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BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL

IN RE APPLICATION NO. 99-1

EXHIBIT _____ (CM-T)

SUMAS ENERGY 2 GENERATION
FACILITY

APPLICANT'S PREFILED TESTIMONY

WITNESS : CHARLES MARTIN

Q. Please state your name and business address.

A. Charles Martin. 335 Park Place. Kirkland, Washington.

Q. There have been some corporate changes at Sumas Energy 2, Inc. since you last appeared as a witness before the Council. Could you briefly summarize those changes?

A. Yes. Sumas Energy 2, Inc. (SE2) was formed as a special purpose corporation to develop the SE2 generation facility in Sumas, Washington. It is an affiliate of National Energy Systems Company (NESCO). Both SE2 and NESCO are privately

1 held corporations. At the time of the last series of hearings, Darrell M.P. Jones
2 owned all the shares and was President of both corporations, and I was Vice-President
3 of NESCO and Treasurer of SE2. As the Council is aware, Mr. Jones died in a tragic
4 accident in May. The corporate shares of both SE2 and NESCO continue to be
5 owned by his Estate, and I have been formally named as President of both
6 corporations.
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15 **Q. Could you briefly remind the Council about your background and experience?**

16 A. My educational background is in accounting and finance. I have a bachelor's degree
17 in Business and Accounting from the University of Washington, and I have also taken
18 courses at the business school at Western Washington University. Prior to joining
19 NESCO, I was employed by Price Waterhouse, an international public accounting
20 firm for six years, eventually becoming a Manager. After leaving Price Waterhouse, I
21 worked for about six years as a private consultant and financial analyst for numerous
22 businesses, including NESCO and several of its affiliates.
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31 Since about 1992, I have been involved in the finance, business development,
32 government affairs, and public relations aspects of various businesses conducted by
33 NESCO and some of its affiliates. In that capacity, I have extensive experience in the
34 analysis and negotiation of financing arrangements, partnership and joint venture
35 agreements, energy purchase and sales contracts, and equipment purchase contracts.
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42 In addition, I have considerable experience in the analysis of the power generation
43 market in the Northwestern U.S. and Canada, the evaluation of potential power
44 projects, the analysis of natural gas markets, the evaluation and negotiation for the
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1 purchase of natural gas reserves in British Columbia and Alberta, and the process of
2 obtaining third-party financing for large electrical generation and natural gas
3 production projects. During the past 3-4 years, I have devoted a considerable amount
4 of my time to the development and permitting of the SE2 project.
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10 **Q. What subjects will your testimony address?**

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12 A. My testimony will generally describe the major changes to the project that we've
13 proposed in the Second Revised Application. In my mind, the major changes concern
14 ten issues:
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- 18 1. Elimination of Back-up Fuel
- 19 2. Air Quality
- 20 3. Wetland Impacts
- 21 4. Water Use
- 22 5. Flooding
- 23 6. Noise
- 24 7. Earthquakes
- 25 8. Site Restoration
- 26 9. Need and Consistency Limitations on Power Sales
- 27 10. Greenhouse Gas Mitigation

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29 Some of these changes will be addressed in greater detail by other witnesses who have
30 more background in the relevant area, but I will at least touch upon each. After
31 discussing the changes to the project, I will also address some of the changes that
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1 have occurred in the power market since the Council held hearings in July and August
2 of last year.
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6 **Q. Before I ask you questions about the ten areas of project changes you identified,**
7 **let me ask you to generally explain how SE2 decided upon these changes to the**
8 **project?**
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12 A. Our starting point was the Council's February Order No. 754. Although we were
13 disappointed to receive a negative recommendation, when we read the Order closely it
14 provided a roadmap for fixing what the Council viewed as problems with the original
15 project. We looked at each "problem" or concern identified in the Council's Order,
16 and we tried to come up with a solution. In many cases, the solutions were obvious,
17 but in others, more creativity was required. We then filed a Motion for
18 Reconsideration, suggesting that the Council mandate the various solutions we
19 suggested by including conditions in the site certification agreement. Although the
20 Council disagreed with the procedural approach that we suggested, the Council also
21 stated that "the significant changes the Applicant proposed to the project via its
22 Motion appear at first blush to address many, if not all, the factors that led the Council
23 to recommend against certification." Encouraged by that statement, we accepted the
24 Council's invitation to file a Second Revised Application incorporating the project
25 modifications that we had suggested in our Motion for Reconsideration.
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42 **Q. Why didn't SE2 simply include these additional mitigation measures in the**
43 **company's original application?**
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1 A. To be perfectly frank, we didn't propose solutions for things we didn't perceive to be
2 problems. In our initial application, we went further than any other EFSEC applicant
3 had ever gone to anticipate and address environmental concerns. For example, we
4 proposed to set a new standard for air emissions control; we were the first developer
5 in this state to volunteer to provide significant greenhouse gas mitigation; and we
6 volunteered to go far beyond existing regulatory requirements in building and
7 operating our natural gas pipeline. In our discussions with government agencies on
8 both sides of the border, we initially received widespread support and encouragement
9 regarding the project. It was fairly late in the process that project opponents began to
10 raise concerns. We felt, and still feel, that many of those concerns are not justified
11 and were not supported by evidence presented during the hearings. The Council,
12 however, disagreed, and now we are trying to move forward in a productive way. We
13 still believe this is an excellent project. The changes contained in the Second Revised
14 Application go far beyond anything required by federal or state law, and anything
15 other power developers have offered voluntarily, and we believe they address the
16 Council's primary concerns.
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35 **Back-up Fuel**

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37 **Q. What is SE2's new proposal regarding back-up fuel?**

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39 A. We had originally requested permission to operate the facility on low-sulfur distillate
40 fuel oil for up to 15 days per year. Our revised proposal eliminates the back-up fuel
41 aspect of the project. The facility will now be operated solely on natural gas.
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1 **Q. How does the elimination of back-up fuel address previous concerns regarding**
2 **the project?**
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5 A. There are several implications of removing back-up fuel:
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7 First, it substantially reduces the emissions of air pollutants. A key factor in
8 our decision to eliminate back-up oil firing was the unanimous decision of the
9 Council to adopt the FEIS, with its conclusion that "no significant adverse air quality
10 impacts would occur when the facility is fired with natural gas." Eric Hansen and
11 Sanya Petrovic will address in detail how eliminating oil firing will reduce emissions
12 and minimize the effect of the project on ambient air quality and related health
13 concerns.
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16 Second, the elimination of back-up fuel alleviates any concern about the safety
17 risks associated with storing a large quantity of distillate fuel oil on site. Despite all
18 of the safety measures that we had proposed in the original project, we understand
19 that the Council and some parties still had concerns about a large fuel oil tank being
20 located at the project site. Eliminating back up fuel fully addresses those concerns.
21

22
23 Third, the elimination of the fuel oil storage tank substantially reduces the
24 footprint of the facility. This has allowed us to reduce the impact to wetlands on the
25 project site and to increase the area of land devoted to wetland creation and
26 enhancement. Katy Chaney and Dave Every will testify in greater detail about this
27 issue.
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30 Fourth, eliminating the back-up fuel proposal eliminates the need to truck fuel
31 oil to the project site. This avoids the traffic impacts associated with that trucking.
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34 Finally, we believe the elimination of back-up oil firing directly responds to
35 the primary concerns identified by this Council. The statements by Council members
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1 Carelli, Ray and Haars that "[w]ithout backup oil firing, full mitigation or offsets of
2 the impact of this project would be very possible" were very influential in leading us
3 to abandon back-up fuel, and to file a Second Revised Application.
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9 **Q. During the first round of hearings on this project, Mr. Jones testified that it**
10 **would be good public policy to provide a back-up fuel option for this sort of**
11 **facility. He talked about freeing up natural gas supplies for other uses during a**
12 **cold snap. Will eliminating the facility's back-up capability create a gas supply**
13 **problem in the event of a cold snap?**
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19 **A.** No, I don't believe so. Local natural gas distribution companies (LDCs) have an
20 obligation to provide natural gas to commercial and residential customers. They meet
21 commercial and residential demands by securing gas supplies and maintaining
22 infrastructure to satisfy the range of consumption that they anticipate. In order to
23 meet supply obligations during peak demand periods, such as cold snaps, LDCs often
24 make contractual arrangements with large natural gas users to curtail use and free up
25 supplies for the LDCs. For example, an LDC might pay a large user an annual fee in
26 order to have the ability to call upon that user's supply of gas for a limited number of
27 days each year. The large user might plan to shut down operations or to switch to a
28 back-up fuel source during any period in which the LDC exercised its contractual
29 right to the large user's gas. These sorts of arrangements allow LDCs to meet their
30 obligations to commercial and residential customers. SE2 had originally intended to
31 be one of the large users that would enter into such a contractual arrangement and be
32 able to switch to oil-firing in order to make its gas available to an LDC. Now SE2
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1 will not have the option of doing so, but LDCs will continue to make similar
2 arrangements with other large gas users, just as they do today.
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6 **Air Quality**
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9 **Q. What changes have you made to the project that concern air quality?**

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11 A. There are four major changes that are reflected in the Second Revised Application.
12 First, we've eliminated back-up oil firing, as I've mentioned. Second, we've
13 committed to more stringent emissions limitations: specifically, we've agreed to limit
14 NOx emissions to 2 ppm instead of 3 ppm, and to limit ammonia emissions to 5 ppm
15 instead of 10 ppm. Third, we've increased the height of the exhaust stacks to 180
16 feet. Fourth, we've developed a specific proposal regarding offsetting emissions in
17 the airshed.
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27 **Q. Mr. Hansen is going to address the first three changes you've mentioned in**
28 **considerable detail, so why don't you explain the fourth. What is SE2's proposal**
29 **regarding offsetting emissions in the airshed?**
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33 A. Within 12 months following the issuance of a Site Certification Agreement, we have
34 proposed to submit to EFSEC a plan for offsetting the NOx and particulate matter
35 (PM) emissions from the facility by reducing actual emissions in the Fraser Valley
36 airshed. In the event that we are unable to privately negotiate and implement an offset
37 project or projects, SE2 has proposed to make a payment of \$1,500,000 (U.S.) into a
38 fund to be administered by the Washington Department of Ecology and the British
39 Columbia counterpart, the B.C. Ministry of Water, Land and Air Protection, to be
40 used for improvement of air quality in the Fraser Valley airshed.
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3 **Q. Why doesn't SE2 just commit to implementing 100% offsets of NOx and PM in**
4 **the airshed, instead of offering \$1.5 million in funding as an alternative?**

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7 A. For more than a year now, SE2 has been working to identify possible offset projects
8 that we could implement privately. During the previous hearings, we discussed the
9 Fraser River Debris Burning project and another GVRD project concerning the
10 retrofitting of old boilers. We had very favorable initial discussions with government
11 officials in British Columbia regarding these and other possible projects, but when the
12 provincial authorities decided to oppose the SE2 project they became unwilling to talk
13 with us about implementing offset projects. We are hopeful that, once SE2 has a
14 permit from EFSEC in hand, authorities in British Columbia will be more interested
15 in helping us implement programs that will improve air quality in the area. If
16 government officials in Canada continue to block meaningful efforts to implement
17 offset projects, however, we do not think it would be fair to penalize SE2. The
18 alternative of providing funding for air quality programs would give B.C. an incentive
19 to cooperate in implementing specific offset projects, and would ensure that SE2
20 mitigates its impacts one way or the other.
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37 **Q. How did you come up with the \$1.5 million figure?**

38 A. Well, initially, I think it is important to understand that there isn't any regulatory
39 program in Washington State or British Columbia that requires facilities emitting air
40 pollutants to implement any offsets or to pay any amount of money to improve air
41 quality. As a result, there isn't an existing regulatory program that has established
42 some sort of formula for making monetary payments. Without that sort of reference,
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1 we had to decide upon a reasonable amount of funding. \$1.5 million is a substantial
2 amount of money, and we believe it could be used to make significant gains in air
3 quality. In selecting the amount, we did consider the anticipated costs associated with
4 other offset projects that we had considered. For example, we looked at the Fraser
5 River Wood Debris Burning, which has more emissions than SE2, and thought we
6 could fund a solution for approximately \$750,000 (Canadian). We also looked at the
7 possibility of establishing a boiler retrofitting program in the GVRD that would offset
8 three times as much NOx as the SE2 project emits and the GVRD told us that the
9 program would cost \$3 million (Canadian). In light of those examples, we concluded
10 that a \$1.5 million dollar (U.S.) commitment was generous and appropriate.
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22 Finally, we think \$1.5 million is significant when you keep in mind that SE2
23 emissions would constitute only about 0.27% of the NOx emissions and less than 2%
24 of the PM10 emissions contributed by Canadian sources to the airshed, according to
25 the GVRD's latest Emissions Inventory. (This does not even take into account other
26 sources contributing emissions to the airshed from the U.S. side of the border.) That
27 means if just all of the Canadian emission sources in the airshed contributed funds on
28 a similar basis, it would generate a fund of more than \$275 million (U.S) to spend on
29 air quality improvement programs. Under the current system, however, other sources,
30 which collectively emit almost 200 times the NOx and PM10 emitted by SE2, have
31 no requirement to offset any of their emissions or to contribute any funding to air
32 quality improvement programs.
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1 **Q. Why have you suggested that the Washington Department of Ecology and the**
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3 **B.C. Ministry of Water, Land and Air Protection (formerly the Ministry of**
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5 **Environment, Land and Parks) administer the fund?**

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7 A. The airshed extends across the border, so it made sense to us that the agencies
8
9 charged with protecting air quality on either side of the border could work together to
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11 figure out the best way to spend the money. Given budgetary constraints on both
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13 sides of the border, we assumed these agencies would be happy to receive additional
14
15 funding for their programs. We did not think our offer would impose a burden on
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17 either agency.
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21 **Q. Are you familiar with any other electrical generating facility in Washington that**
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23 **has been required to offset its emissions or help fund air quality improvements?**

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25 A. No. As far as I know, the Washington Department of Ecology does not require
26
27 facilities to implement offsets or to fund air quality improvements as a condition of
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29 permits issued in Washington. The only power plant that I am aware of having
30
31 offered to implement offsets or fund air quality improvements is the 248 MW
32
33 Goldendale facility that was developed and permitted by an affiliate of SE2.
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35 Goldendale Energy offered to pay \$175,600 for air quality improvements around the
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37 Columbia River Gorge. At the suggestion of the Bonneville Power Administration's
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39 environmental division, the amount was calculated at a rate of \$1000 per ton of
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41 annual PM10 and NOx emissions. Significantly, SE2 is now proposing to provide an
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43 amount equal to more than four times as much funding calculated on a comparable
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45 basis.
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1 **Q. During the first round of hearings, you testified about SE2's offer to curtail**
2 **operations during so-called "bad air days." Can you tell us the status of that**
3 **proposal?**
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7 A. Yes. In our discussions with the B.C. Ministry of Environment last year we were told
8 that B.C. Hydro's 960 MW power plant in the Fraser Valley, Burrard Thermal,
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curtails operations during bad air days and we were told that B.C. had concerns about
SE2 operating during bad air days. We offered to address concerns about bad air days
in the same way that we were told B.C. Hydro does with Burrard. We proposed that
an objective standard be established for determining when a "bad air day" occurs, that
both Burrard and SE2 curtail operations when the objective standard is met, and that
B.C. Hydro provide SE2 with replacement hydroelectric power so that SE2 could
satisfy its contractual commitments, just as it does for Burrard. We felt that if the
B.C. government were genuinely concerned about air quality in the Fraser Valley, it
would agree to this proposal, but it has not. In fact, we've learned that B.C. Hydro
does not appear to curtail operations during bad air episodes. Most recently, the
GVRD issued an "air quality advisory " on August 14 and 15, 2001, but Burrard
continued to operate. So, although SE2 remains willing to enter into this sort of
agreement, it would require B.C. to make a similar commitment to address air quality
– a commitment that the Province has thus far been unwilling to make.

41 **Q. Is there any other offer that you've made to British Columbia?**

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43 A. Yes. We continue to offer to sell some or all of the output of the SE2 project to the
44 government-owned utility, B.C. Hydro. Again, if the Provincial Government were
45 serious about air quality concerns in the Fraser Valley, it would shut down Burrard,
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1 which has much higher emissions per kilowatt than SE2. Although the political party
2 now in Government in B.C. (the B.C. Liberal party) pledged during the election
3 earlier in 2001 to shut-down the Burrard Thermal plant, that suggestion seems to have
4 faded from the political landscape. Instead, during the past year and a half, electrical
5 generation at Burrard has dramatically increased. See Exhibit ____ (CM-1). During
6 the same time, B.C. has made literally billions of dollars in profits from selling power
7 to the United States. See Exhibit ____ (CM-2) and Exhibit ____ (CM-3). If the
8 Province of British Columbia put more priority on Fraser Valley air quality than on
9 profits, it would shut down Burrard and enter into a long-term contract to buy SE2
10 power. This would result in a net decrease in air emissions, a net increase in available
11 supply of domestic (Canadian) natural gas supply because SE2 can generate power
12 with less fuel and lower emissions.
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Wetland Impacts

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29 **Q. What have been the project changes regarding wetlands?**

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31 A. Katy Chaney and Dave Every can address this issue in more detail. Basically, we've
32 reduced the impacts to wetlands and increased the size of the mitigation area.
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34 Eliminating the diesel tank meant a smaller facility footprint, which resulted in a
35 smaller area of impact and more opportunity for mitigation.
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Water Use

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43 **Q. What have you changed about water use?**

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45 A. Prior to the previous hearings, we made some changes in the project design to
46 incorporate some reverse osmosis water treatment units. This allowed us to
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1 substantially reduce both the quantity of water used by the facility and the quantity of
2 wastewater discharged. The Second Revised Application reflects this previous
3 reduction in water use and wastewater. The only real change in the project since the
4 conclusion of the previous hearings, however, has to do with our commitment to
5 address potential adverse impacts on nearby well owners.
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12 **Q. What is that proposal?**

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15 A. Burt Clothier will address this issue in greater detail, but in a nutshell we continue to
16 believe that the City's withdrawal of water pursuant to their valid legal rights will not
17 adversely affect other users in the area. Nonetheless, when the question of possible
18 impacts was raised during the first round of hearings, we committed to addressing any
19 adverse impacts on the six wells that had been identified near the site in Whatcom
20 County. When the Council issued its Order No. 754 last February, it expressed
21 concern about the possibility of wells located in Canada being adversely affected as
22 well. We have, therefore, expanded our original commitment to address nearby wells
23 in Canada.
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34 We asked our hydrogeologist, Burt Clothier to outline a means of addressing this
35 concern, so our proposal is very specific and fairly technical. From a layperson's
36 standpoint, we're basically proposing to identify all the wells within the potential area
37 of influence, install some monitoring wells of our own, perform pre- and post-
38 operation monitoring on all the wells, and mitigate adverse impacts resulting from the
39 City's water withdrawals. The details are spelled out in Section 3.3.6.6 of the
40 application and Mr. Clothier will address them at length.
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3 **Q. During the previous hearings some parties expressed concerns about nitrate**
4 **contamination. Does the Second Revised Application contain a proposal to do**
5 **anything more than SE2 previously offered to do regarding nitrates?**
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9 A. No. During the original round of hearings, SE2 entered into a stipulation with the
10 City of Sumas committing to fund a water treatment system if it became necessary.
11 Because the nitrate contamination is caused by agricultural activities in British
12 Columbia and Whatcom County, not by SE2, we feel as if we have already gone
13 above and beyond the call by offering to fund a treatment facility for the City. Given
14 the absence of any evidence that SE2 would worsen the existing problem of nitrate
15 contamination in the aquifer, we don't feel that any other commitment is appropriate.
16 The Second Revised Application, therefore, contains no additional proposal with
17 respect to nitrates.
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28 Flooding

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31 **Q. The Council's February Order expressed concern about the fill for the facility**
32 **affecting the impacts associated with flooding in the area. Has SE2 done**
33 **anything to address these concerns?**
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37 A. Yes. SE2 has committed to performing additional modeling and, if that modeling
38 identifies any unreasonable impact, to develop and implement an appropriate
39 mitigation plan. Katy Chaney, Sherri Chang and Doug Sovern will be providing
40 testimony to address this issue in greater detail.
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Noise

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3 **Q. Has SE2 proposed anything new with respect to noise from the facility?**

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5 A. Yes. The Second Revised Application outlines our proposal to perform pre- and post-
6 operation monitoring of noise levels. This monitoring will include monitoring
7 designed to evaluate low frequency noise and tones. We will provide the results of
8 this monitoring to officials from the City of Sumas and Whatcom County, and ask
9 them to determine in the first instance whether the facility meets regulatory
10 standards and whether any low frequency noise or tones are objectionable. If they
11 determine that noise needs to be addressed further, we will develop a mitigation plan
12 for submission to EFSEC for approval along with the results of the monitoring.
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23 **Q. Why hasn't SE2 performed additional modeling regarding low frequency noise**
24 **instead of proposing post-operation monitoring?**

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26 A. We had our noise experts do extensive modeling the first time around, and what we've
27 found is that there is always someone willing to criticize a theoretical model because
28 the reliability of its predictions always depend upon a variety of assumptions. We
29 believe the noise mitigation features in our proposal will adequately address any noise
30 issues. Rather than quibble about modeled predictions, we agreed to test for the noise
31 actually produced by the facility once it is built. That way no one has to trust the
32 results of models, everyone can rest assured that the actual impacts will be measured,
33 the regulatory standards will be met and reasonably objectionable noise will be
34 addressed.
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1 **Q. How do you know that you will be able to address objectionable levels of low**
2 **frequency noise or tones after construction?**
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5 A. Experts who have experience with these facilities tell us there won't be a problem if
6 we pay attention to noise issues during the final design, and we intend to do so.
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8 Experts also tell us that if an unanticipated problem were discovered during operation,
9 it could be addressed after construction. Based on our consultation with experts, we
10 believe the appropriate course is to continue to design the facility to avoid undue
11 noise, and in the unlikely event that a problem is detected after operation begins, to
12 address it at that time. Frank Britten will be providing testimony that addresses this
13 issue in greater detail.
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23 Earthquakes

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25 **Q. How has the project changed with respect to earthquakes and seismic risks?**

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27 A. SE2 has committed to performing a detailed geotechnical investigation and a
28 probabilistic seismic hazard analysis prior to finalizing the facility design. SE2 has
29 also committed to addressing seismic risks during the final design as appropriate
30 based on the results of those investigations and analyses. The details of these
31 commitments are spelled out in Section 2.15.2 of the Application, and are addressed
32 in greater detail in the testimony of Mark Molinari and Allan Porush.
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41 Site Restoration

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43 **Q. How has the project changed with respect to site restoration?**
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1 A. The Second Revised Application contains a commitment to maintain pollution
2 liability insurance coverage on the site and to obtain a Site Closure bond to cover the
3 costs associated with restoring the site at the conclusion of operations.
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9 **Q. Do you think this addresses the Council's concerns?**

10 A. Yes. Since the Council last held hearings on this project, it has approved Initial Site
11 Restoration Plans for both the Chehalis and Satsop projects. Both of those plans
12 essentially require a \$5 million corporate guarantee to be provided during the first 5 –
13 7 years of operation, to be replaced thereafter with some sort of security (a bond or
14 line of credit) in the same amount. Our proposal is consistent with the approach that
15 the Council accepted in connection with those projects.
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25 **Need and Consistency**

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27 **Q. Has the project changed with respect to the so-called "Need & Consistency"**
28 **requirements?**

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30 A. Yes. In the Second Revised Application, we indicated that SE2 is willing to accept
31 the "Need & Consistency" requirements that EFSEC has imposed in other Site
32 Certification Agreements. We understand those requirements to be the following:
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37 1. Need. Prior to beginning construction of the S2GF, SE2 will enter
38 into one or more power purchase agreements that provide in the
39 aggregate for the purchase and sale of at least 60% of the design
40 capacity of the S2GF. Any such power purchase agreement shall have
41 a term of at least five (5) years.
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44 2. Consistency. SE2 will ensure that at least one of the following
45 conditions is satisfied prior to beginning construction of the S2GF.
46 For purposes of this provision, "Purchaser" means any entity that has
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1 entered into a power purchase agreement with SE2, for a term of at
2 least five (5) years, providing for the purchase and sale of more than
3 40% of the S2GF's design capacity:
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5 a. If the Purchaser has adopted an integrated resource plan: (i)
6 the project is of the type included in the Purchaser's preferred resource
7 acquisition strategy; (ii) the plan was reviewed commercially available
8 supply and demand side resources and evaluated them on a consistent
9 basis; (iii) the plan was developed with public participation; and (iv)
10 the plan was reviewed by the utility's regulatory body.
11

12 b. If the Purchaser has not formally adopted an integrated
13 resource plan: The Purchaser has reviewed commercially available
14 supply and demand side resources, or is located in the service territory
15 of a utility that has an integrated resource plan meeting the criteria set
16 forth in 2.a. (above), or the project is consistent with the priorities and
17 principles expressed in the relevant Northwest Conservation and
18 Electric Power Plan.
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24 **Q. During the original hearings, SE2 witnesses were critical of these requirements.**

25 **Why the change of position?**

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28 A. Frankly, we still question the wisdom of EFSEC regulating the sale of power by
29 imposing these kinds of requirements. However, we read the Council's February
30 Order very closely and that Order seemed to say that the Council believes that these
31 requirements increase the public benefits associated with private power projects. If
32 those conditions are requirements for obtaining the site permit, we are willing to live
33 with them. We are, however, currently engaged in settlement discussions with CFE,
34 OTED, NWEC and Whatcom County, and we hope that we may be able to agree
35 upon a stipulation with respect to this issue that may result in proposed conditions for
36 the Site Certification Agreement that would be more desirable from the perspective of
37 those agencies and more practical for SE2.
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Greenhouse Gas Mitigation

Q. How has the project changed with respect to greenhouse gases?

A. The primary change is the mitigation we are proposing. Originally, we proposed to provide \$1 million in funding for greenhouse gas offset projects. We are now proposing to essentially comply with the monetary path established under Oregon’s statutory and regulatory program.

Q. The Oregon Facility Siting Council is currently conducting a rulemaking and is considering a proposed rule that would increase the offset price per ton under the monetary path from \$0.57 to \$0.85. Can you clarify whether SE2 is proposing to pay the current offset price, or whatever the price is after the rulemaking?

A. We are proposing to comply with the Oregon monetary path requirement as it existed at the time we filed the Second Revised Application. At that time and at the time I’m submitting this testimony, the offset price per ton was \$0.57. It is possible Oregon may raise or lower that price in the future, but we are proposing the current rate, \$0.57.

Q. The Application specifies that SE2’s payments will be made to the Oregon Climate Trust. Why have you specified this particular organization?

A. At the time of our proposal, the Oregon Climate Trust was the only established entity in the Northwest of which we were aware with procedures in place to aggregate funds

1 for greenhouse gas mitigation. The Oregon Climate Trust is widely recognized
2 throughout the Northwest as the leader in this area.
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7 **Q. Since the time of your proposal, have you learned about other organizations in**
8 **Washington State that are interested in greenhouse gas mitigation and carbon**
9 **sequestration?**
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12 A. Yes. Since the time of our proposal we have learned that several Washington based
13 organizations, public and private, have on-going programs and interest in carbon
14 sequestration. These programs relate mainly to the development of hybrid trees that
15 would take up and hold carbon. The growing of these trees is also seen as a potential
16 boon for rural economic development and the agriculture industry. There is keen
17 interest in the creation of a large-scale pilot project to demonstrate the benefits and
18 practicality of this approach to carbon sequestration. Some of the organizations that
19 have taken an interest in this area include: Fountainhead, Inc., located in Walla
20 Walla, Columbia Pacific RD&D, located in Aberdeen, Climate Solutions of Olympia,
21 and the Washington State Department of Agriculture.
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35 **Q. Are you now suggesting that the Oregon Climate Trust not be considered the**
36 **recipient of the greenhouse gas mitigation funds from the project?**
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38 A. No, simply that the Council should observe developments in this area in Washington
39 State and not preclude taking a decision at some later point to direct the funding to
40 sources located in Washington State and/or Whatcom County or the lower mainland
41 of B.C. Although the Oregon Climate Trust has indicated a willingness to fund
42 projects in Washington, direct funding of such programs, should the Council
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1 determine it appropriate is desirable from SE2's perspective. We are merely
2 suggesting that the Council consider reserve making that decision.
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7 **Q. How does SE2's proposal for greenhouse gas mitigation compare to greenhouse**
8 **gas mitigation provided by other electrical generating facilities in Washington?**
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11 A. It is unprecedented. For that matter, our \$1 million dollar proposal was
12 unprecedented. To my knowledge, the Chehalis Site Certification Agreement is the
13 only permit for an electrical generating facility in Washington that requires any
14 greenhouse gas mitigation. Sub-EFSEC projects have been permitted and built over
15 the past few years without any greenhouse gas mitigation and continue to be proposed
16 without greenhouse gas mitigation because there is no federal or Washington program
17 in place that requires greenhouse gas offsets or mitigation.
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27 **Q. What about Chehalis. How does your proposal compare to that project?**
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29 A. Tractebel obtained an amended Site Certification Agreement (SCA) last year
30 authorizing it to build a 520 MW facility at Chehalis. The SCA requires Tractebel to
31 offset greenhouse gas emissions associated with 8% of the greenhouse gas emissions
32 associated with the facility. See Amended Site Certification Agreement, Art. 6, sec.
33 D.1. (2001). I've seen reports suggesting that Tractebel will pay only approximately
34 \$400,000 in greenhouse gas offsets. See Exhibit ____ (CM - 4).
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43 **Q. You've said SE2 will comply with the monetary path and pay the money to the**
44 **Oregon Climate Trust. How much money does that mean you'll provide?**
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1 A. I've heard different estimates. When we prepared the January 2000 Application, our
2 experts calculated the amount at around \$5.3 million. During the hearings, a witness
3 for another party argued that complying with the Oregon plan would cost about \$9.2
4 million. Rather than fight about the application of the standard now, we've proposed
5 to comply with it and submit a detailed report to EFSEC prior to beginning operation
6 of the facility. At that time, we'll have final design information about emissions and
7 heat rate and can provide an accurate calculation. The Council will have an
8 opportunity to confirm the accuracy of the calculations.
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18 **Q. Will you be able to get this project financed if you commit to the Oregon**
19 **monetary path for greenhouse gas offsets?**
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21 A. To be honest, I'm not sure. The power market is very competitive. There are a lot of
22 proposals out there to build generation facilities, and the banks and other investors
23 who provide project financing will look at all aspects of a project before providing
24 financing. Among other things, they want to make sure the project can effectively
25 compete against other market participants. For the financial community, the question
26 isn't just whether the project could make money, but will it make as much money as
27 other proposed projects, and even more important, when competition becomes stiff,
28 will it be the *low cost producer*, and therefore, be able to sustain a positive cash flow
29 even in times of low electricity prices and low margins. If SE2 is the only project in
30 Washington that is required to make this kind of commitment, particularly when it is
31 added to all sorts of other obligations and commitments, that is a factor that weighs
32 against this project in the eyes of the financial community that is trying to decide
33 which projects to finance. On the other hand, there are several aspects of the SE2
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1 project that we believe will make it attractive to investors. We hope that when the
2 permitting and the mitigation requirements are added up, we can still get financing.
3 One thing I know, however, is that we can't get financing if we don't get a Site
4 Certification Agreement, so we've made this unprecedented commitment to the
5 Oregon program in the hope that it will address EFSEC's concerns.
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12 **Q. Does the commitment to comply with the Oregon monetary path amount to fully**
13 **offsetting the greenhouse gas emissions from the facility?**
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16 A. No. As I understand the Oregon program is intended to encourage highly efficient
17 projects that minimize greenhouse gas emissions, rather than requiring greenhouse
18 gas emissions to be fully offset. A proposed power project is compared to the most
19 efficient power plant with respect to greenhouse gases. The new project must then
20 offset emissions that are greater than the best case. The offsets may be satisfied by a
21 monetary payment calculated according to the regulations. The calculated amount is
22 paid to a qualifying entity such as the Oregon Climate Trust, which pools it with other
23 funds and invests it in a portfolio of different offset projects. I assume the different
24 projects funded by the Trust achieve varying levels of success in actually offsetting
25 greenhouse gas emissions in practice.
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39 **Q. Why shouldn't SE2 be required to offset 100% of its greenhouse gas emissions?**

40 A. I think there are several reasons EFSEC shouldn't require 100% offset of greenhouse
41 gas emissions:
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1 First, the Washington Legislature has not enacted a Full Offset policy for greenhouse
2 gases. Even though the Legislature has considered less aggressive pieces of
3 greenhouse gas legislation, the State has not adopted any offset requirement
4 applicable to electrical generation or any group of greenhouse gas emitters.
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10 Second, a requirement that new power plants fully offset greenhouse gas emissions is
11 not a sensible way to address concerns about global warming. As far as I can tell,
12 virtually everyone involved in the policy debate about greenhouse gas emissions
13 agrees that one of the best ways to reduce greenhouse gas emissions in the next 30
14 years is to replace older generating facilities fired by coal, oil and gas with highly
15 efficient combined-cycle natural gas-fired generating facilities. Facilities like SE2's
16 proposed facility emit substantially less greenhouse gases per megawatt of electricity
17 than most existing generating facilities. Public policy should encourage the
18 construction of these facilities and discourage the continued use of existing facilities
19 that emit more greenhouse gases. If EFSEC required 100% offset – a proposal that
20 NWECC witness Peter West estimated would cost \$35 million dollars using the \$0.57
21 price per ton -- this facility will not be built. There is simply no way anyone is going
22 to finance a project \$400 million project that has an up front \$35 million dollar
23 mitigation requirement when other comparable generating projects do not have any
24 similar obligation. That means existing facilities with high greenhouse gas emissions
25 will continue to operate, or eventually developers will propose facilities in other states
26 that do not impose offset requirements or developers may propose facilities that are
27 smaller than the 350 MW EFSEC limit so that they can build facilities in Washington
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1 without providing any greenhouse gas offsets. Asking SE2 to provide 100% offset of
2 greenhouse gas emissions would not help to address global warming.
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6 Third, requiring only the newest power projects to fully offset their emissions is not
7 fair. A relatively small percentage of the state's greenhouse gases come from
8 electrical generation, so I have trouble understanding why electrical generation should
9 be singled out as the only segment of the economy where greenhouse gas emissions
10 are regulated. Furthermore, no other electrical generation in Washington is required
11 to fully offset greenhouse gas emissions. Projects smaller than 350 MW are not
12 subject to EFSEC jurisdiction and have never been required to implement any
13 greenhouse gas mitigation, and even EFSEC has never required an applicant to fully
14 offset greenhouse gas emissions. According to OTED, SE2's greenhouse gas
15 emissions are equal to less than 2.5% of the State's total greenhouse gas emissions in
16 1995, the vast majority of which come from transportation sources. It does not make
17 sense to require only the newest power project proposal to pay tens of millions of
18 dollars to address global warming when virtually every other greenhouse gas emitter
19 pays nothing to mitigation greenhouse gas emissions.
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37 Changes in the Power Market

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39 **Q. The Council has invited parties to present testimony about "changes in the**
40 **power market." In your observation, how has the power market changed since**
41 **the Council heard testimony last summer?**
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45 A. I think several things have occurred in the past year
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1 First, dramatic power price instability, threatened blackouts and new supply-
2 load studies have confirmed the substantial need for new generating resources in the
3 state and region.
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6 Second, the power demand has resulted in regulators creating exceptions to
7 the environmental rules in order to increase power generation.
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10 Third, the tremendous recent shift to "temporary" diesel generators and gas
11 turbines has increased the environmental advantages of highly-efficient combined
12 cycle facilities like SE2.
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15 Fourth, changes in the British Columbia portion of the regional power market
16 have provided further evidence of the need for and desirability of this project.
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23 **Q. Let's take each of those in turn. What's happened with respect to price**
24 **instability?**

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27 A. Since EFSEC held hearings last July and August, electricity prices and price volatility
28 has increased dramatically. For example, in late 1999, prices for electricity purchased
29 at Mid-C generally ranged from \$25 to \$35 per megawatt hour, but in December
30 2000, peak prices reached \$1400 - \$5000 per megawatt hour. See also Exhibit ____
31 (CM-5); Exhibit ____ (CM-6). The price increases and instability have had significant
32 ramifications for the regional economy. Among other things, numerous industrial
33 facilities, such as aluminum smelters and paper mills, which collectively employ
34 thousands of workers, have curtailed or completely shut down operations. See
35 Exhibits ____ (CM-7), ____ (CM-8), and ____ (CM- 9). The portions of the Northwest
36 Power Planning Council Briefing Book that I've provided as Exhibit __ (CM-5)
37 provide a good summary of some of these events.
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Q. You also mentioned blackouts. Can you explain what has happened since the last hearings?

A. Since the last hearings, Stage II and Stage III emergencies have been declared and warnings of possible blackouts have been issued. See Exhibit ____ (CM-10). In fact, California experienced rolling blackouts on several occasions. The Northwest Power Planning Council continues to warn of 12-17% probabilities of shortfalls next winter, depending upon how much water is available to generate hydropower. See Exhibit ____ (CM-11).

Q. Based on your experience in the power industry, to what do you attribute the price increases, price instability and supply interruptions?

A. Fundamentally, all of these problems reflect tight supply. It is basic economics of supply and demand. Whether it is electric power or beany babies, when there is low supply, prices go up and can vary enormously based on changes in demand. Ultimately high prices result in "voluntary" curtailment of demand, or in the electric power market where there is often not a direct and immediate connection between prices and consumer use, involuntary curtailments and blackouts can result. If more generating capacity were available, peak demand periods could be met without blackouts or voluntary and involuntary curtailments, prices would become more stable and competition would exert downward pressure on prices.

1 **Q. The second thing you mentioned happening in the power market was that**
2 **regulators are making exceptions to environmental requirements to increase**
3 **power production. Can you explain what you mean?**
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7 A. Yes. Recognizing the tremendous need for power throughout the region, regulators
8 are making exceptions to environmental rules to increase electricity supply. Last
9 August, Governor Locke declared an "energy alert" and allowed an older Spokane
10 power plant to operate in excess of its permits limits. See Exhibit ____ (CM-12) and
11 Exhibit ____ (CM-13). The Governor has twice extended the energy alert and used it
12 to allow various other facilities to generate power in excess of otherwise applicable
13 environmental requirements. See Exhibit ____ (CM-14). These actions may well be
14 appropriate given the existing shortage, but it is important to realize that these
15 decisions allow electricity to be generated by facilities that produce significantly more
16 air emissions per kilowatt hour than SE2 facility would.
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28 **Q. You also mentioned the shift to temporary generators and turbines. Can you tell**
29 **us more about that?**
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33 A. Throughout the region, the high power prices have resulted in a rush by utilities,
34 industrial consumers and others to install temporary diesel generators and simple-
35 cycle natural gas-fired turbines to produce power to satisfy their own electrical needs
36 or to sell power on the spot market. See Exhibit ____ (CM-15) and ____ (CM-16). In
37 May, the Northwest Power Planning Council predicted that approximately 700 MW
38 of internal combustion generation and a similar quantity of simple cycle gas turbines
39 would be put into operation in 2001. These diesel and gas generators and simple-
40 cycle gas units are much less efficient than SE2, which means they generate
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1 substantially more regulated air emissions and greenhouse gas emissions per kilowatt
2 hour than the SE2 facility. See Exhibit __ (CM-17).
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6 **Q. The third thing you mentioned was the British Columbia aspects of the power
7 market. First of all, why is that relevant?**
8

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10 **A.** British Columbia is part of the western grid system that includes Alberta, B.C., and
11 portions of eleven western U.S. states. As such, B.C. is a significant part of the
12 regional electricity market. In fact, B.C. Hydro, the government-owned utility, sold
13 several billion dollars of electricity to U.S. buyers during the past year.
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20 **Q. Okay, what's happened in the British Columbia part of the power market since
21 the hearings last summer?**
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24 **A.** British Columbia has experienced many of the same things those of us in Washington
25 have experienced in the regional energy market.
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30 First, B.C. has experienced the dramatic increase in prices. For B.C., however, the
31 dramatic price increases resulted in an enormous windfall for the government-owned
32 utility, B.C. Hydro. For example, in fiscal year 2001, B.C. Hydro reported export
33 sales of almost \$5.5 billion (Canadian), which was approximately \$4.3 billion more
34 than in the previous year. See Exhibit __ (CM-3).
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42 Second, B.C. dramatically increased generation at existing facilities in order to satisfy
43 demand and take advantage of high prices. Generation at the Burrard Thermal
44 Facility located in the Fraser Valley during 2000 was more than double what it was in
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1 1999, and is expected to increase further so that its output in 2001 will be almost
2 350% of its 1999 output. These increases in generation have occurred despite
3 environmental concerns associated with the air emissions, which are substantially
4 greater on a per kilowatt hour basis than SE2's expected emissions. As in the U.S.,
5 load studies in B.C. indicate the need for additional generating capacity in the future,
6 and B.C. is attempting to address this need by permitting other new natural-gas
7 facilities that are not as clean as SE2, and considering more combined-cycle natural
8 gas facilities as well as a coal project known as Hat Creek.
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19 Third, as in Washington, small-scale diesel generators and gas turbines have been put
20 into service in the Fraser Valley, even though they create substantial emissions on a
21 per kilowatt basis. Numerous commercial and industrial users have also switched
22 from burning natural gas to burning diesel in existing boilers, all of which increases
23 emissions in the airshed. See Exhibit ____ (CM-16) and Exhibit ____ (CM-17).
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31 Conclusion

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33 **Q. My last question is whether you believe the changes to the project address the**
34 **concerns expressed by the Council in its February 2001 Order No. 754?**
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37 A. Yes. We studied Order No. 754 carefully and undertook to address each and every
38 one of the concerns expressed by the Council. And we have addressed them all.
39
40 Further, we believe we have proposed a project that does much more just than meet
41 standards. We believe the project as proposed does several things more: First: it sets
42 a new threshold for Best Available Control Technology in Washington State; a
43 threshold all other projects will have to meet. Secondly, in response to concerns
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raised by the public, it commits to unprecedented levels of mitigation around issues of water use, water discharge, water quality, flooding, noise, noise, seismic concerns, and “need and consistency.” Finally, SE2 has committed to levels of greenhouse gas mitigation and emissions offsets for NOx and particulate that we believe are heretofore unheard of in Washington and British Columbia. In summary, SE2 is not only an exemplary project in its own right, it sets a precedent for environmental and social responsibility that will benefit our region for decades to come.

END OF TESTIMONY