Council of Ministers of the Environment (CCME) as published in the Canada Gazette, Part I on February 5, 2000. That notice in the Gazette contemplates selection of a PM₁₀ standard of either 50 or 60 µg/m³ (24-hour average) and an ozone standard of 65 ppb (8-hour average). Both standards would take effect well within the

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life of the proposed project. The Gazette notice sets out the CCME's commitment to aggressively pursue further reductions of particulate matter and ozone and their precursor pollutants transported into Canada from the United States. The S2GF project appears to conflict with that initiative.

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The GVRD has set forth the position of improving air quality but expected worsening of air quality unless mitigative action is taken. The concern is set out in the Executive Summary to the GVRD report *Trends in Ambient Air Quality in Greater Vancouver 1987 to 1999* (July 1998). Recently, GVRD staff obtained approval from the GVRD's Planning and Environment Committee (e.g., Mayors of cities and districts) to consult stakeholders on very restrictive NO_x emission controls for small natural gas fired boilers and heaters. GVRD staff appear to be contemplating emission control measures not required in Seattle or Whatcom County. Using GVRD estimates, it would take modifications to about 1400 small boilers and heaters to offset the NO_x emissions of the S2GF project. Both measures need to be addressed from a cost effectiveness perspective with the GVRD responsible for the small boiler initiative.

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The S2GF project is an emissions increase which could contribute to worsening air quality. If further emission control action is required by the GVRD and the FVRD to compensate for the emissions from S2GF, that action constitutes a potential indirect impact which should have been addressed in this DEIS.

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3.1.2.3 Title 4 (Acid Rain) Provisions

In the DEIS review of the U.S. Clean Air Act Amendments of 1990, it would have been appropriate to also recognize *The Agreement between the Government of Canada and the Government of the United States of America on Air Quality* (Clean Air Accord). Under Article I, part 2 of that Accord, "transboundary air pollution" is defined where the City of

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Abbotsford would be the recipient of the Sumas 2 project's emissions. Section 3., A., 1. of Annex I will require continuous emission monitors for SO₂ and NO_x emissions or alternate systems for the S2GF project to the extent required by Section 412 of the U.S. Clean Air Act. This point is relevant to the emissions evaluated under Section 3.1.2.4 of the DEIS. (Section 3.1.2.3 of the DEIS notes the need to monitor oxygen (O₂) concentrations in the stack).

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Section 4 of Annex I of the Clean Air Accord established the principle that comparable PSD rules were to take effect in Canada by January 1, 1995. In the absence of Canadian PSD rules, it would be fair to expect the U.S. equivalent of those rules to be addressed on the Canadian side of the border. The relevance of these comments will become apparent when cumulative effects are addressed later in this letter.

As noted in Section 3.9.3.2 of the DEIS (p. 3.9-3), the S2GF project will require 1.8% of the proven natural gas reserves in the Western Canadian Sedimentary Basin (WCSB). The upstream oil and gas industry was estimated to discharge 99,876 t/yr of SO_x (SO₂) or 57% of British Columbia's total SO₂ emissions. In Alberta, that upstream oil and gas industry was estimated to discharge 276,477 t/yr of SO₂, 255,712 t/yr of NO_x and 484,788 t/yr of VOCs (values for 1995 from Appendix C of the *Discussion Paper on Particular Matter (PM) and Ozone, Canada - Wide Standard Scenarios for Consultation* in May 1999). On an indirect basis, the use of natural gas has significant potential air quality effects due to emissions noted above. Those potential indirect effects need to be addressed in the DEIS.

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3.1.2.4 State and Local Emission Limits

In the third and fourth paragraphs on p. 3.1-4, the DEIS describes the proposed emission limits for SO₂ and NO_x of the S2GF project. However, no oxygen correction or averaging period is specified. The parameters, as well as the measurement method, are necessary to assess the comparability of those standards. No realistic assessment can be conducted without reference to those parameters.

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Given the gas turbine industry convention to use 15% O₂ and the use of 15% O₂ correction factor for ammonia concentrations in Table 3.1-5 of the DEIS, that percentage should be considered for adoption in the stated emission limits in the DEIS. In addition, the averaging period of 1-hour should be considered. The precedent for a 1-hour average has been specified for SCR equipped boilers at BC Hydro's Burrard Thermal General Plant (BTGP) in the GVRD's air permit. Like the BTGP air permit, a more restrictive 24-hour emission limit could also be applied at the discretion of the air permitting agency and the proponent of the S2GF project.

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We understand that the GVRD's purpose for a 1-hour emission limit was to address ozone which has short-term peaks in the Lower Fraser Valley. It is also our understanding that a 24-hour emission limit for NO_x was not considered sufficient by the GVRD to protect against higher and short duration ozone concentrations in the Lower Fraser Valley. The GVRD can advise on the merits of their approach for the purpose of revisions to the DEIS.

3.1.3 Existing Air Quality

Health Canada and Environment Canada have published two documents *National Ambient Air Quality Objectives For Particulate Matter, Part 1: Science Assessment Document* and *National Ambient Air Quality Objectives For Particulate Matter, Addendum to the Science Assessment Document*. Those documents establish a reference level for PM₁₀ of 25 µg/m³ (24-hour average) with health effects above that concentration. Those reference levels and documents need to be addressed in the DEIS to determine potential health effects.

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If Washington State and British Columbia are to work together on a Georgia Basin initiative to protect public health and the environment, the air quality standards cannot be fundamentally different. The DEIS does not address which levels are necessary to protect public health (i.e., U.S. EPA NAAQS, proposed Canadian Standards, or the

Canadian "reference" levels). For 24-hour averages of PM₁₀, the U.S. EPA's NAAQS is 150 µg/m³ while the proposed Canadian standard is 50 or 60 µg/m³. The Canadian "reference level" is much lower, at 25 µg/m³. The DEIS needs to address what is an appropriate PM₁₀ standard for the common Lower Fraser Valley airshed since it is illogical that the health effects levels for PM₁₀ exposure to residents on different sides of the 49th parallel could be that different.

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3.1.4.2 Operation

Emission Rates

At the bottom of p. 3.1-8 and top of the next page, it states that natural gas has the lower NO_x, SO₂, CO and CO₂ emissions compared to other fossil fuels. Refer to Section 3.1.2.3 of this letter for comments on cumulative effects, particularly the indirect effects of acid rain.

In Washington State, the environmental agencies use a state implementation plan (SIP) and prevention of significant deterioration (PSD) procedures to address emissions. In British Columbia, the provincial Waste Management Act, the subsidiary GVRD Bylaws, the Canadian Environmental Protection Act and international agreements are used to control air emissions. The differences in procedures are primarily related to the respective constitutions of the two countries. Washington State and British Columbia also have memorandums of understanding on addressing these types of issues.

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Recognizing these points, the City of Abbotsford accepts the offer made through Sumas Energy 2, Inc. in their letter to the Ministry of Environment, Lands and Parks (MELP) to address emissions related to PSD on the British Columbia side of the Lower Fraser Valley (pp. 16 and 17 of the attachment to Sumas Energy 2, Inc.'s letter of April 18, 2000 to MELP).

Ambient Air Quality Standards Impact Assessment

The Fraser Valley Regional District and the City of Abbotsford are the recipients of substantial emissions from the more westerly portion of the Lower Fraser Valley and from the both sides of the border. Much of our area is rural and also significant portions are dedicated to agriculture. The City of Abbotsford has the highest value of farm gate receipts in the Province of British Columbia. That fact serves to illustrate our concern over any impact from air emissions on vegetation (particularly crops) and/or on agricultural soils.

Like some U.S. states and Canadian provinces, the City of Abbotsford is the recipient of air emissions from other jurisdictions. The DEIS needs to address the different segments of the Lower Fraser Valley airshed to show decision makers the nature of the potential impact of the S2GF project on the Abbotsford area and the upper portions of the Lower Fraser Valley.

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The DEIS needs to address the potential air quality related effects of the S2GF emissions on sensitive receptors in the City of Abbotsford including schools, senior citizen centres, and the agricultural industry. One key finding of the GVRD's *Air Quality Management Plan* (1994) was that "high levels of ozone smog...cause significant effects on agricultural crops in the Fraser Valley".

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The ambient PM₁₀ data on Table 3.1-7 of the DEIS was taken from the monitoring station in downtown Abbotsford, not the Abbotsford Airport as stated on p. 3.1-13 of the DEIS. While downtown Abbotsford would have particulate emissions from commercial, residential, industrial and traffic sources, that location would be less prone to wind blown dust from agricultural areas (i.e., the position taken on p. 3.1-13 of the DEIS). More importantly, with the error in monitoring station location, the assumption that S2GF would not cause or contribute to the exceedance of the GVRD's interim PM₁₀ objective is not supported by the analysis in the DEIS. The revised DEIS needs to be revised to determine whether attainment of the GVRD PM₁₀ objective is achieved and whether the

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S2GF emissions would cause or contribute to non-attainment of that ambient objective. Such a review would need to address secondary aerosol formation as a consequence of the S2GF emissions.

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Air Quality Impact Assessment

Footnote (d) to Table 3.1-7 predicts a PM₁₀ concentration of 64 µg/m³ in Canada (24-hour average). That concentration is numerically greater than the numerical value of the most lenient option (60 µg/m³) under consideration for adoption by the Canadian Council of Ministers of the Environment (CCME). Given the anticipated lifetime for the project, the DEIS should clarify whether non-attainment is an issue for PM₁₀ on the Canadian side of the Lower Fraser Valley.

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Table 3.1-10 shows the Class II Increment analysis. However, given the concern over potential impacts on the agricultural area of Abbotsford, the DEIS needs to address potential air quality related effects to agriculture at ambient concentrations below the Canadian maximum desirable and acceptable levels and the U.S. NAAQS as well as for non-criteria air contaminants (including air toxics). The criteria supporting the respective air quality objectives, air quality related values (AQRVs) for Class I areas and other criteria could be used for that purpose. Given the close proximity of the agricultural areas in the City of Abbotsford to the S2GF project, that review should be given similar weight (level of effort) to address air quality related issues as on the much more distant Olympic Peninsula in Washington state.

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Regional Haze Assessment

The regional haze assessment in the DEIS is detailed and addresses only Class I areas in the United States. Visibility reduction and visual obstruction of vistas from the Canadian side of the Lower Fraser Valley is a major concern to residents of both the GVRD and FVRD. Extensive studies have been funded by the Canadian federal and provincial governments as well as the GVRD to address that issue. However, that concern is not

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addressed in the DEIS. This deficiency can be remedied by the proponent of S2GF working with the WDOE, Environment Canada, MELP and the GVRD to put those visual and vista impact issues into a form which can be clearly understood by the affected public. We understand that such a process is underway. The DEIS needs to incorporate the results of that current visibility evaluation if the impacts are to be adequately understood for the purposes of making a decision on their proposed project.

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Greenhouse Gases

On p. 3.1-30, the fourth paragraph implies that S2GF on natural gas is a mitigative measure compared to the use of coal. The basis for comparison (thermal efficiency) is too narrow for that comparison. A lifecycle analysis including the emissions from obtaining, processing and delivering natural gas to S2GF should be included in the DEIS to support that contention.

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3.1.7 Cumulative Impacts

According to the DEIS, the S2GF project will require 1.8% of Western Canada's gas reserves (WCSB). Natural gas has been an important fuel when selectively used to address air quality concerns in urban areas of the United States and Canada with pre-existing pollution problems. In this case, the S2GF project would increase air emissions in an area where the project is not needed.

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Given utility planning, the facility should be located closer to the electrical demand (e.g., nearer Seattle, California or Alberta).

As previously noted, the DEIS does not address the effects of economic growth on the Canadian side of the Lower Fraser Valley on air quality. The DEIS also needs to address the points raised in this letter to ensure that a decision on S2GF is made only after a careful evaluation of all the consequences. Otherwise, two major premises for the

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introduction of the PSD concept under the U.S. Clean Air Act will not have been adequately addressed.

3.3 Noise

While the DEIS in Section 3.3.3.2 (Operation/Onsite Facilities/Predicted Sound Levels at Residential Receiving Properties and Predicted Sound Levels at Adjacent Properties) addresses the impact on receptor locations within approximately one mile of the site, it fails to address any potential for long range noise impact. In particular, anecdotal information from both sides of the border currently cites the existence of a "humming" sound attributed to the stack of the existing combined cycle plant that is detectable up to five miles away.

A more thorough investigation of potential noise impact would probably need to address a broader range of sound frequencies and their characteristics, as well as any other potential explanations for this phenomenon. The DEIS should comment on the merits of this concern.

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3.6.4.2 Operation

It is not specified whether the stacks have flashing strobe lights for warning aircraft. Those types of lights would be visually distracting to the community.

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Our view is that the new electrical transmission lines within Canada are a significant visual detriment for the City of Abbotsford and its residents/visitors.

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3.8 Socioeconomics

3.8.2 Existing Conditions

3.8.2.1 Population

While Whatcom county is discussed, there is no reference to the population on the Canadian side of the border and the rapid growth rate in the 1990s. That population growth needs to be stated to put the air quality and effluent discharge issues into perspective.

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3.8.2.2 Housing

The only reference to Abbotsford is for RV parks and motels "to serve tourists visiting nearby recreation areas". The housing needs to be addressed on the Canadian side of the Lower Fraser Valley for the same reasons as noted for Section 3.8.2.1.

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3.8.2.4 Public Services and Utilities

The schools, public parks and recreational facilities are shown for the U.S. side of the airshed but none are shown in Canada. The facilities on the Canadian side of the border need to be recognized in the DEIS.

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The water supply section notes that the source is well water from a common aquifer, the Abbotsford Sumas aquifer. Presumably the water allocated to this project will be unavailable for other purposes including more higher value added projects.

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When Governor Locke vetoed Substitute Senate Bill No. 6062 which he viewed as an inappropriate tax exemption for the S2GF project, he noted in his letter of March 31, 2000 to the Senate of Washington that "the proposed Sumas plant will create only 25 permanent jobs at a cost of approximately \$24 million in tax exemptions". Governor

Locke further stated that under Washington State's existing tax exemption programs for rural areas, 467 new full-time jobs would have to be created to qualify that project for a tax exemption. The DEIS should incorporate Governor Locke's letter into the socioeconomic evaluation of the proposed S2GF project.

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3.8.8 Environmental Justice Issues

This section states:

...The plant site is in an industrial park not zoned for residential use, and is surrounded by open land, transportation and utility ROWs, and commercial real estate. It was sited because of existing zoning and due to the proximity of a similar plant and the Canadian border...

The United States and Canada (Washington State and British Columbia) have a successful and long track record on addressing air quality issues which started decades before air quality legislation was enacted in either jurisdiction. Canada supplies the natural gas and oil and receives the air emissions, plant effluent, surface runoff and an unsightly transmission line in return. An international border should not be the criteria to avoid addressing environmental issues. That is not the position that the United States would want with Mexico. The DEIS needs to address these socioeconomic issues fully.

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3.9 Energy

3.9.3.2 Operation

On p. 3.9-3, the DEIS states that a combined (cycle) system is more efficient than "a conventional power plant (coal, for example) and steam turbine on an equivalent basis". The Centralia thermal power plant is a "mine mouth" thermal plant which uses coal from nearby sources. The natural gas for the S2GF project must be processed and then transported from Alberta or northeastern British Columbia. How has the energy consumption from processing and transport of natural gas been accounted for to derive

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an "equivalent basis" in the DEIS? The text appears to refer to efficiency of a thermal power plant only without considering the location of the fuel source.

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On p. 3.9-4, the DEIS states that "Westcoast is willing and able to expand its existing facilities to service the connection with SE2". The incremental emissions from this Westcoast system to achieve the provision of the needed natural gas supply for this facility are not contained in the DEIS.

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3.9.3.3 Conservation and Renewable Resources

The reference to the shortfall of winter electrical generating capacity and water flows in the Columbia basin is instructive. Is the marketing plan to "wheel" power to Alberta from the Columbia River with S2GF providing backup to Washington State and British Columbia? As defined in Section 1.1, the "direct, indirect, and cumulative impacts" of this proposal need to be addressed in the DEIS.

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Thank you for the opportunity to submit these comments.

Yours truly,

City of Abbotsford



Richard Danziger
Acting City Manager

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