NW Energy Coalition
For a clean and affordable energy future

Assoc. for the Advancement of Sustainable Energy Policy
Alaska Housing Finance Corporation
Alliance to Save Energy
Alternative Energy Resources Organization
American Rivers
A World Institute for a Sustainable Humanity
Citizens' Utility Board
Clallam-Jefferson Community Action Council
Climate Solutions
Cold Spring Conservancy
Earth and Spirit Council
Emerald People's Utility District
Eugene Future Power Committee
Eugene Water & Electric Board
Fair Use of Snohomish Energy
Friends of the Earth
Golden Eagle Audubon Society
Greenhouse Action
Greenpeace
Housing & Community Service Agency of Lane Co.
Human Resources Council, District XI
Idaho Citizens Network
Idaho Conservation League
Idaho Consumer Affairs
Idaho Rivers United
Idaho Rural Council
Idaho Wildlife Federation
Kootenay-Okanagan Electric Consumers Association
League of Utilities and Social Service Agencies
League of Women Voters - ID, OR & WA
Metrocenter YMCA
Montana Environmental Information Center
Montana Public Interest Research Group
Montana River Action Network
MissoulaUrban Demonstration Project
Mountaineers
National Center For Appropriate Technology
Natural Resources Defense Council
Northern Plains Resource Council
Northwest Energy Efficiency Council
Northwest Resource Information Center
Opportunity Council
Oregon Action
Oregon Energy Coordinators Association
Oregon Environmental Council
Oregon Student Public Interest Research Group
Pacific Rivers Council
Portland Energy Conservation, Inc.
Puget Sound Council of Senior Citizens
Renewable Northwest Project
Rivers Council of Washington
Salmon For All
Save Our Wild Salmon
Seattle Audubon Society
Seattle City Light
Sierra Club
Sierra Club of British Columbia
Snohomish County Public Utility District
Solar Energy Association of Oregon
Solar Information Center
South Central Community Action Agency
South East Idaho Community Action Agency
Spokane Neighborhood Action Programs
Tahoma Audubon Society
Tennessee Valley Energy Reform Coalition
Trout Unlimited
Union of Concerned Scientists
WA Association of Community Action Agencies
Washington Citizen Action
Washington Environmental Council
Washington Public Interest Research Group
Washington Solar Energy Industries Association
Washington Wilderness Coalition
Working for Equality and Economic Liberation
Yakima Valley Opportunities Industrialization Center

Associate Members:
Avista Utilities
City of Ashland
Puget Sound Energy

Supporting Members:
Clackamas County Weatherization
Housing Authority of Skagit County
Multnomah County Weatherization
Rocky Mountain Institute
WA Dept. of Community, Trade & Econ. Development

May 2, 2000

RECEIVED
MAY 0 3 2000
ENERGY FACILITY SITE EVALUATION COUNCIL

Allen J. Fiksdal
Manager
Energy Facility Site Evaluation Council
PO Box 43172
Olympia, WA 98504-3172

Allen:

Enclosed are the comments of the NW Energy Coalition on the Sumas Energy 2 draft environmental impact statement. Per your April 6 letter regarding extension of the DEIS comment period, we are postmarking this document on May 2.

Thank you for considering our comments. Feel free to contact me via phone (206-621-0094) or e-mail (danielle@nwenergy.org) if you have any questions.

Sincerely,

Danielle Dixon
Coalition Policy Associate

Seattle: 219 First Avenue South, Suite 100 • Seattle, WA 98104 • 206.621.0094 • *fax:* 206.621.0097
Portland: 1130 SW Morrison Street, Suite 330 • Portland, OR 97205 • 503.417.1105 • 503.390.6287
email: nwec@nwenergy.org • *website:* http://www.nwenergy.org

NW Energy Coalition Comments on
Draft Environmental Impact Statement for
Proposed Sumas Energy 2 Natural Gas Power Plant

Submitted to EFSEC May 2, 2000

Thank you for providing us with the opportunity to submit comments on the draft environmental impact statement (DEIS) for the Sumas Energy 2 generation facility. Our comments focus on the following issues: carbon dioxide emissions, transmission constraints, and use of backup fuel oil. In addition, we have included a section with miscellaneous comments.

CARBON DIOXIDE EMISSIONS

Missing from the DEIS is an adequate discussion of carbon dioxide (CO_2) emissions and potential mitigation of those emissions. The authors accurately characterize the magnitude of the problem when stating, "The relative contribution of CO_2 to global warming is estimated to be roughly equal to that of all other greenhouse gases combined. There is consensus that CO_2 released by fossil fuel combustion is the largest single source contributing to global warming, accounting for up to one-half of the total." (p. 3.1-30) Despite the significant contribution of CO_2 emissions to global warming and the recognition that the proposed Sumas 2 facility would annually emit approximately 2.4 million tons of CO_2, the authors do not describe appropriate measures for offsetting or mitigating those emissions. 1

In Washington, approximately 100 million tons of CO_2 are emitted annually by all sources; electricity production accounts for 25% of those emissions. The proposed Sumas 2 natural gas power plant would emit approximately 10% of the current amount already emitted by power plants in the state. This represents a significant addition to CO_2 levels.

Widespread Recognition of Global Climate Change

Natural gas-fired generation accounts for 18% of electricity related carbon emissions in the United States. Once released, CO_2 can remain in the atmosphere for more than 100 years. The probable effects of global warming in the Pacific Northwest include shorter warmer winters and longer hotter summers; more frequent and longer droughts and flooding; a sea level rise of 1-1.5-feet over the next century with corresponding shoreline erosion and retreat; increased risk of forest fires; increased stress on water resources; and increased risk of extinction for endangered salmon runs. According to current scientific consensus, unless we reduce the release of greenhouse gases into the atmosphere, global warming will continue increasing by up to 3.6 degrees Fahrenheit over the next century. This scientific consensus has evolved over the last decade.

In 1990, more than 2000 of the world's top scientists working under the auspices of the United Nations-sponsored Intergovernmental Panel on Climate Change (IPCC) concluded that the surface of the Earth had warmed over the last 100 years. In its 1995 report, the IPCC recognized the role of human activities on global climate change. 157 national governments adopted that report. In 1996, the National Climatic Data Center, a division of the National Oceanic and

Atmospheric Administration, published findings of a new analysis technique that showed weather in the U.S. has been growing more extreme. In 1998, the National Science Foundation released the results of a study demonstrating that 1990, 1995 and 1997 were hotter than any other year back to 1400.

Commitments to Emissions Reductions

While CO2 is not regulated at the national level, there is strong national, state and local support for reducing and mitigating emissions. In recognition of the scientific findings and the international movement toward slowing global climate change, U.S. President Bill Clinton stated in his January 2000 State of the Union address, "The greatest environmental challenge of the new century is global warming ... If we fail to reduce the emission of greenhouse gases, deadly heat waves and droughts will become more frequent, coastal areas will flood, and economies will be disrupted. That is going to happen, unless we act. Many people ... still believe you cannot cut greenhouse gas emissions without slowing economic growth. In the Industrial Age that may well have been true. But in this digital economy, it is not true anymore. New technologies make it possible to cut harmful emissions and provide even more growth."

Washington Governor Gary Locke concurred with this assessment in several recent speeches, calling "global warming a global warning." The Governor then outlined the pressing need to address global warming and incent the development of clean energy sources in his April 4, 2000 speech at the Seattle Summit on Protecting the World's Climate. In his 4/21 Op Ed in the Seattle Times, Locke emphasized, "The Northwest, already playing an important role in the clean-energy revolution, has the brainpower, the smarts and the capacity to move into the lead. Building on these assets, we can help accelerate the global clean energy development needed to avert catastrophic global warming. For both our economy and environment, it is a golden opportunity we cannot afford to ignore."

Individual cities and states have adopted policies and regulations related to greenhouse gas emissions. In 1993, the City of Portland, OR became the first U.S. city to adopt a goal and strategy to reduce greenhouse gas emissions. Oregon has some of the nation's most rigorous controls on the siting of power plants, including until recently a rule requiring developers to demonstrate the need for a power plant via a least cost plan approved by the Public Utility Commission. As this rule effectively prohibited independent merchant plants from siting in Oregon, the 1995 Oregon Legislature granted a one-time exemption from this rule for a single large (500 MW) gas-fired power plant. In 1996, Oregon's Energy Facility Siting Council created a competition for siting of that new power plant, based primarily on net CO_2 emissions. Three power plant developers participated in the competition, which showed that the competitive electricity market could afford to internalize some CO_2 control and a state regulatory agency could evaluate mitigation measures for CO_2 emissions in its decision-making process. Following this competition, Oregon adopted in law a CO_2 standard for new energy facilities. Newly sited fossil fuel plants in Oregon must avoid, mitigate, or offset CO_2 emissions in excess of the standard.

On April 10, 2000, the City Council and the Mayor in Seattle, WA adopted resolution 30144, focused in part on reducing greenhouse gas emissions in its own operations and through

community actions. The Council established a long-range goal of "meeting the electric energy needs of Seattle with no net greenhouse gas emissions" and "mitigating or offsetting greenhouse gas emissions associated with any fossil fuels used to meet load growth."

There is a rapidly growing market for CO_2 emissions offsets in North America and worldwide. As industry awaits federal regulation and limit of CO_2 emissions, some are stepping forward to offset or mitigate their CO_2 emissions. In the electric industry, TransAlta, Canada's largest private power company and the soon-to-be new owner of the Centralia, WA power plant and coal mine, recently announced that it will reduce its net emissions of greenhouse gases to below 1990 levels by 2012.

Natural Gas versus Coal

The DEIS correctly states that more efficient fossil fuel combustion processes are associated with fewer air emissions, including CO_2 and CH_4. The authors also state, "To the extent a natural gas-fired plant such as the S2GF is an alternative to generation fired by other fossil fuels (e.g., coal), it would help to relatively reduce greenhouse gases" (p. 3.1-30). The authors do not provide any evidence demonstrating that the proposed power plant would indeed offset power production by coal facilities in the region. If the region is facing a power supply shortage, as the DEIS frequently states, then construction of new natural gas facilities will contribute to meeting that shortage not to displacing current resources. If the authors are referring to natural gas as an alternative to development of new coal power, then the S2GF will increase greenhouse gas emissions but not to the same extent as a new coal plant. The DEIS should clarify whether this statement refers to the S2GF replacing existing resources or serving as an alternative to new coal, and provide a basis for the assumption that the S2GF would help reduce greenhouse gas emissions. 2

Applicant's Greenhouse Gas Offset Strategic Plan

The DEIS (p. 3.1-30) mentions that "the applicant has prepared a Greenhouse Gas Offset Strategic Plan ... for carbon management and mitigation that addresses greenhouse gas emissions from the proposed facility and techniques for CO_2 mitigation. The applicant proposes to offset as much carbon as possible through the voluntary investment of $100,000 per year in greenhouse gas research, offsets, or management projects for ten years. Rather than paying a single up-front charge, the applicant proposes to carry carbon offset as an operating expense, investing $100,000 at the end of each of the first ten years of the facility's operation."

The applicant's commitment to greenhouse gas offsets should be judged only on its ability to mitigate CO_2 emissions. The $100,000 investment level appears to have no market basis other than the Company's willingness to pay. In addition, the applicant provides no commitment to actually achieving and tracking offsets. Under Oregon's CO_2 standard, if a site certificate holder elects to use a monetary path for CO_2 offsets, it must provide those funds to a qualified organization. If the site certificate holder decides to move forward with direct investment in carbon mitigation projects, it must be able to prove that the projected CO_2 offsets from specific projects were achieved. 3

The DEIS should include in its discussion a quantitative analysis of probable CO_2 offsets that would be realized through the applicant's investment of $100,000 annually in research and tree planting, and whether these investments are adequate to offset emissions at a level at least consistent with the Oregon standard. Further, the DEIS should discuss opportunities for achieving offsets, such as investment in energy efficiency and conservation efforts and renewable energy resources. The discussion should include a comparison of the pros and cons and probable offsets of greenhouse gas emissions from the various alternatives. 3

The DEIS also should take into account how CO_2 offsets will be measured and who will measure them.

Other Greenhouse Gases

In the greenhouse gases section of the DEIS (p. 3.1-29, 30, 31), the author mentions the five principal greenhouse gases, including nitrous oxide and ozone. According to p. 3.1-10, NOx emissions levels from the proposed facility will be significant, as will levels of ozone. The DEIS does not adequately address the global warming impacts of these gases. 4

The air quality section of the DEIS does not discuss methane emissions, even though the Company estimates annual emissions at 161 tons/year according to the Company's Greenhouse Gas Offset Strategic Plan. Methane is the most potent greenhouse gas, and its emissions should be taken into account when discussing air quality impacts and contributions to global climate change. Further, the DEIS also should address methane emissions from the extraction and transport of the natural gas used by the S2GF. 5

Conclusion

According to the DEIS (p. 3.1-29, 30), "There is less agreement as to when [the effects of global warming] might become significant, how rapidly they may occur, how intense they might be, or what the long-term social, cultural, political and economic effects may be." Uncertainties regarding climate change should not preclude action today. We invest in defense programs to protect against an uncertain but potentially disastrous threat. Similarly, we should invest in strategies to slow global warming and stabilize the climate. The risk of inaction is too great to wait for federal mandates. 6

The DEIS for the Sumas 2 facility should provide more discussion of greenhouse gases as well as details about potential mitigation measures, including the pros and cons of each measure from both a scientific and economic perspective.

TRANSMISSION CONSTRAINTS

Although the DEIS frequently refers to the proposed transmission line to BC Hydro's Clayburn Station and the potential for two transmission lines extending into Whatcom County, no mention is made of existing constraints to the transmission system that may be exacerbated by production of approximately 5.6 million megawatt hours of electricity annually (p. 3.9-3). The aging network of high voltage transmission lines in Washington already are stressed by operational 7

changes brought on by wholesale power restructuring. Increased buying and selling of electrons among utilities, independent power producers and the Bonneville Power Administration has pushed traffic on transmission wires to an unprecedented level. Critical segments of the Northwest grid now suffer from dangerous levels of congestion.

There is a recognized need to reform transmission in the Pacific Northwest to ensure power supply reliability. The Federal Energy Regulatory Commission set an October 2000 deadline for proposals to create a Regional Transmission Organization to take control of the transmission network and ensure its continued reliability. The conventional response of transmission operators to increasing pressure on the grid has been periodic upgrades and additions to power lines, substations, transformers and other elements of the system. These modifications require large up front costs and lead to environmental impacts. Current trends in power production are toward decentralized targeted facilities in transmission constrained areas where peak power is needed. These are small facilities that address a specific problem or need, not large fossil fuel powered facilities. 7

Section 3.9 (Energy) of the DEIS should include a discussion of existing transmission constraints that could be further exacerbated by development of the Sumas 2 facility, as well as actions the developer can take to mitigate adverse effects. Bonneville Power Administration's Transmission Business Line would be a good resource for this discussion.

USE OF BACKUP FUEL OIL

The DEIS mentions the use of up to 9,249,840 gallons of No. 2 diesel oil to generate power up to 15 days per year in the event of natural gas curtailment (p. 3.9-4). Sumas Energy 2 plans to store 2,500,000 gallons of oil on site (p. 2-17). Oil contains 44% more carbon per energy unit than natural gas and emits other air pollutants in greater quantities than natural gas. The DEIS fails to address the possibility of Sumas Energy 2 ramping down its power generation during times of natural gas curtailment. As the authors point out elsewhere, a combined cycle combustion turbine is completely dispatchable and therefore its operations could be limited during gas shortages rather than relying on backup oil. The DEIS should include the reduced environmental impacts associated with following this course of action and the corresponding increase in environmental impacts from storage, transport and usage of the 9.2 million gallons of oil. 8

MISCELLANEOUS

Alternative Sites Considered and Socioeconomics

The DEIS should clarify the local business effects of constructing and operating the Sumas 2 power plant. In Chapter 2, p. 27, the DEIS states, "The project is considered by SE2 to be an expansion of the existing 125 MW SCCLP, which began operation in 1993. ... To facilitate the use of the existing natural gas transmission corridor and realize operating efficiencies through staffing both projects with some of the same personnel, only sites immediately adjacent to the existing plant or in proximity to it were considered." In Section 3.8.3.2, the DEIS states that "operation of the S2GF requires only 23 permanent employees." It is unclear how many of those permanent employees already are on staff at the existing plant. 9

In Section 3.8 (p. 13), the DEIS briefly describes the local business effects of the proposed facility, anticipating approximately $11 million in payroll expenditures in Whatcom County during project construction. The DEIS also states that "the project would generate 645 worker-years of direct employment at the site during the 1-1/2 years of construction." It is unclear how this conclusion was reached. If one assumes $55,000/job, then $11 million in payroll would yield 200 job years for construction, not 645 job years. 10

According to the Department of Revenue, S2GF would generate approximately $19.56 million in state sales tax revenues, not $18 million as stated in the DEIS (p. 3.8-13). 11

Conservation and Renewable Resources (3.9.3.3)

The DEIS claims that "availability of power from the S2GF would help optimize renewable and conservation resources of other generators" (p. 3.9-5). While it is true that a natural gas power plant is easily dispatched and generation can be sold as a backup to renewable resources, it is also evident that less incentive exists to start up new renewable resources if natural gas power plants are rapidly being sited to meet the anticipated power supply deficit. Thus, operation of the Sumas 2 facility in Washington could be linked with a decrease in the potential for new renewable resources. It is unclear how the Sumas 2 facility would help optimize investment in energy conservation. 12

The DEIS also states that the Sumas 2 facility would provide "additional flexibility to hydro generators" (p. 3.9-5). No justification is provided for this statement. Currently, during periods of high water run-off, most fossil fuel power plants in the region ramp down generation because hydro based generation is cheap and readily available. The Sumas 2 facility would not be unique in ramping down during spring run-off. During periods of low flows, the Bonneville Power Administration and the vast majority of utilities with hydro generation already are restricted in their power production by biological opinions, habitat conservation plans, and other analyses directing maintenance of their fish flow regime. Thus, it is incorrect to presume that "the S2GF may promote conservation of fish and wildlife resources" (p. 3.9-5). 13

REFERENCES

Environmental Protection Agency, Office of Policy, Planning and Evaluation. July 1997. Cool facts about global warming.

Mazza, P. June 1999. In hot water: A snapshot of the Northwest's changing climate. Climate Solutions special report. Olympia, WA.

Mazza, P. and R. Roth. March 1999. Global warming is here: The scientific evidence. An Atmosphere Alliance/Energy Outreach Center special report. Olympia, WA.

Oregon Office of Energy. December 6, 1999. Oregon carbon dioxide emission standards for new energy facilities. Prepared by S. Sadler. Portland, OR.

Oregon Office of Energy. Laying the foundation for regulating carbon dioxide. Portland, OR.

Washington Utilities and Transportation Commission and Washington Department of Community, Trade and Economic Development. December 31, 1998. Washington state electricity system study. Study submitted to Washington State Legislature in compliance with Engrossed Substitute Senate Bill 6560.