

Chapter 2

Proposed Action

2.1 Introduction

This chapter presents information concerning the applicant; describes the applicant's proposal, including the location, utility routing, safety features, and construction methods; and identifies mitigation measures inherent in the design. The analysis of actions, alternatives, or impacts (WAC 197-11-620(1)) for this proposal has been performed and presented in the February 2001 FEIS. This SEIS only addresses the analysis of actions, alternatives, and impacts as they relate to changes to the proposal since June 2001. Chapter 2 is included in the SEIS to clearly describe the proposal for which the SEIS is written.

2.1.1 The Applicant

SE2 is the applicant for the S2GF, the natural gas pipeline, and the U.S./Canada 230-kV electrical transmission line. The city of Sumas would construct, own, and maintain the water supply and wastewater collection pipelines to the plant.

SE2 was incorporated in the state of Washington in September 1998. SE2 is a special purpose corporation formed under Title 23B of the Revised Code of Washington to develop, permit, finance, construct, own, and operate the S2GF. It is wholly owned by the family of Mr. Darrell Jones. In addition to owning and operating S2GF, SE2 would manage all of the facility's affairs, including activities related to obtaining permits and other approvals required for the development of the project.

Also participating in the development process as Project Manager is National Energy Systems Company (NESCO), which is affiliated with SE2 through common ownership and control. Formed in 1985, NESCO is in the business of developing, owning, and operating large industrial and commercial projects. NESCO has developed, owned, and operated lumber mills in Washington and Wyoming, six power plants in six states from Michigan to Alaska, and natural gas and oil properties in British Columbia and Alberta, Canada. NESCO is a Washington State corporation, and is wholly owned by the family of Mr. Darrell Jones.

2.1.2 Scope of this SEIS

The FEIS for the S2GF project was published on February 7, 2001. SE2 revised its ASC and submitted its Second Revised Application on June 29, 2001. EFSEC determined that

an SEIS would be required to discuss the changes to the proposed project, proposed changes in mitigation, and their impacts. Therefore, the scope of this SEIS consists of a description of the changes to the Proposed Action; a discussion of the affected environment; an evaluation of the potential direct, indirect, and cumulative impacts that result from the project changes; and an identification of suitable mitigation measures associated with the construction and operation of components (and connected actions) of the proposed project that are analyzed in this SEIS.

In evaluating potential impacts from construction and operation of these components and connected actions, the following elements of the natural and built environment are addressed in this SEIS (Chapter 3):

- Air Quality (Greenhouse Gases)
- Groundwater Quality
- Groundwater Quantity
- Low-Frequency Noise
- Wetlands
- Flooding Potential
- Faulting and Seismicity

Other project changes and impacts that were not deemed sufficiently significant to require additional analysis in the limited scope of this SEIS are discussed in this chapter.

2.2 Project Description and Changes Since Issuance of FEIS

This SEIS focuses on changes to the proposal and new information that has become available to the permitting agency since issuance of the FEIS. For the convenience of the reader, the entire project is summarized here.

The Proposed Action is the construction and operation of the S2GF, a 660-MW combined-cycle combustion turbine electrical generation facility and associated components in Sumas, Whatcom County, Washington (Figure 2-1). The generation plant component of the project would occupy 19.2 acres of a 37-acre site within the industrial area of Sumas, just north of the SCCLP 125-MW power generation facility. The facilities, equipment, and features to be installed on the proposed generation plant site are shown in Figure 2-2, and include:

- Two combustion turbines and their associated electrical generators
- Two heat recovery steam generators and their associated 180-foot-high exhaust stacks
- One steam turbine and its associated electrical generator

Figure 2-1

- One steam condensing system consisting of a dry-cooled condenser, a water-cooled condenser, and a cooling tower
- One substation, consisting of main electrical transformers and their associated switch gear
- A stormwater detention system, sized to discharge stormwater at rates equal to or less than peak discharge rates of the undeveloped site
- Access driveways and parking areas (the construction parking and laydown area is now adjacent to the site)
- Landscaping, including mature tree plantings along the south, east, and north edge of the generation plant site

In addition to the generation plant site facilities, equipment, and features listed above, other components making up the project include the following:

- A natural gas supply pipeline consisting of a 4.5-mile-long, 16-inch-diameter pipeline constructed from the Canadian border to the plant site. The new pipeline would be constructed within the ROW of an existing natural gas pipeline serving the SCCLP facility to the south. Approximately 0.25 mile of the line would require a new ROW, extending from the existing power plant north across State Route 9 to the proposed plant (Figure 2-3).
- A 230-kV U.S./Canadian electrical transmission line extending north from the site approximately 0.5 mile to the U.S./Canada border, then following the Canadian Pacific Railroad line for approximately 5.3 miles to BC Hydro's Clayburn Station (Figure 2-3). The portion of the transmission line in Canada is not under EFSEC jurisdiction and will be sited by the National Energy Board of Canada.
- A process/potable water supply pipeline from the city of Sumas water system to supply a maximum of approximately 802 gpm required by the S2GF. Delivery of this water would require that the city upgrade a 1,000-foot portion of an existing city supply line from a 6-inch-diameter to a 10-inch-diameter line; extend the new 10-inch-diameter line to the plant site; construct an intertie between the potable and industrial water main systems; install control valves to balance system flows and pressures between these two systems; and drill one or two additional wells at the city's May Road well field site (Figure 2-3).
- A wastewater discharge pipeline from the plant to the city of Sumas wastewater collection system at the plant site boundary, and then through existing lines for treatment in Canada (under contractual agreement between the city of Sumas and the JAMES wastewater treatment plant), to accommodate approximately 49,000 gpd of combined blowdown and domestic wastewater from the S2GF, and a maximum of 80,000 gpd total combined blowdown and domestic wastewater from S2GF and SCCLP (Figure 2-3).

Figure 2-2
INSERT 11 X 17 "S2GF SITE PLAN"

Figure 2-3
INSERT 11 X 17 "PROPOSED GAS LINE, WATER SUPPLY LINE, WASTEWATER
LINE, 230 KV TRANSMISSION LINE"

As a result of the Proposed Action, 9.45 acres of wetlands would be filled. To compensate for this fill, 22.56 acres are proposed for mitigation (3.73 acres of created wetlands; 9.03 acres of enhanced farmed and emergent wetlands; 8.8 acres of enhanced and preserved forested/scrub-shrub wetland; and 1.0 acre of upland forest buffer creation).

2.2.1 Project Description Changes Not Requiring Analysis in this SEIS

Some of the project changes presented in the Second Revised ASC reduce or eliminate significant adverse impacts previously analyzed in the FEIS. EFSEC has determined that these changes do not warrant additional analysis in this SEIS.

Table 2-1 summarizes these changes.

2.2.1.1 Increase in Stack Height to 180 Feet

Stack height was increased to enhance dispersion of the plume within approximately 10 miles of the stack. The increase in stack height would improve downwind dispersion and not affect visual impacts because the stack would already be visible at its previous 150-foot height. No significant adverse environmental impacts resulted from this change.

2.2.1.2 Fueling S2GF Exclusively with Natural Gas

Elimination of diesel as a backup fuel would reduce air emissions and visibility impacts. No new significant adverse environmental impacts result from this change.

2.2.1.3 Increase in SO₂ Emissions

Sulfur dioxide (SO₂) emissions would increase compared to the original proposal due to new assumptions about sulfur concentrations in natural gas. SO₂ levels are still far below the threshold criteria level and do not create new significant adverse environmental impacts.

2.2.1.4 Change in Reporting of Toxic Emissions

The reported emission rate and ambient concentration of formaldehyde (a suspected human carcinogen) would increase solely because the U.S. Environmental Protection Agency (EPA) revised its published emission factor used by SE2 to estimate the emission rate. The revised modeled ambient concentration of formaldehyde is well below the acceptable source impact level established by Ecology, so formaldehyde emissions are not considered to pose any significant adverse environmental impacts.

Table 2-1. Summary of Project Description Changes Not Analyzed in this SEIS

Project Feature/Area of Concern	As Stated in the FEIS (February 2001)	Change in Second Revised Application (June 2001) as Reflected in SEIS	Comments
Air quality – stack height	180 feet high	180 feet high ¹	Improvement in local air quality. No significant impacts to visual analysis.
Air quality – natural gas fuel	The facility was to be fired with natural gas fuel and with diesel fuel as a backup for 15 days/year.	The facility would only be fired with natural gas.	Improvement in local air quality.
Health and safety – diesel tank	Applicant proposes to reduce tank size from 2.5 million gallons to 1.5 million gallons.	Applicant eliminates backup diesel storage tank. (Only a 1,000-gallon tank would be installed as an emergency power supply).	Risk issues of 1.5- to 2.5-million-gallon diesel tank are eliminated. Natural gas is the only fuel source.
Traffic – level of service (LOS)	LOS on SR9/Bob Mitchell Way would be LOS A during peak construction.	LOS on SR9/Bob Mitchell Way would decline from LOS A to LOS B.	LOS reduction is not significant and applies to construction only.
Electrical transmission/BPA	Power was to be transmitted to the BC Hydro system using a new transmission line from the site. No provision was made for sale or wheeling of the power into the U.S.	Existing condition of intertie capacity is adequate and in place. ²	Transmission capacity is no longer an issue because applicant has contract with BPA to wheel energy from project with only minor upgrade to local facility depending on purchaser.
Power supply	Meeting local power needs is unclear.	Applicant commits to enter into one or more power purchase agreements that provide in the aggregate for the purchase and sale of at least 60% of power for at least 5 years.	None.

Project Feature/Area of Concern	As Stated in the FEIS (February 2001)	Change in Second Revised Application (June 2001) as Reflected in SEIS	Comments
Endangered fish species	<p>SE2 has entered into agreements with Ecology and the WDFW to prevent degradation of surface water quality during construction and plant operation.</p> <p>Listed fish may occur in some streams crossed by the gas pipeline, however, impacts will be avoided by drilling under all stream crossings.</p> <p>A lined stormwater detention pond would treat plant site stormwater runoff to prevent water quality impacts on fish.</p>	<p>Overall impacts to fisheries resources and flow regimes would not be significant because runoff treatment and detention facilities (stormwater detention pond) will follow BMPs.</p>	<p>SE2, Ecology, and WDFW have reassessed the applicability of the year 2000 agreements, and have resubmitted agreements for Council approval.</p>
Site restoration plan	<p>Not mentioned.</p>	<p>Applicant would submit an initial site restoration plan to Council, which would provide funding for site restoration at end of plant's useful operating life (includes at least \$10 million in pollution liability insurance). Prior to but near the end of the useful life of the project, SE2 would review and modify the plan to meet both future needs for the site and site restoration laws and regulations then in effect.</p>	<p>Applicant would submit plan according to SCA conditions and a bond of undetermined amount would be provided.</p>
Schedule	<p>Spring 2002</p>	<p>2004</p>	<p>Not an issue.</p>
<p>¹ January 2000 Revised ASC proposed 150-foot-high stack. Through the EFSEC adjudicative process, the applicant stipulated with the city of Sumas to increase stack height from 150 ft to 180 ft.</p> <p>² Evidence presented to EFSEC in the Adjudicative review of the January 2000 ASC concluded that there will be sufficient long-term firm available transfer capability (ATC) to accommodate SE2's firm 660-MW request from Blaine, Washington to John Day and Big Eddy substations after January 2003 (BPA, TBL, Comegys and Kohne, 7/31/00).</p>			

2.2.1.5 Elimination of Diesel Fuel Storage Tank

Removing the 2.5-million-gallon diesel fuel storage tank from the proposal eliminated spill risks to surface and groundwater, including risks from tank ruptures and refueling activities, and risks from trucks transporting diesel fuel to refill the tank. This change would not result in significant adverse environmental impacts.

2.2.1.6 Reduction of Level of Service

Although the level of service (LOS) would decline from LOS A to LOS B, LOS B is a common and acceptable road condition that would occur only during construction and would not result in any significant adverse environmental impacts.

2.2.1.7 Long-Term Power Sales

This is not an environmental issue.

2.2.1.8 Intertie Capacity

Conversations with BPA staff and filed testimony confirm that with minor and localized system improvements, BPA would be able to wheel the power into the U.S.

2.2.1.9 Protection of Endangered Fish Species

The U.S. Fish and Wildlife Service does not list any threatened, endangered, or candidate fish species likely to occur within the site, transmission corridor, or gas pipeline corridor. Listed fish may occur in some streams crossed by the gas pipeline; however, impacts would be avoided by drilling under all stream crossings.

BMPs would be used in construction and stormwater management, and would be expected to control sedimentation and other stream pollutants.

2.2.1.10 Site Restoration

At least 90 days prior to construction, SE2 would present EFSEC with its initial site restoration plan. This plan would provide for the funding of site restoration at the end of the S2GF's useful operating life or in the event the facility is terminated before completing its useful operating life. Such funding would include pollution liability insurance coverage in an amount not less than \$10 million, and a site closure bond in an amount to be determined and justified in the site restoration plan submitted for Council approval. SE2 would submit a more detailed site restoration plan at a later date, consistent with Council rules.

2.2.2 Project Description Changes Requiring Analysis in this SEIS

The changes summarized in Table 2-2 are analyzed in Chapter 3. These changes include:

- Air Quality (Greenhouse Gases)
- Groundwater Quality
- Groundwater Quantity
- Low-Frequency Noise
- Wetlands
- Flooding Potential
- Faulting and Seismicity

2.2.3 Construction

To assist the reader, text in italics emphasizes how the project has changed since June 2001.

2.2.3.1 *Generation Plant Site*

Site Layout

Project modifications presented in the Second Revised ASC include: the elimination of the 2.5-million-gallon diesel tank; the relocation of the stormwater treatment ponds to the southern portion of the 37-acre plant site; and the rerouting of the existing wetland ditch through the southern and eastern edge of the plant site. The overall footprint of the plant site would be reduced from the original proposal, enabling wetlands on the west mitigation site to be entirely available for mitigation of wetland impacts. Now 6.88 acres of wetland on the west mitigation site and 2.1 acres of wetlands on the east mitigation site would be incorporated into wetland mitigation for wetland impacts due to construction of the S2GF (see Figure 3.5-2).

Site Fill Material

The site elevation is below the 100-year flood elevation, as is most of the industrially zoned property west of Sumas. Prior to facility construction, the site would be raised above flood elevation using fill transported to the site from local gravel pits. Some existing wetlands on the site would be filled and new wetlands established. Silt and erosion control would be implemented as appropriate to address bare earth and grade conditions. The areas would then be preloaded as required by design.

Table 2-2. Summary of Project Description Changes Analyzed in this SEIS

Project Feature/Area of Concern	As Stated in the FEIS (February 2001)	Change in Second Revised Application (June 2001) as Reflected in SEIS	Comments
Air quality – greenhouse gas mitigation	\$100,000 per year for 10 years (\$1 million total).	SE2 would pay greenhouse gas emission fees totaling an estimated \$8.04 million. The fees would provide funds to offset between 2-5% of the greenhouse gas emitted over a 30-year operating period.	SO ₂ and NO _x impacts and proposed emission offsets are discussed in the SEIS. Greenhouse gas mitigation is discussed in the SEIS.
Air quality – air emissions associated with diesel combustion	<p>Ammonia emissions would be 10 ppm.</p> <p>Formaldehyde predicted to be 0.11 ton per year per turbine.</p> <p>SO₂ emissions would be 45 tons per year.</p> <p>NO_x emissions would be 3 ppm.</p> <p>Applicant did not offer to offset PM₁₀ and NO_x emissions.</p>	<p>Ammonia emissions now reduced to 5 ppm.</p> <p>Formaldehyde predicted to be 7.9 tons per year per turbine due to new emission factors used by EPA.</p> <p>SO₂ emissions increase to 69 tons per year due to new information on natural gas content.</p> <p>NO_x emissions reduced to 2 ppm due to purchase of better technology.</p> <p>Applicant will attempt to provide offsets for 100% of the plant's PM₁₀ and NO_x emissions. If offsets cannot be found, then applicant will pay \$1.5 million into a trust fund to fund PM₁₀ and NO_x offsets.</p>	Air quality standards and criteria still met after increase.
Low-frequency noise	Not addressed.	Applicant proposes to monitor prior to and after operation, and to mitigate if low-frequency noise is deemed objectionable. Mitigation not defined.	Discussed in SEIS. Additional mitigation is proposed for consideration.

Project Feature/Area of Concern	As Stated in the FEIS (February 2001)	Change in Second Revised Application (June 2001) as Reflected in SEIS	Comments
Water supply and discharge	<p>Maximum water consumption reduced from 849 gpm to 802 gpm.</p> <p>Maximum wastewater discharge is 256 gpm.</p>	<p>Applicant proposes reverse osmosis system to reduce the maximum water consumption from 849 gpm to 802 gpm. Average annual consumption would be 635 gpm.</p> <p>Maximum wastewater discharge reduced from 256 gpm to 34 gpm.</p>	<p>Well supplies discussed in SEIS.</p> <p>Water consumption and wastewater discharge reduced.</p>
Floodplains	<p>A city of Sumas study concluded that filling all floodplain areas within the industrial zone would not significantly affect the floodway, and filling the project area would be allowable. A 1997 independent study indicated a highest modeled 100-year flood elevation of 43.5 feet.¹ Before final preparation of construction plans, the 100-year flood elevation would be verified with Whatcom County and the city of Sumas.</p>	<p>Applicant proposes to conduct unsteady-state modeling 6 months before construction (after permit is granted). Applicant commits to providing some type of mitigation for adverse off-site flood impacts if adverse flood impacts are predicted to occur.² However, mitigation was not defined or proposed.</p>	<p>Discussed in SEIS.</p> <p>Additional mitigation is proposed although impacts from such mitigation are not addressed.</p>

Project Feature/Area of Concern	As Stated in the FEIS (February 2001)	Change in Second Revised Application (June 2001) as Reflected in SEIS	Comments
Wetlands – new impacts and mitigation	Applicant claims 2.81 acres of wetland impacts. Ecology required wetlands that are classified as prior converted croplands (PCC) to be included as impact. If the PCC wetlands are included, then the wetland impact is 8.76 acres. Applicant proposes 19.41 acres of wetland mitigation, of which 10.01 acres were proposed to compensate for the 2.81 acres of emergent wetlands to be lost upon site construction.	Applicant proposes 22.56 acres for mitigation: 3.73 acres of created wetlands, 9.03 acres of enhanced farmed and emergent wetlands, 8.8 acres of enhanced and preserved forested/scrub-shrub wetland, and 1.0 acre of upland forest buffer creation to mitigate for 9.45 acres of wetland fill, which includes PCCs.	Discussed in SEIS. Section 401 Technical Evaluation Memorandum presented as Appendix A.
Wetlands – parking/laydown area	Applicant acquired use of an area adjacent to the northeast corner of the site from the Port of Bellingham as unpaved parking/laydown area during construction, i.e. temporary use.	Temporary parking/laydown area is 4.8 acres (was 2.85 acres in previous application). The parking/laydown area was previously used for truck parking. No wetland impacts are predicted to occur.	Discussed in SEIS.
Seismicity	Not addressed.	SE2 commits to performing additional seismic analyses prior to construction and to ensuring that information is used in final design of the facility.	Not part of the FEIS scope. Discussed in SEIS.
<p>¹ The January 2000 ASC assumed a 100-year flood elevation of 44 feet.</p> <p>² In August 2001, EFSEC requested the applicant perform the modeling prior to the Adjudicative Hearings scheduled in October-November 2001.</p>			

The proposed fill material would be pit run (unwashed and unsorted) gravel. The pit run gravel would be trucked from nearby gravel pits to the site. The proposed final site elevation is 44 feet, which is approximately 4 to 5 feet higher than the existing site, although the amount of fill needed is variable. It is projected that approximately 93,000 cubic yards (134,900 tons) of fill material would be imported to bring the construction site to its final grade. This material would be delivered by truck and trailer (32-ton capacity) over a 90-day period and would require a total of approximately 4,216 truck trips. Based on an 8-hour day, 5-day per week work schedule, on average, approximately 70 daily truck trips (8.8 trucks per hour) would be required to import all fill material within the 90-day period. However, it is anticipated that the staging for this initial phase of construction would be designed to accommodate up to 25 to 30 trucks per hour.

Generation Plant Components

All of the process components except the main transformers are too large to be shipped completely assembled. They would be shipped in pieces and then reassembled on site during construction. One engineer/procure/construct (EPC) contractor would be responsible for all facets of detailed design and construction of the facility. All construction would be performed according to approved construction drawings. Temporary construction facilities would be established as appropriate. Fencing would secure the site and security personnel would control access. Temporary construction offices, fabrication sheds, and storage areas would be erected as needed. Connections to the city of Sumas water and sewer systems would provide potable water, water for fire protection, and sanitary sewer facilities.

Construction Schedule, Workforce, Parking

The peak construction period would require approximately 400 construction workers for a 4-month period. Total construction activity at the site is estimated to be 18 months. Some of the required skills are available locally, others are available within the state, and still others might have to be imported from out of state. Parking for construction workers would be accommodated in an area adjacent to the northeast corner of the site on land optioned by the applicant from the Port of Bellingham (see Figure 2-2). Access to the parking would be directly from Bob Mitchell Avenue.

2.2.3.2 Natural Gas Supply Pipeline

The 4.5-mile-long natural gas pipeline would be constructed from the Canadian border to the project site within the existing ROW, with a 10-foot separation from the natural gas pipeline now serving the SCCLP (Figure 2-3). The new pipeline would be within the existing ROW with the exception of the last portion of the line where it would continue north from the existing power plant across State Route 9 to connect to the S2GF. Pipeline construction would be performed during the driest time of the year to obtain

maximum soil consistency and minimize water intrusion into the trench. Pipeline crossings under streams, riparian areas, wetlands, and similar sensitive areas would be horizontally drilled.

All pipe, fittings, and valves for the proposed gas pipeline would be manufactured according to specifications that meet or exceed the industry standard API-5L. The pipe would have a minimum wall thickness of 0.375 inch. Prior to operation, the pipe would be hydrostatically tested to 1.5 times the maximum operating pressure. The hydrostatic test would be maintained for 24 hours. The test water would then be removed, tested, and trucked to a suitable treatment facility for treatment prior to discharge.

In addition, the natural gas pipeline would be designed and constructed to meet or exceed all of the requirements set out in the partial settlement agreement between the applicant and the Washington State Utilities and Transportation Commission concerning natural gas pipeline issues (see Appendix G in the FEIS).

2.2.3.3 Water Supply/Wastewater Lines

Industrial water for process use and domestic water for personnel use would be supplied by the city of Sumas and connected to the site water systems at the site boundary. The city would extend an existing water line to the site to connect the potable water system (Figure 2-3). Approximately 1,000 feet of existing 6-inch-diameter pipe would be upgraded to 10-inch diameter, and an additional 300 feet of new 10-inch-diameter pipe would be required. In addition, the city would construct an intertie between the potable and industrial water main systems, install control valves to balance system flows and pressures between these two systems, and install one or two new wells at the May Road well field to optimize system efficiency. The city would perform all changes to, or construction of, the city water system.

Wastewater would be transferred to the city of Sumas system at the site boundary. It would join the city wastewater stream for treatment in Canada under contractual agreement between the city of Sumas and the JAMES wastewater treatment plant. The wastewater line to Abbotsford has already been installed and is in use by the city. The city would perform all changes to, or construction of, the city wastewater system.

2.2.3.4 Electric Transmission Lines

The U.S./Canadian 230-kV electrical transmission line proposed by SE2 would extend north from the site approximately 0.5 mile through the city of Sumas to the U.S./Canada border, and then follow the Canadian Pacific Railroad line for approximately 5.3 miles to BC Hydro's Clayburn Station. The U.S. portion of this line would include the placement of nine wooden power poles and the stringing of the 230-kV conductor line along the route shown in Figure 2-3. The route of the Canadian portion of the line is described and evaluated in a separate document (Norecol-Dames & Moore 1999). SE2 would build the line from the plant to the Clayburn Station.

2.2.4 Operation

The S2GF would operate on a continuous basis, 24 hours per day, 7 days per week. The facility staff (approximately 23) would include a plant manager, plant engineer, operators, mechanics, electricians, instrument technicians, and water treatment technicians.

2.2.4.1 Generation Plant

The facility would be operated from a central control room located in the turbine building that would be staffed at all times. Operating staff would be supported by written instructions, operating procedures, and emergency procedures. The control room's distributed control system (DCS) would continuously control and track plant operation. It would automatically set off alarms when "out of normal range" parameters are detected. It would automatically shut down equipment if the parameters exceeded preset limits.

The applicant has included reverse osmosis treatment of the water supply, which would purify the water and allow more recycling of water for cooling. The additional cycling has reduced water consumption and wastewater discharge.

Water Supply

The maximum instantaneous water supply demand for the S2GF is approximately 802 gpm, or 1,025 acre-feet per year. To meet this demand, the city of Sumas has agreed to supply water to S2GF from its two well fields: the May Road well field (nonpotable, industrial supply) and the municipal well field (potable supply), located just north of the west end of Kneuman Road.

The S2GF peak water demand of 802 gpm is estimated based on an 833-gpm cooling water makeup demand (minus approximately 47 gallons that would be recycled on site) and a 16-gpm boiler makeup and miscellaneous system demand. The cooling water makeup demand would vary with the seasonal air temperature at the plant, as shown in Table 2-3.

Table 2-3. S2GF Cooling Water Makeup Demand

Air Temperature at Plant (degrees F)	Cooling Water Makeup Demand (gpm)
25 and below	0
40	580
50	620
59 and above	833 (peak)

The peak cooling tower water demand of 833 gpm would be required during times when ambient air temperatures exceed 59 degrees F.

Discharge

Since the submittal of the FEIS, the city of Abbotsford and the Fraser Valley Regional District have indicated that they will not augment an existing sewage service agreement in place with the city of Sumas in an amount sufficient to accommodate the new flow originally planned for S2GF. Because of this, the city of Sumas has notified SE2 that the only discharge capacity available to them would be through an existing contract with SCCLP (a sister company) that allows for daily discharge of 80,000 gallons per day. Consequently, the two plants would need to have a combined discharge capacity that is equivalent to what is currently allowed for SCCLP, provided that the wastewater quality meets all applicable codes.

To accommodate the above discharge requirements, the applicant is proposing to modify the project's cooling tower design to recycle cooling tower blowdown water using reverse osmosis. The projected combined cooling tower blowdown and domestic sewage flow of S2GF would be discharged to the city of Sumas sanitary sewer system at a maximum rate of approximately 34 gpm, or 49,000 gallons per day.

Fuel Supply

The proposed natural gas delivery system would no longer be supplemented by diesel fuel oil firing during periods of natural gas curtailment. Diesel would not be used for a backup fuel and there would be no backup fuel.

The pipeline would deliver 112 million cubic feet of natural gas per day.

2.2.4.2 Site Security

During construction, the S2GF site perimeter would be enclosed with a permanent chain link fence and would have two ingress and egress gates. The gates would be staffed 24 hours per day or locked. Access to the project site by all personnel would be through the staffed security gate. All construction and delivery vehicles would be logged in and out by the gate security person.

The parking area for the construction contractor employees would be fenced with temporary fencing and used for employee parking, construction office trailers, and other temporary uses during construction. The approximately 4.9-acre area was previously filled and contains approximately 2 feet of gravel. The area has been used for truck parking. Silt fences and hay bales would be erected along the southern boundary of the construction parking and laydown area to exclude vehicles and pedestrians from the east mitigation area. At the completion of construction, the temporary fencing would be removed. Parking access gates would open during working hours and be secured by site security after working hours.

During the operation phase, the S2GF site would retain the perimeter fencing and access gates used during construction. A security person would monitor the site entry gate 8 hours per day, Monday through Friday. During off hours, holidays, and weekends, on-site personnel would monitor the access gate from the main control room using closed circuit television and voice intercom recorders.

Parking for operations and maintenance personnel would be outside the fenced area. Personnel access would be through a site personnel gate using either a card/code entry system or by checking in with the security person at the office. Vendor equipment personnel, maintenance contractors, material suppliers, and all other third parties would require permission for access from a designated site employee prior to entrance. The Plant Manager would grant access to critical areas on a project/job need basis.

SE2 would establish an emergency response plan for the S2GF plant to ensure employee safety from the following emergencies: on-site chemical release, flood, medical emergency, major power loss, fire, extreme weather, earthquake, volcano, and bomb threat. The plan would be reviewed by EFSEC and the Emergency Management Section of the Military Department, and would be established prior to completion of construction. The plan would follow the requirements of WAC 296-24-567 and WAC 296-62-3112 and 29 CFR 1910.38, Emergency Action Plan. All hourly and salaried employees, including administrative staff as well as contractors and visitors, would be covered by the plan.