

EXHIBIT U

PUBLIC SERVICES

Table of Contents

Introduction.....	U-1
U.1 Important Assumptions Used to Evaluate Potential Impacts	U-1
U.1.1 Employment	U-2
U.1.1.1 Construction.....	U-2
U.1.1.2 Operation.....	U-2
U.1.2 Population	U-2
U.1.2.1 Construction.....	U-2
U.1.2.2 Operations.....	U-2
U.1.3 Transportation	U-2
U.1.3.1 Construction.....	U-3
U.1.3.2 Operations.....	U-3
U.2 Public and Private Providers in the Study Area	U-3
U.2.1 Employment	U-3
U.2.2 Population	U-3
U.2.3 Housing	U-4
U.2.4 Traffic Safety and Transportation	U-5
U.2.5 Sewers and Wastewater Treatment	U-7
U.2.6 Water	U-7
U.2.7 Stormwater Drainage	U-7
U.2.8 Solid Waste Management	U-7
U.2.9 Police	U-8
U.2.10 Fire Protection and Emergency Services	U-8
U.2.11 Health Care	U-8
U.2.12 Schools	U-9
U.3 Adverse Impacts to Public and Private Providers in the Study Area	U-9
U.3.1 Employment	U-9
U.3.1.1 Construction.....	U-9
U.3.1.2 Operation.....	U-9
U.3.2 Population	U-10
U.3.2.1 Construction.....	U-10
U.3.2.2 Operation.....	U-10
U.3.3 Housing	U-10
U.3.3.1 Construction.....	U-10
U.3.3.2 Operation.....	U-11
U.3.4 Traffic Safety and Transportation	U-11
U.3.4.1 Primary Transporter Route	U-11

U.3.4.2	Pavement Conditions.....	U-11
U.3.4.3	Truck Volumes	U-11
U.3.4.4	Vehicle Volumes.....	U-12
U.3.4.5	Construction Traffic Impacts.....	U-12
U.3.4.6	Construction Traffic and Design Standards	U-12
U.3.4.7	Operational Traffic Impacts.....	U-13
U.3.5	Sewers and Sewage Treatment	U-13
U.3.5.1	Construction.....	U-13
U.3.5.2	Operations.....	U-13
U.3.6	Water	U-13
U.3.6.1	Construction.....	U-13
U.3.6.2	Operations.....	U-14
U.3.7	Stormwater Drainage	U-14
U.3.7.1	Construction.....	U-14
U.3.7.2	Operation.....	U-14
U.3.8	Solid Waste Management	U-14
U.3.8.1	Construction.....	U-14
U.3.8.2	Operation.....	U-15
U.3.9	Police Protection	U-15
U.3.9.1	Construction and Operations	U-15
U.3.10	Fire Protection and Emergency Response	U-16
U.3.10.1	Construction and Operations	U-16
U.3.11	Health Care	U-16
U.3.11.1	Construction and Operation	U-16
U.3.12	Schools	U-17
U.3.12.1	Construction.....	U-17
U.3.12.2	Operations.....	U-17
U.4	Evidence that Adverse Impacts to Providers are not Significant.....	U-17
U.4.1	Employment	U-17
U.4.1.1	Construction and Operation	U-17
U.4.2	Population	U-17
U.4.2.1	Construction and Operation	U-17
U.4.3	Housing	U-18
U.4.3.1	Construction.....	U-18
U.4.3.2	Operation.....	U-18
U.4.4	Traffic Safety and Transportation	U-18
U.4.5	Sewers and Sewage Treatment	U-19
U.4.5.1	Construction.....	U-19
U.4.5.2	Operation.....	U-19
U.4.6	Water	U-19

U.4.6.1	Construction.....	U-19
U.4.6.2	Operation.....	U-19
U.4.7	Stormwater Drainage	U-20
U.4.7.1	Construction.....	U-20
U.4.7.2	Operation.....	U-20
U.4.8	Solid Waste Management	U-20
U.4.8.1	Construction.....	U-20
U.4.8.2	Operation.....	U-20
U.4.9	Police Protection	U-21
U.4.9.1	Construction and Operations	U-21
U.4.10	Fire Protection and Emergency Response	U-21
U.4.10.1	Construction and Operations	U-21
U.4.11	Health Care	U-21
U.4.11.1	Construction and Operations	U-21
U.4.12	Schools	U-22
U.4.12.1	Construction	U-22
U.4.12.2	Operations.....	U-22
U.4.13	Mitigation Measures	U-22
U.5	Proposed Monitoring Programs	U-22
U.6	Proposed Site Certificate Conditions	U-23
U.7	Conclusion	U-26
U.8	References	U-27

List of Tables

Table U1:	Historical Population of Counties and Communities Within the Study Area.....	U-4
Table U2:	Housing Supply in Counties and Communities Within the Study Area	U-5
Table U3:	Average Daily Traffic Volumes of Major Transporter Routes	U-6
Table U4:	Pavement Condition for State Highway Primary Transporter Route	U-7

List of Figures

Figure U1:	Major Transporter Routes
Figure U2:	Public Roads

Introduction

OAR 345-021-0010(1)(u) *Information about significant potential adverse impacts of construction and operation of the proposed facility on the ability of public and private providers in the analysis area to provide the services listed in OAR 345-022-0110, providing evidence to support a finding by the Council as required by OAR 345-022-0110. The applicant shall include:*

RESPONSE

As required by OAR 345-021-0010(u), this exhibit describes potential adverse impacts of construction and operation of the Facility on existing socioeconomic conditions, and public and private service providers. The study area extends 10 miles from the Facility site boundary and includes areas in both Oregon and Washington¹. The study area is shown in Figure U1 and Figure U2.

OAR 345-022-0110(1) requires that “the Council must find that the construction and operation of the Facility, taking into account mitigation, are not likely to result in significant adverse impact to the ability of public and private providers within the study area described in the project order to provide: sewers and sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health care and schools.” The EFSC may issue a site certificate for a special criteria facility (such as a wind energy facility) under OAR 345-015-0310 without making the findings described above, as described in OAR 345-022-0110(2), but the Public Services Standards may be applied to impose conditions on a site certificate issued for such a facility. Therefore, this exhibit is organized in accordance with the application requirements contained in OAR 345-021-0010(1)(u) and provides evidence to support a finding by the EFSC as required by OAR 345-022-0110(1) (see OAR 345-001-0010(2)(57)(b)).

While the Facility is entirely within unincorporated Gilliam County, the study area includes portions of Morrow, Sherman, and Klickitat Counties and incorporated communities within a 10-mile radius of the Facility site boundary (Figure U1 and Figure U2). As shown in Figure U1 and Figure U2, incorporated communities within the study area include Arlington and Ione.

U.1 Important Assumptions Used to Evaluate Potential Impacts

OAR 345-021-0010(1)(u)(A) *The important assumptions the applicant used to evaluate potential impacts;*

RESPONSE

The following subsections describe the assumptions used to evaluate the potential impacts to public services and demonstrate compliance with OAR 345-022-0110. Current unemployment rates, populations, and service providers are discussed in Section U.2. The current levels of services for the communities within the study area were estimated using existing capacities of public services.

¹ Although the Applicant has included within this analysis the potential adverse impacts of Facility construction and operation on public services in Washington, the Applicant reserves the right to argue that the EFSC lacks jurisdiction to condition a site certificate due to potential impacts that reach beyond Oregon.

U.1.1 Employment

U.1.1.1 Construction

The Applicant estimated that an average of 250 people will be employed on-site during construction, which is anticipated to take approximately 15 months. The Applicant will endeavor to hire construction companies and workers from communities within 30 to 40 miles of the Facility, depending on the availability of appropriately skilled workers. Positions requiring specialized workers (e.g., electrical collector substation and transmission construction, turbine assembly, and turbine testing) may need to be filled by people not living in the area, which will result in a minor increase in the need for temporary housing.

U.1.1.2 Operation

The Applicant estimates that 12 to 15 personnel will be employed during the approximately 30-year life of the Facility. Periodically, specialized outside contractors may also be required (e.g., for repair of nacelles or meteorological services).

U.1.2 Population

U.1.2.1 Construction

Using a conservative assumption that only 30 percent of the construction workers will be local residents from communities within a commutable distance from the Facility site (i.e., from communities in Gilliam, Morrow, Wasco, Sherman, Wheeler, Umatilla, and Klickitat Counties), an average of about 175 new workers will be temporary residents (in-migrants) at the Facility. It is assuming that many workers will not be accompanied by families due to the short duration of construction activity. However, a conservative average household size of 2.0 persons was used to estimate a maximum of 350 temporary new residents associated with construction. The actual number of temporary residents will likely vary due to differences in the number of local hires and the number of accompanying family members.

U.1.2.2 Operations

The Applicant estimates that 12 to 15 personnel will be employed during operation of the Facility. Most of the operations and maintenance staff will likely be hired locally, with the exception of positions that require previous wind generation facility experience (e.g., supervisors). Based on the conservative estimate that approximately 60 percent (8 to 10) of these employees are in-migrants with an average household size of 3.0 (higher than for temporary employees), permanent housing for up to 10 new households will be required starting in late 2012. It is assumed that these workers will live locally, with the exception of specialized personnel who may commute from outside the area.

U.1.3 Transportation

Various transportation routes will be used to access the Facility during construction and operation. These routes will include state, county, and private roadways and will be used to transport construction workers and long-term employees, supplies (i.e., food and water), construction equipment and materials, and materials required for operations from outside of the study area to the Facility.

To evaluate transportation impacts, it is assumed that personnel and materials will originate from westbound I-84 and continue south on OR 19 from Arlington, Oregon. Major transportation routes are shown in Figure U1 and public roads are shown in Figure U2.

U.1.3.1 Construction

It is assumed that primary transportation routes will support the majority of construction-related vehicle traffic, including workforce traffic and equipment and material deliveries. Oversize vehicles will transport turbine components for assembly at the Facility. Heavy-duty trucks will carry gravel and other materials required to improve or construct new turbine access roads from existing roadways. Light-duty trucks will deliver water to the Facility for dust control during road construction, electrical equipment, and other construction materials.

U.1.3.2 Operations

Operational trips will include employees commuting to work in personal vehicles, specialized personnel traveling in light-duty trucks for inspections of the turbine strings, collector and generator lead lines, and periodic delivery trucks. Operation of the Facility is not anticipated to result in traffic impacts.

U.2 Public and Private Providers in the Study Area

OAR 345-021-0010(1)(u)(B) *Identification of the public and private providers in the analysis area that would likely be affected;*

RESPONSE

The following subsections address the existing socioeconomic conditions and public and private providers and services that would likely be affected by construction and operation of the Facility within the study area.

U.2.1 Employment

The State of Oregon Employment Department reported that in June 2011 the seasonally adjusted unemployment rate was 5.9 percent for Gilliam County, 8.5 percent for Morrow County, and 8.8 percent for Sherman County, compared to 9.4 percent statewide (Oregon Labor Market Information System [OLMIS], 2011). In Klickitat County, the unemployment rate for June 2011 was 9.7 percent (not seasonally adjusted), compared to the Washington state average of 9.3 percent (Washington State Employment Security Department, 2011).

U.2.2 Population

The two incorporated communities (Arlington and Ione), located within the study area, have a combined 2010 population of 915 or about 7 percent of the combined population for Gilliam and Morrow Counties. The remaining four communities in the study area (Blalock, Cecil, Mikkalo, Olex, and Rock Creek) are all unincorporated Class Code U6 communities, and therefore, do not have census population counts (U.S. Census Bureau, 2010). The study area does not include any census designated or unincorporated communities in Sherman County, Oregon or Klickitat County, Washington.

The historical and 2010 population estimates for the affected counties and incorporated communities is shown in Table U1. In 2010, 0.8 percent of the entire Oregon State population resided in the communities located in Gilliam, Morrow, and Sherman Counties, and 0.3 percent of the entire Washington State population resided in Klickitat County. The Dalles has the largest population of any community within commutable distance to the Facility, and is located in Wasco County, 40 miles west of the site boundary. In 2010, The Dalles had a population of approximately 14,583 people, 0.4 percent of Oregon's population total.

Table U1: Historical Population of Counties and Communities Within the Study Area

County/ City	Population			Average Annual Growth Rate (%)	
	1990	2000	2010	1990-2000	2000-2010
Gilliam County	1,717	1,908	1,871	1.10	-1.94
City of Arlington	425	524	586	2.33	1.18
Morrow County	7,625	10,995	11,173	4.42	0.16
City of Ione	255	321	329	2.59	0.25
Sherman County	1,918	1,779	1,765	-0.72	-0.08
Klickitat County	16,616	19,214	20,318	1.56	0.57

Source: U.S. Census Bureau, 2010

Gilliam County experienced some growth between 1990 and 2000, but population estimates have decreased between 2000 and 2010. In Morrow County, Oregon and Klickitat County, Washington growth occurred at a much more rapid rate between 1990 and 2000 than between 2000 and 2010. In Sherman County, population has been decreasing since 1990, but less rapidly between 2000 and 2010 than between 1990 and 2000.

U.2.3 **Housing**

Housing is available to varying degrees in all of the incorporated and unincorporated communities within the study area and outside of the study area within a commutable distance from the Facility. No housing is provided directly by federal, state, or local governments within the study area, but some subsidized housing for low income persons through government loans and other incentives is available.

Temporary housing options include apartments, short-term rental homes, motels, hotels, campgrounds, and RV and mobile home parks. These types of housing will be more available in larger communities within a commutable distance such as The Dalles, Hermiston, and Umatilla, Oregon and Goldendale, Washington. Table U2 shows housing availability and vacancy rates for counties and incorporated communities within the study area. Housing vacancy rates for 2010 ranged from 14.3 percent in Ione to 18.7 percent in Arlington. The 4-county 2010 average vacancy rate of approximately 16.9 percent is higher than the State of Oregon's average of 9.3 percent and the State of Washington's average of 9.2 percent.

Table U2: Housing Supply in Counties and Communities Within the Study Area

County/City	Housing Units			Average Annual Growth Rate (%)		Vacancy Rate (%)
	1990	2000	2010	1990-2000	2000-2010	2010
Gilliam County	932	1,043	1,156	1.1	1.1	25.3
City of Arlington	192	278	315	3.8	1.3	18.7
Morrow County	3,412	4,276	4,442	2.5	0.3	11.8
City of Ione	142	139	154	-0.2	1.1	14.3
Sherman County	900	980	918	0.01	-0.01	15.4
Klickitat County	7,215	8,633	9,786	1.9	1.3	14.9

Source: U.S. Census Bureau, 2010.

U.2.4 Traffic Safety and Transportation

The provider of transportation services in Gilliam County is the Gilliam County Road Department. The state transportation system in the study area is provided and maintained by ODOT.

Based on knowledge of wind energy projects recently developed in Gilliam County, vehicular access to the Facility will likely be provided mainly via I-84 and OR 19. I-84 runs east-west between Portland and Arlington, where it intersects OR 19. From OR 19, vehicles will take Cedar Springs Lane, Bottimiller Road, Cameron Road/Old Tree Lane, or Baseline Road to local roads or new site access roads that lead to individual turbines or other facilities. I-84 is the primary east-west highway through central Oregon and Gilliam County. I-84 operates as a four-lane interstate highway with two travel lanes in each direction through Gilliam County. The posted speed limit is 65 mph.

OR 19 begins at the interchange with I-84 in the City of Arlington and runs north-south through the City of Condon and into Wheeler County. OR 19 is a state highway of regional importance and serves as the primary freight route between Gilliam County's two largest cities, Arlington and Condon. The highway is a two-lane roadway with a posted speed limit of 55 mph, with the exception of speed reductions to 35 and 45 mph due to curves and grade changes.

Cedar Springs Lane is a paved county road maintained by Gilliam County. From OR 19, the roadway proceeds west along the northwestern portion of the Facility site boundary.

Cameron Road/Old Tree Lane is a gravel surface roadway extending east from OR 19, providing access to the northeastern portion of the Facility site boundary. The roadway is maintained by Gilliam County.

Bottimiller Lane heads west from OR 19 and provides access to the central/western portion of the Facility site boundary. Bottimiller Lane is a gravel road that is managed by Gilliam County.

Baseline Road provides a link to the proposed access roads in the eastern and southeastern portions of the site boundary. Baseline Road is a paved road maintained by Gilliam County. To assess potential impacts, traffic volumes for state highways I-84 and OR 19 were

obtained. Table U3 shows the ADT volumes of state highways and major roads along the transporter route for the five-year period from 2005 to 2009 (ODOT, 2011). The traffic volumes are based on the most current ODOT Traffic Volume Tables for the state system in Oregon. Traffic volumes for Gilliam County roads are not monitored on a yearly basis, thus were not available for analysis. Major roads in the county can be expected to carry up to 200 vehicles per day, and minor roads may carry up to 100 vehicles per day according to the 1999 Gilliam County Transportation System Plan (Gilliam County, 1999).

Table U3: Average Daily Traffic Volumes of Major Transporter Routes

Roadway	2005 ADT	2006 ADT	2007 ADT	2008 ADT	2009 ADT
I-84, 0.80 miles west of Arlington Interchange	11,300	11,100	11,100	10,600	10,500
OR 19, 0.32 miles south of I-84	2,200	800	780	800	1,200
OR 19, 0.37 miles north of Cedar Springs Lane	820	800	780	800	770
OR 19, 0.02 miles north of Cameron Road/Old Tree Lane	360	280	270	240	280
OR 19, 0.02 miles north of Baseline Road ¹	360	270	260	240	290
Cedar Springs Lane	NA	NA	NA	NA	NA
Berthold Road	NA	NA	NA	NA	NA
Cameron Road/Old Tree Lane	NA	NA	NA	NA	NA
Bottimiller Lane	NA	NA	NA	NA	NA
Baseline Road	NA	NA	NA	NA	NA
Ridge Road	NA	NA	NA	NA	NA

Source: ODOT, 2011.

¹ADT volumes for 2006 and 2007 were collected 0.11 miles south of Baseline Road

Table U3 indicates that daily traffic has decreased over the most recent 5 years on I-84 from 11,300 in 2005 to 10,500 in 2009. Traffic volumes along OR 19 have remained relatively constant over the 5-year span with the exception of the location 0.32 miles south of I-84. This section of OR 19 saw a 50 percent increase in ADT from 2008 to 2009; however, the 2009 ADT of 1,200 is still well below the 2005 ADT of 2,200. Pavement conditions can have a direct impact on traffic safety. Pavement conditions for all state highways along the primary transporter route were reviewed by obtaining the 2010 ODOT Region 4 Pavement Condition map. Table U4 describes the pavement conditions for I-84 and OR 19 along the primary transporter route. Analysis of the current pavement conditions for state highways along the primary transporter route reveals that all roadways are in good condition.

Table U4: Pavement Condition for State Highway Primary Transporter Route

Highway	Location	Pavement Condition
I-84	West of Arlington Interchange	Good
OR 19	0.32 Miles South of I-84	Good
OR 19	0.37 Miles North of Cedar Springs Road	Good
OR 19	0.02 miles north of Cameron Road/Old Tree Lane	Good
OR 19	0.02 miles north of Baseline Road	Good

Source: ODOT, 2010

County road pavement conditions along the primary transporter route vary from unimproved gravel to paved. Along the transporter route, Cameron Road/Old Tree Lane and Bottimiller Road are gravel and Cedar Springs Lane and Baseline Road are paved.

U.2.5 Sewers and Wastewater Treatment

Incorporated cities in the study area provide sewer systems and wastewater treatment to residences and businesses within the city limits. Rural residences in unincorporated areas of Gilliam, Morrow, and Klickitat Counties generally use private septic systems for sewage disposal. Currently, no community provides sewers or wastewater treatment to the proposed Facility area.

U.2.6 Water

Incorporated cities in the study area have public water systems which supply residences and businesses with water. Most unincorporated areas of Gilliam, Morrow, and Klickitat Counties typically rely on private wells or community water systems that supply water to three or more residences or other users.

U.2.7 Stormwater Drainage

None of the communities within the study area currently provides separate stormwater drainage and treatment facilities, but all new roads are required to adhere to ODOT Stormwater Standard Specifications. There is no stormwater drainage or treatment service provided at the Facility site.

U.2.8 Solid Waste Management

No solid waste collection service is provided in unincorporated Gilliam County, so no solid waste management service is provided at the Facility site. The nearest landfill to the site is the Columbia Ridge Recycling and Landfill in Arlington. This facility is owned and operated by Waste Management, Inc., a company that contracts with local communities for waste collection and transportation.

Morrow County provides solid waste collection services through franchise agreements set up with private companies, with two collection zones divided into north and south. Incorporated communities in Morrow County are required to establish their own franchise agreement with private collection companies to provide solid waste services to residents and businesses. Klickitat County provides collection services to residents and businesses

outside of incorporated areas through a contract with a private collection and disposal company.

U.2.9 Police

Most of the study area is provided with police services through a combination of County Sheriff's Departments and State Police. The City of Arlington does not have a local police department, but does have an Oregon State Police office located within the city limits. The City of Ione provides police services through a local police department.

U.2.10 Fire Protection and Emergency Services

Gilliam County has two Rural Fire Protection Districts, and the City of Arlington has its own Fire Department. The northern portion of the Facility area is served by the North Gilliam County Rural Fire Protection District (RFPD), which operates as essentially one department with the Arlington Fire Department, sharing the same fire chief and firefighters. The southern portion of the Facility area is served by the South Gilliam County RFPD, which has its own facilities but shares the same chief and firefighters with the Condon Fire Department. It is the goal of the South Gilliam County RFPD and the Condon Fire Department to eventually combine their equipment and operate as one department.

Fire protection in Morrow County is provided by the coordinated efforts of municipal fire departments and RFPDs in Ione, Heppner, Hermiston, Boardman, and Lexington. Unincorporated Klickitat County communities within the study area are served by the Klickitat County Fire Department, and specifically Klickitat County Rural 7 Fire and Rescue, Goldendale Volunteer Fire Department, and Klickitat County Fire Protection District No. 5.

U.2.11 Health Care

There are no hospitals or emergency clinics located within the study area due to the rural nature of the area. The nearest hospital to the Facility site is Pioneer Memorial Hospital, located approximately 30 miles away (45 minutes by car) in Heppner, OR. Alternately, Klickitat Valley Health in Goldendale, WA and Good Shepherd Medical Center in Hermiston, OR are both approximately 45 miles from the Facility (1 hour, 20 minutes by car). Pioneer Memorial Hospital's emergency room maintains an Oregon Trauma Level IV designation, providing resuscitation and stabilization of severely injured patients prior to transferring the patient to a higher level trauma system hospital. Good Shepherd Medical Center's trauma center maintains a Level III designation, providing evaluation, stabilization, and surgical intervention for severely injured patients. Klickitat Valley Health maintains a Washington State Level IV Trauma Certification which requires surgery services with a general surgeon or physician with specific delineation of surgical privileges by the medical staff for resuscitation, stabilization, and treatment of trauma patients.

Ambulance service is provided at the Facility by Gilliam County through contracts with private service groups. Morrow County's Emergency Medical Services include six ambulances located at four dispatch sites in Heppner, Boardman, Irrigon, and Lexington. The community of Ione has a First Response Vehicle which is intended to stabilize patients until ambulance crews can arrive. If necessary, patients can be flown via helicopter or fixed-wing aircraft to higher levels of trauma care in: Bend, Oregon; Portland, Oregon; or Walla Walla, Washington. Ambulance service in Klickitat County is provided by the Southwest Region Emergency Medical Services and Trauma Care Council, which implements and

oversees the emergency medical and trauma care services in the six counties that comprise the Southwest Washington regional area.

U.2.12 Schools

Gilliam County is made up of two school districts, Arlington SD 3 and Condon SD 25J, with 247 students enrolled in grades Kindergarten (K) through 12 during the 2010-2011 school year. Each school district has 2 schools, a grade school which serves grades K through 8, and the high school which serves grades 9 through 12. Morrow County includes the Morrow County School District with 9 schools and is divided into 3 communities, Boardman, Irrigon, and Heppner. The Morrow County School District had 2,389 students enrolled during the 2010-2011 school year. The Boardman area has 2 elementary schools, and 1 junior/senior high school. Irrigon has 2 elementary schools, 1 junior/senior high school, and the Morrow Education Center, a school for "at risk" students. There is 1 elementary school and 1 junior/senior high school in Heppner. The Klickitat County School District (ESD 112) is broken into 8 community school districts, with the Roosevelt School District 403 occurring within the study area. There is 1 school in the district, Roosevelt Elementary, with 30 students enrolled in grades 1 through 6 during the 2010-2011 school year.

U.3 Adverse Impacts to Public and Private Providers in the Study Area

OAR 345-021-0010(1)(u)(C) *A description of any likely adverse impact to the ability of the providers identified in (B) to provide the services listed in OAR 345-022-0110;*

RESPONSE

The following subsections address construction and operation impacts to existing socioeconomic conditions and public and private providers and services within the study area.

U.3.1 Employment

U.3.1.1 Construction

The Applicant estimated that an average of 250 people will be employed on-site during construction. To the degree that the local labor force cannot provide suitably skilled workers to fill the demand of Facility construction, some workers (in-migrants) will enter the area from elsewhere. Economic activity attributable to implementation of the proposed Facility includes increase in local employment, purchase of materials and services from local sources, and expenditures in the local economy by in-migrant workers for items such as accommodations, food, and recreation.

U.3.1.2 Operation

The Facility will require between 12 and 15 full-time employees at any time during operation. Employees will be hired locally to the maximum extent practical, but conservative estimates assume that up to 60 percent will be in-migrants. Assuming 40 percent of the full-time employees are hired locally, Facility operation will create between 4 and 6 new jobs locally. While beneficial, the impact of the additional jobs will be negligible on the surrounding community.

U.3.2 Population

U.3.2.1 Construction

Impacts to regional population related to the proposed Facility will occur over the short-term. Approximately 175 in-migrant workers will temporarily relocate to the region to fill jobs not held by local workers. Because of the short duration of construction activity, it is unlikely that in-migrant workers will be accompanied by family members, but a conservative estimate of 2.0 persons per household was used to estimate a maximum of 350 temporary new residents. The temporary relocation of about 350 people during the peak activity month will comprise about one percent of the 35,127 residents of the four counties within the study area (Gilliam, Morrow, Sherman, and Klickitat Counties).

The number of new, permanent residents as a result of Facility operation is insignificant in comparison to the populations of Gilliam, Morrow, Sherman, Wheeler, Umatilla, and Klickitat Counties, where employees will reside within a commutable distance from the Facility.

U.3.2.2 Operation

Impacts associated with operations will be long-term and beneficial, but quantitatively small. During the operations phase of the proposed Facility, approximately 12 to 15 full-time jobs will be associated with operations and maintenance of the proposed Facility. Based on the conservative estimate that approximately 60 percent (8 to 10) of these employees are in-migrants with an average household size of 3.0 (higher than for temporary employees), approximately 24 to 30 people will be added to the population within the study area. This will represent a small beneficial impact but will constitute a negligible share of total employment in the study area. Impacts to population will be negligible during the operations phase.

U.3.3 Housing

U.3.3.1 Construction

Impacts to regional housing related to the proposed Facility could occur over the short term. As discussed in Section U.3.2.1, the number of in-migrant workers and family members relocating to the study area during construction will represent one percent of the estimated 2010 population of the four counties within the study area (Gilliam, Morrow, Sherman, and Klickitat Counties). In-migrant workers will temporarily reside in communities close to the Facility site. Assuming a one-way commute time of about one hour, there are a number of communities with vacant housing, hotels, motels, and campgrounds that could accommodate these in-migrant workers.

It is anticipated that adequate accommodations will exist to service the needs of the in-migrant workers throughout the construction phase of the proposed Facility. As there is adequate housing available to accommodate the influx of temporary residents, there will be no significant effect to the housing market.

U.3.3.2 Operation

Impacts associated with operations will be long-term and beneficial but quantitatively small. As discussed in Section U.3.1, approximately 8 to 10 families will be added to the population within the study area, resulting in a need for permanent housing for up to 10 new households during operation of the Facility.

U.3.4 Traffic Safety and Transportation

U.3.4.1 Primary Transporter Route

Based on the assumption that equipment, materials, and personnel will originate from the Portland/Vancouver area, the primary transporter route will continue eastbound along I-84 past the Cities of Hood River and The Dalles. At the interchange with OR 19, the route will proceed southbound to Cedar Springs Lane, Cameron Road/Old Tree Lane, Bottimiller Lane, or Baseline Road to proposed access roads. All roads other than I-84 and OR 19 are county roads. This route will be evaluated for size, weight, or height restrictions imposed by ODOT prior to Facility construction. Potential Facility construction and operational impacts to traffic safety or maintenance on state highways are anticipated to be minimal as the state highway system is constructed to design, safety, and load-bearing standards. The maximum legal load on state highways is specified as 80,000 pounds gross vehicle weight (GVW). Because some transport vehicles may exceed this weight limit, a permit or appropriate authorization must be obtained from ODOT and Gilliam County prior to construction. The daily traffic increase caused by Facility construction is expected to be inconsequential on I-84 due to the high capacity of the roadway. Construction-related traffic on OR 19 will represent a larger percentage of ADT than on I-84; however, it is not expected to affect driving conditions or cause significant delays due to the low current ADT seen on the roadway (less than 1,500 vehicles daily)(see Table U3). There are currently no permanent restrictions on state highways proposed for transporter routes.

U.3.4.2 Pavement Conditions

The construction of the Facility could cause pavement or roadway damage as a result of numerous, heavy, or large loads. Existing conditions on state roads are assumed to be good, but county roadways likely will require improvement before construction activities begin. Gilliam County roadways that may require surface improvements include Cedar Springs Lane, Bottimiller Road, Cameron Road/Old Tree Lane, and Baseline Road. County roadways will be assessed both prior to and after construction to determine any changes in condition. Upon completion of construction, county roads will be restored to their original condition or better.

U.3.4.3 Truck Volumes

In areas where roadways are designed for less than the 80,000-pound legal load limit, the size and weight of the vehicles needs to be considered. Large trucks will be necessary for turbine components (such as blades, tower sections, and nacelles), equipment (such as cranes and bulldozers), and materials not available on-site (such as water, concrete, and gravel).

On the basis of truck estimates from similar wind energy projects, up to 27,375 heavy- and light-duty truck trips (that is, approximately 125 truck trips per turbine) could be expected

throughout construction if the lower-capacity (1.6 MW) turbines are built. With lower capacity turbines, a higher number of turbines and construction truck trips will be necessary to meet the Facility goal of 500 MW of electricity. If higher capacity turbines are constructed (3.0 MW), up to 23,240 truck trips could be necessary during construction (approximately 140 truck trips per turbine). Per year of construction, assuming 20 workdays per month (potentially more during peak construction periods), approximately 114 daily trucks (with 219, 1.6-MW turbines) and 97 daily trucks (with 166, 3.0-MW turbines) will be needed. All trucks will be making one inbound trip and one outbound trip per day resulting in a maximum of 228 trips per day and a minimum of 194 trips per day to the existing daily traffic on transporter routes.

U.3.4.4 Vehicle Volumes

As previously discussed, I-84 carried approximately 10,500 vehicles within the Facility area in 2009. Assuming similar traffic volumes for the year of construction, Facility construction will cause an increase in daily traffic volume of 2.4 percent on I-84 for the maximum layout scenario and 2.0 percent for the minimum layout scenario. These increases are expected to be inconsequential.

Daily traffic volumes on OR 19 along the primary transporter route will have large percentage increases due construction traffic; however, the existing daily volumes are low and the roadway has excess capacity. Delays may occur on Cedar Springs Lane, Cameron Road/Old Tree Lane, Bottimiller Lane, and Baseline Road because of the quality of the roadway and the reduced ability to pass construction vehicles with wide oversized loads. To minimize this impact, long and heavy loads could be staged with a pilot car to reduce the delays and backups. Therefore, an additional 228 construction-related trips, spread over the typical workday, are not expected to affect driving conditions or cause backups and significant delays.

U.3.4.5 Construction Traffic Impacts

During construction, higher volumes of vehicle and truck traffic may occur along the transporter routes. However, traffic congestion or delays are expected to be minimal on the roadways making up the primary transporter route. Construction generated traffic on I-84 represents a very small percentage of overall ADT, and OR 19 has ample capacity to handle the additional trips created. Because the county roadways experience very little daily traffic and additional construction-related trips will be spread out over the workday, no traffic congestion or delay impacts are expected along the roadways. Adverse traffic safety impacts are not anticipated from construction of this Facility; however, safety and traffic flow will be monitored during construction.

U.3.4.6 Construction Traffic and Design Standards

To address necessary road improvements, the Applicant will coordinate with local transportation officials with the objective of accommodating Facility construction traffic.

Traffic Standards

State highways along the primary transporter route are designed to accommodate the legal load limit of 80,000 pounds without a permit. Because some construction transport vehicles will exceed the maximum legal load, the Applicant's transportation contractor will be

required to consult with ODOT regarding potential roadway/bridge restrictions and to obtain any necessary over-dimension variance permits prior to construction. Currently, there are no permanent restrictions on I-84 or OR 19. State highways are able to accommodate vehicles that exceed the legal load limit, thus there are not expected to be any safety or pavement condition impacts.

A Super Load permit is required from ODOT for loads wider than 14 ft on any state, two-lane highway and 17 ft on any highway. Additionally, a Super Load permit request must be submitted for any load with an overall length greater than 150 ft.

Design Standards

Road conditions shall be documented by the certificate holder prior to construction and again after construction is complete in order to ensure that roads damaged by Facility activities are restored to pre-construction condition or better, and to the satisfaction of the County Road Department. All applicable governmental permits or approvals shall have been obtained, including: permits to access state or county roads (if needed), construction within state or county right-of-ways, overweight and oversize loads, weight restricted bridges and structures, haul route agreements, etc.

U.3.4.7 Operational Traffic Impacts

Operational traffic trips to and from the Facility are not expected to adversely affect traffic operations. Operational trips to the Facility will consist of personal vehicles for employees as well as light trucks and vans for Facility operations crews. These traffic trips will be far fewer than the construction-related trips noted above, and for which no adverse impacts are anticipated. Therefore, operational impacts of traffic to the Facility will be inconsequential.

U.3.5 Sewers and Sewage Treatment

U.3.5.1 Construction

Construction of the Facility will not impact sewage systems in the study area. All sewage will be collected in portable toilets during construction and disposed of on a regular basis to maintain sanitary conditions.

U.3.5.2 Operations

No direct sewage-related impacts are expected as a result of Facility operation. All sewage generated during operation will be collected and treated in an on-site septic system designed and constructed in accordance with state and local regulations.

U.3.6 Water

U.3.6.1 Construction

As discussed in Exhibit O, during Facility construction, water will be obtained from either the City of Arlington, a new well issued under a limited use license, or existing water rights within the leased area. If a new well is needed for construction of the Facility, a Water Use Authorization (limited use license) will be obtained.

As discussed in Exhibit O, water usage during Facility construction will be primarily for compaction and dust suppression. Water will also be incorporated into the concrete for the turbine pad foundations. It is estimated that 41.7 million gpd of water will be used for road construction and dust suppression and 3.3 million gpd will be used for concrete production. Therefore, it is estimated that 45 million gpd will be used for the duration of Facility construction. Water will be supplied to the Facility from either the City of Arlington, a new well issued under a limited use license, or existing water rights within the leased area.

U.3.6.2 Operations

Operational demands on water will result from employee use of the kitchen and restroom facilities installed in the O&M building. It is estimated that approximately 12 to 15 people will be employed at the Facility during operation, and that workers will be present at the Facility in shifts throughout the day. Water will be supplied by an on-site exempt well that will provide up to 5,000 gpd. This meets requirements for the statutory exemption from water right permitting for industrial and commercial uses. Operational water requirements will be minor compared to municipal water use in the study area, and water availability will not be negatively impacted as a result of Facility operations. The manufacturer does not recommend blade washing, thus it is not anticipated to occur (Exhibit O).

U.3.7 Stormwater Drainage

U.3.7.1 Construction

Stream and wash crossings for all new access roads will be constructed in accordance with a SWPPP required under the NPDES General Stormwater Construction Permit and will employ a range of BMPs to minimize disturbance, stabilize soils, protect slopes, control stormwater flows into and through the area. Potential impacts associated with erosion and sediment runoff will be minimal due to the lack of perennial waters in the Facility area and the implementation of a SWPPP and environmental protection measures to reduce construction-related erosion.

U.3.7.2 Operation

Outdoor maintenance activities such as vehicle and equipment washing that could potentially create surface water discharges will be conducted in designated areas designed to treat this discharge in conformance with applicable Oregon DEQ requirements. Potentially hazardous materials will be stored indoors at the O&M building in a manner that will comply with all applicable local, state, and federal regulations. No impacts to stormwater drainage are anticipated from routine Facility operations and maintenance activities.

U.3.8 Solid Waste Management

U.3.8.1 Construction

There will be limited impacts to solid waste services during construction. The primary wastes generated during construction will be solid construction debris such as scrap metal, cable, wire, wood pallets, plastic packaging materials, and cardboard. The construction contractor will coordinate the transport of the waste to the Columbia Ridge Recycling and Landfill in Arlington, a facility which currently has no limit on the daily permitted tonnage

(Waste360, 1998). This facility is owned and operated by Waste Management, Inc., a company that contracts with local communities for waste collection and transportation. Hazardous waste, such as oil, will be disposed of in accordance with all applicable state and federal laws and regulations. Excess overburden and soils will be trucked to a permitted location capable of accepting them. Additionally, the contractor will develop a recycling program to ensure that appropriate materials are recycled when possible.

U.3.8.2 Operation

Solid waste generation during the operation of the Facility is expected to be limited and consistent with industry norms for a facility of this size. Solid waste pickup service is not available in the study area as discussed in Section U.2.8; therefore, the Applicant will be required to contract with a local provider to transport solid waste from the Facility to the landfill. Waste Management, Inc. provides waste transportation service to residences and businesses within the study area, and it is assumed that they will be contracted to perform this service for the Facility.

Hazardous materials use, storage, and disposal will be in accordance with a Facility Hazardous Materials Management Plan and will comply with applicable local, state, and federal environmental laws and regulations. Accidental releases of hazardous materials (e.g., fuel for vehicles or lubricating oil for turbines) will be prevented or minimized through proper containment of these substances during use and transportation to the site. Hazardous wastes will be removed and disposed of in an appropriately permitted disposal facility. Material Safety Data Sheets (MSDS) will be kept in both the storage area and the office, and will be reviewed by staff and visitors who may come into contact with the materials.

Because all waste will be removed from the site and transported to the landfill using an available service provider, significant direct impacts are unlikely from operation of the Facility.

U.3.9 Police Protection

U.3.9.1 Construction and Operations

For police services, the Applicant will seek assistance from the Gilliam County Sheriff's Office in Condon, Oregon. If necessary, additional law enforcement service is available from the Oregon State Police Eastern Region, with offices located in Arlington, Condon, Pendleton, and Milton-Freewater.

Construction activities associated with the proposed Facility, including the commutes of construction workers and the transportation of materials, will increase traffic volume on roadways in the vicinity of the Facility. Access to the study area is provided by existing paved roads off OR 19. The primary access route is expected to be Cedar Springs Lane, Cameron Road/Old Tree Lane, Bottimiller Lane, or Baseline Road, all county roads originating from OR 19. This increase in traffic volumes will likely occur from spring until fall, depending on the construction schedule, but is not expected to substantially affect roadways. During this period, the number of accidents and calls for service could increase slightly. However, construction is not expected to decrease response times for area service providers. A detailed discussion of impacts to traffic in the study area is presented in Section U.3.4.

U.3.10 Fire Protection and Emergency Response

U.3.10.1 Construction and Operations

Because construction activities will occur in rural lands susceptible to wildfires, there may be a potential increase in the amount of emergency calls to fire stations than currently occur. The highest expected fire risks are from grass fires during the summer. Furthermore, there are only 54 residences located within 1 mile of the Facility site boundary. Because these residences are spread apart, the fire risk to multiple residences and property will be minimal. The increase in industrial activity and traffic could increase fire risk during Facility operations, but this risk is not anticipated to be significant.

Emergency preparedness and access measures proposed by the Applicant will reduce potential impacts to surrounding people, property, and rescue personnel in the event of an emergency. These measures are discussed further in Section U.3.11 and include the preparation of a Health and Safety Plan, an Emergency Response Plan, and a Fire Mitigation Plan.

U.3.11 Health Care

U.3.11.1 Construction and Operation

Demand for emergency medical services could increase slightly due to construction accidents that could occur at the Facility site. Potential hazards at construction sites that could cause injury include equipment failure, human error, or natural disasters. Adequate safety measures will be implemented to ensure that the risk of serious injury requiring medical services will be minimal. Construction crews will be required to prepare health and safety plans, which will include locations of fire extinguishers, nearby hospitals, and other relevant information. The Applicant will also notify local hospitals and emergency personnel of the construction timeline.

Operation of the Facility could have a minor impact on emergency medical services in the study area, but hazards associated with Facility operation are expected to be minimal. During operation, health and safety plans adhering to industry standards will be implemented by the Site Operations Manager working on-site. In-migrant, long-term employees and their families will result in a minor increase in demand for family practitioners and other medical professionals, but should not exceed the capacity of the various medical centers and private practices located in local communities such as Arlington, Goldendale, Boardman, and Condon.

Pioneer Memorial Hospital in Heppner, OR, Klickitat Valley Health in Goldendale, WA, and Good Shepherd Medical Center in Hermiston, OR all have the capacity for additional patients, and ambulance and advanced life support services are available in the study area as demonstrated in Section U.2.11. Therefore, no significant impact is expected to negatively affect medical services during construction and operation of the proposed Facility.

U.3.12 Schools**U.3.12.1 Construction**

Construction workers from outside the local area are not expected to relocate their families to the study area for the short duration of the construction period. Therefore, limited demand for additional teachers or school facilities is expected during construction of the Facility. Local schools will be notified of the construction period, and construction traffic will avoid bus routes if practicable.

U.3.12.2 Operations

Facility operation is expected to have limited direct impacts on area schools. Approximately 12 to 15 employees will be needed to operate the Facility, and a portion of this workforce will be hired locally. Assuming that 60 percent (8 to 10) of these employees move to the area and that each employee had 1 school-age child, there will only be a net increase of 8 to 10 children in the study area. As discussed in Section U.2.12, there are several schools in the study area. These local schools have the capacity to accommodate the children of operational workers. Furthermore, operation of the Facility will not affect bus routes, bus stops, or any school facilities.

U.4 Evidence that Adverse Impacts to Providers are not Significant

OAR 345-021-0010(1)(u)(D) *Evidence that adverse impacts described in (C) are not likely to be significant, taking into account any measures the applicant proposes to avoid, reduce or otherwise mitigate the impacts; and*

RESPONSE

The following subsections provide evidence that adverse impacts to existing socioeconomic conditions and public and private providers and services within the study area are not likely to be significant.

U.4.1 Employment**U.4.1.1 Construction and Operation**

Construction and operation of the Facility will have a minor beneficial impact on employment in the community due to the increase in local employment, purchase of materials and services from local sources, and expenditures in the local economy by in-migrant workers. Impacts during construction will be temporary, but of greater magnitude than those associated with operation. Effects on community facilities and service providers will be minimal.

U.4.2 Population**U.4.2.1 Construction and Operation**

The combined effects of construction and operation on the population of the four-county study area will result in an estimated 1 percent increase during the peak activity months and a negligible increase the rest of the year. The temporary relocation of about 350 people

during the peak activity month will comprise about one percent of the 35,127 residents of the four counties within the study area (Gilliam, Morrow, Sherman, and Klickitat Counties).

U.4.3 Housing

U.4.3.1 Construction

Assuming that a maximum of 350 temporary new residents will in-migrate as a result of Facility construction, temporary housing could be required for an estimated 175 households in the study area during the peak construction period. Temporary residents will likely occupy a combination of hotels, motels, and campgrounds within the study area, and will not result in a significant adverse impact on available housing in the surrounding communities.

There are an estimated 900 hotel and motel rooms and 400 RV camp sites in communities located within an hour's drive of the Facility site (Tripadvisor.com, 2011; Travel Oregon, 2011). The majority of the rooms and campsites are available in the larger communities, such as The Dalles and Hermiston, Oregon, which are both outside of the study area, but within a commutable distance. Not all rooms and camp sites will be available at all times of the year, but adequate accommodations will exist to service the needs of the in-migrant workers throughout the construction phase of the proposed Facility.

U.4.3.2 Operation

Assuming that operation of the Facility will add between 24 and 30 people to the population (8 to 10 families), long-term housing will be required for up to 10 additional households starting in late 2012. Long-term residents will likely purchase homes or occupy rental properties in the communities near the Facility area. Based on the number of vacant housing units discussed in Table U2, there are sufficient homes available in the study area for long-term occupancy by operational staff. Although minor, the additional population will have an overall positive impact on housing in the study area, reducing the number of vacant properties.

U.4.4 Traffic Safety and Transportation

Prior to construction, roadways will be assessed for traffic safety conditions, pavement conditions, and any necessary improvements. During construction, measures will be implemented for monitoring and assessing traffic safety, traffic flow, and damage to county roads as a result of Facility construction. Damaged roadways will be restored to pre-construction conditions or better to the satisfaction of the Gilliam County Roadway Department.

There are not expected to be any adverse construction or operational impacts to traffic safety or travel times to or from the Facility. However, mitigation measures for temporary delays from slow moving delivery trucks are proposed, including the following:

- Notices to adjacent landowners will be distributed when construction takes place to help minimize access disruptions.
- Advanced warning and proper roadway signage to warn motorists of potential vehicles entering and exiting the roadway.

- When slow or oversized wide loads are being hauled, traffic diversion equipment such as roadside signing and warning devices will be employed. Pilot cars will also be used depending on the size and weight of the load.
- Encourage carpooling among construction workers to reduce traffic volume to and from the site.
- Detour plans will be provided in advance of any planned traffic disturbances.
- Flaggers will be employed as necessary to direct traffic to minimize risk of accidents when large equipment is entering or exiting public roadways.

By providing advanced warnings to motorists and notices to adjacent landowners, citizens will have prior knowledge of potential disruptions, and will be able to alter their travel plans accordingly.

Because much of the construction workforce will be arriving and leaving the Facility site during the same periods, carpooling will be encouraged. Carpooling will reduce the impact of construction traffic on typical commuters.

On roadways where two-way traffic is reduced to one lane, flaggers may be used. By using flaggers, closures and/or detours will not be required. Flaggers may also be utilized on public roadways in order to reduce possible conflicts between construction vehicles and through traffic.

U.4.5 Sewers and Sewage Treatment

U.4.5.1 Construction

All sewage will be collected in disposable toilets and disposed of at an approved location during construction, and will not impact sewers and sewage treatment systems in the study area.

U.4.5.2 Operation

All sewage generated during operation will be treated in an on-site septic system, and will not impact sewers and sewage treatment systems in the study area.

U.4.6 Water

U.4.6.1 Construction

An estimated 54.8 million gpd of water will be used for the duration of Facility construction. Water will be supplied to the Facility from landowners or municipalities with existing water rights. Water usage will not exceed established capacities and will not significantly impact water availability within the study area.

U.4.6.2 Operation

Estimated water use during operation will be minor, assuming that the total number of employees will not exceed 15. Water will be supplied by an on-site exempt well that will

provide up to 5,000 gpd and will not negatively impact water availability within the study area.

U.4.7 Stormwater Drainage

U.4.7.1 Construction

Construction activities such as excavation and grading could result in impacts to stormwater due to erosion and sediment mobilization. All stormwater runoff is expected to infiltrate directly into the ground and will not impact stormwater drainage systems. During Facility construction, the following measures will be implemented to minimize or avoid potential impacts to stormwater drainage systems:

- Facility construction activities will comply with specifications and BMPs contained in its NPDES permit and SWPPP to reduce erosion potential.
- After construction, the site will be monitored for erosion on a regular schedule as approved by DEQ or Gilliam County, and after large rainfall or snowmelt events and corrective actions taken as necessary.

Additional BMPs are discussed in Exhibit I.

U.4.7.2 Operation

An increase in impermeable surfaces within the study area is expected to occur as a result of constructing concrete turbine tower foundations and improving and installing new gravel roads. Stormwater will run off concrete tower foundations and infiltrate into the surrounding agricultural land or be directed into natural drainage ways. Stormwater runoff from constructed gravel roads will be directed into roadway ditches and runoff from other areas of disturbance (sites for O&M, substation and staging areas) will be dispersed to agricultural land to the extent possible and ditches used where necessary to direct stormwater to natural drainage. The overall increase in impermeable area within the study area boundary is negligible, and is not expected to increase stormwater runoff that will result from increased erosion and sediment mobilization.

U.4.8 Solid Waste Management

U.4.8.1 Construction

Most waste will be removed from the site and reused, recycled, or disposed of at the adjacent Columbia Ridge Recycling and Landfill in Arlington, if necessary. The landfill has adequate capacity to accommodate construction-related debris and is not expected to reach its full capacity for another 50 years. As described in Exhibits G and V, little construction waste will be generated and there are no anticipated adverse impacts.

U.4.8.2 Operation

Solid waste generation during operation of the Facility is expected to be limited and consistent with industry norms for a facility of this size. Furthermore, solid waste pickup service is available in the study area once contracted through Waste Management, Inc. as discussed in Section U.3.8. As described in Exhibits G and V, there are no anticipated adverse impacts due to operational waste generated.

U.4.9 Police Protection**U.4.9.1 Construction and Operations**

Due to the increase in population and subsequent increase in traffic during construction, the number of accidents and calls for service could increase slightly, but emergency response time is not expected to increase. The minor increase in population during operation will have a negligible impact on the number of accidents and calls for service, and will have no impact on emergency response time.

U.4.10 Fire Protection and Emergency Response**U.4.10.1 Construction and Operations**

Because construction activities will occur in rural lands susceptible to wildfires, there may be a potential increase in the amount of emergency calls to fire stations than currently exists. The highest fire risks will be grass fires during summer months, but the risk of fire spreading to multiple residences is limited by the distance between residences in the study area. Fires can also damage crops on agricultural lands. The increase in industrial activity and traffic could increase fire risk during Facility operations, but this risk is not anticipated to be significant. Emergency preparedness and access measures proposed by the Applicant will reduce potential impacts to surrounding people, property, and rescue personnel in the event of an emergency.

The Applicant will coordinate with emergency and fire response providers during preparation of an Emergency Action Plan, a Fire Prevention Plan, and an Operational Safety Plan to establish the appropriate preventative safety measures on-site, for example:

- If needed, provide fire districts with keys to a master lock system that will enable emergency personnel to unlock gates that will otherwise limit access to the Facility.
- Use spark arrestors on all power equipment (that is, cutting torches and tools) during extremely dry conditions to prevent fire.
- Construct junction boxes with a graveled footprint for fire protection and maintenance.
- Carry fire extinguishers in all maintenance and construction vehicles.
- Minimize vehicle contact with dry vegetation through the use of non-gasoline powered and/or high-clearance vehicles.

U.4.11 Health Care**U.4.11.1 Construction and Operations**

There are certain hazards associated with construction activities that could increase the demand for emergency medical services in the study area. Construction crews will be required to prepare health and safety plans to minimize the risk of bodily injury and reduce the potential demand on emergency services. Hazards associated with Facility operation are expected to be minimal and will also be minimized by implementation of health and safety plans adhering to industry standards. Additional demand on medical professionals created by long-term employees and their families will be met by local medical centers and private practices.

Local hospitals with life support services are available in the study area and have additional capacity for incoming patients. No significant impacts to medical services are expected during construction or operation of the proposed Facility.

U.4.12 Schools

U.4.12.1 Construction

Construction workers from outside the local area are not expected to relocate their families to the study area for the short duration of the construction period, resulting in limited demand for additional teachers or school facilities. Local schools will be notified of the construction period, and construction routes will be chosen to avoid all school bus routes whenever practicable.

U.4.12.2 Operations

Assuming that 8 to 10 employees, each with 1 school-age child, relocate to the study area during operation of the Facility, a net increase of up to 10 children is estimated. The public schools located within the study area all have additional capacity to accommodate the children of operational workers. Operation of the Facility will not affect bus routes, bus stops, or any school facilities.

U.4.13 Mitigation Measures

Through appropriate siting of the Facility and implementation of BMPs, the Facility is anticipated to result in no adverse effects on socioeconomic conditions and public and private providers. No additional mitigation measures are required.

U.5 Proposed Monitoring Programs

OAR 345-021-0010(1)(u)(E) *The applicant's proposed monitoring program, if any, for impacts to the ability of the providers identified in (B) to provide the services listed in OAR 345-022-0010;*

RESPONSE

The Applicant will work to minimize the impacts on public services by providing all police, fire, and emergency personnel with emergency response procedures for the Facility. Additionally, emergency personnel will be provided with maps of the Facility and access roads, relevant contact information, procedures for nacelle rescue operations, and locations of rescue baskets. Facility personnel will also complete regular emergency response training.

The increased demand for any public services during construction and operation of the Facility will be mitigated by the increase in the local property tax base generated by operation of the Facility. There will also be an increase in county revenues from property and sales taxes due to increased employment and spending. Furthermore, the Applicant will implement measures to plan for and minimize emergencies at the Facility. Response planning will be implemented to raise the level of preparedness in the event of an emergency.

U.6 Proposed Site Certificate Conditions

Similar to the conditions proposed by previously-approved wind energy facilities in the vicinity of the Facility, the Applicant proposes the following conditions:

Condition 38

The certificate holder shall handle hazardous materials used on the site in a manner that protects public health, safety, and the environment and shall comply with all applicable local, state, and federal environmental laws and regulations. If the Applicant chooses to store diesel fuel or gasoline, appropriate measures, consistent with the Spill Prevention, Control and Countermeasure Plan will be taken.

Condition 67

For turbine types having pad-mounted step-up transformers, the certificate holder shall install the transformers at the base of each tower in locked cabinets designed to protect the public from electrical hazards and to avoid creation of artificial habitat for raptor prey.

Condition 75

The certificate holder shall construct turbines on concrete foundations and shall surround the base of each tower with a minimum ten-foot pad area of washed crushed rock on all sides. The certificate holder shall maintain the non-flammable pad area covering during operation of the facility.

Condition 76

The certificate holder shall install and maintain self-monitoring devices on each turbine, linked to sensors at the O&M building, to alert operators to potentially dangerous conditions. The certificate holder shall maintain automatic equipment protection features in each turbine that will shut down the turbine to prevent conditions that can lead to turbine failure.

Condition 77

During construction and operation of the Facility, the certificate holder shall ensure that the O&M building and all service vehicles are equipped with shovels and portable fire extinguishers of a 4A50BC or equivalent rating.

Condition 78

During construction and operation of the Facility, the certificate holder shall develop and implement safety plans in consultation with the North Gilliam County Rural Fire Protection District and the South Gilliam County Rural Fire Protection District to prevent conditions that can lead to turbine failure. In developing the safety plans, the certificate holder shall take into account the dry nature of the region and shall address risks on a seasonal basis. The certificate holder shall meet annually with local fire protection agency personnel to discuss emergency planning and shall invite local fire protection agency personnel to observe any emergency drill or tower rescue training conducted at the Facility.

Condition 79

Upon the beginning of operation of the Facility, the certificate holder shall provide a site plan to the North Gilliam County Rural Fire Protection District and the South Gilliam County Rural Fire Protection District. The certificate holder shall indicate on the site plan the identification number assigned to each turbine and the actual location of all Facility structures. The certificate holder shall provide an updated site plan if additional turbines or other structures are later added to the Facility. During operation, the certificate holder shall ensure that

appropriate fire protection agency personnel have an up-to-date list of the names and telephone numbers of Facility personnel available to respond on a 24-hour basis in case of an emergency on the Facility site.

Condition 80

During construction, the certificate holder shall ensure that construction personnel are trained in fire prevention and response, that construction vehicles and equipment are operated on graveled areas to the extent possible and that open flames, such as cutting torches, are kept away from dry grass areas.

Condition 81

During operation of the Facility, the certificate holder shall ensure that all on-site employees receive annual fire prevention and response training by qualified instructors or members of the local fire districts. The certificate holder shall ensure that all employees are instructed to keep vehicles on roads and off dry grassland, except when off-road operation is required for emergency purposes.

Condition 82

The certificate holder shall follow manufacturers' recommended handling instructions and procedures to prevent damage to turbine or turbine tower components that could lead to failure.

Condition 83

The certificate holder shall construct turbine towers with no exterior ladders or access to the turbine blades and shall install locked tower access doors. The certificate holder shall keep tower access doors locked at all times, except when authorized personnel are present.

Condition 84

During operation of the Facility, the certificate holder shall have a safety-monitoring program and shall inspect all turbine and turbine tower components on a regular basis. The certificate holder shall maintain or repair turbine and turbine tower components as necessary to protect public safety.

Condition 85

To protect the public from electrical hazards, the certificate holder shall enclose the Facility substations with appropriate fencing and locked gates.

Condition 86

Before beginning construction of any new State Highway approaches or utility crossings, the certificate holder shall obtain all required permits from ODOT subject to the applicable conditions required by OAR Chapter 734, Divisions 51 and 55. The certificate holder shall submit the necessary application in a form satisfactory to ODOT and the Department for the location, construction, and maintenance of any new approach to OR 19 for access to the site. The certificate holder shall submit the necessary application in a form satisfactory to ODOT and the Department for the location, construction and maintenance of transmission lines crossing OR 19.

Condition 87

The certificate holder shall design and construct new access roads and private road improvements to standards approved by the Gilliam County Road Department. Where modifications of county roads are necessary, the certificate holder shall construct the modifications entirely within the county road rights-of-way and in conformance with county

road design standards subject to the approval of the Gilliam County Road Department. Where modifications of state roads or highways are necessary, the certificate holder shall construct the modifications entirely within the public road rights-of-way and in conformance with ODOT standards and subject to ODOT approval.

Condition 88

During construction of the Facility, the certificate holder shall implement measures to reduce traffic impacts, including:

- (a) Providing notice to adjacent landowners when heavy construction traffic is anticipated.
- (b) Providing appropriate traffic safety signage and warnings.
- (c) Requiring flaggers to be at appropriate locations at appropriate times during construction to direct traffic.
- (d) Using traffic diversion equipment (such as advance signage and pilot cars) when slow or oversize construction loads are anticipated.

Condition 89

The certificate holder develop in consult with the Gilliam County Road Department to ensure that any unusual damage or wear to County roads that is caused by construction of the Facility is repaired by the certificate holder. Upon completion of construction, the certificate holder shall restore public roads to pre-construction condition.

Condition 90

During construction, the certificate holder shall require that all on-site construction contractors develop and implement a site health and safety plan that informs workers and others on-site about first aid techniques and what to do in case of an emergency and also includes important telephone numbers and the locations of on-site fire extinguishers and nearby hospitals. The certificate holder shall ensure that construction contractors have personnel on-site who are trained and equipped for tower rescue and who are first aid and CPR certified.

Condition 91

During operation of the Facility, the certificate holder shall develop and implement a site health and safety plan that informs employees and others on-site about first aid techniques and what to do in case of an emergency and also includes important telephone numbers and the locations of on-site fire extinguishers and nearby hospitals. The certificate holder shall ensure that operations personnel are trained and equipped for tower rescue and who are first aid and CPR certified.

Condition 92

During construction and operation of the Facility, the certificate holder shall provide for on-site security and shall establish good communications between on-site security personnel and the Gilliam County Sheriff's Office. During operation, the certificate holder shall ensure that appropriate law enforcement agency personnel have an up-to-date list of the names and telephone numbers of Facility personnel available to respond on a 24-hour basis in case of an emergency on the Facility site.

Condition 93

The certificate holder shall notify the Department and the Gilliam County Planning Department within 72 hours of any accidents including mechanical failures on the site

associated with construction or operation of the Facility that may result in public health and safety concerns.

U.7 Conclusion

The section discussions above demonstrate the proposed Facility will not have an adverse affect on socioeconomic conditions and public and private providers. Socioeconomic conditions and public and private providers will not be dramatically altered as a result of the Facility, and potential impacts will be avoided with the use of proposed BMPs.

The Facility meets the requirements of OAR 345-022-110 and OAR 345-022-120, in that the Facility will not result in any adverse impacts to public services and waste management in the study area. This exhibit demonstrates that the Facility will not result in any adverse impacts on public and private providers, will minimize generation of solid waste and wastewater during construction and operation, and the accumulation, storage, disposal, and transportation of waste generated by construction and operation will have a minimal adverse impact on the surrounding and adjacent areas.

U.8 References

- Gilliam County. 1999. Gilliam County Transportation System Plan. April 1999.
- Oregon Department of Transportation (ODOT). 2011. Transportation Volume Tables 2005 – 2009. Accessed August 4, 2011.
http://www.oregon.gov/ODOT/TD/TDATA/tsm/tvt.shtml#Traffic_Volume_Tables.
- Oregon Department of Transportation (ODOT). 2010. Oregon State Highway System Pavement Condition Map, Region 4.
- Oregon Labor Market Information System (OLMIS). 2011. Unemployment Rates. Accessed August 3, 2011. <http://www.qualityinfo.org/olmisj/OlmisZine?zineid=00000011>.
- Travel Oregon. 2011. Travel Oregon Online, Oregon Lodging Association. Accessed July 28, 2011. www.traveloregon.com.
- Tripadvisor.com. 2011. The Dalles, Umatilla, and Hermiston, Oregon; Goldendale, Washington, Hotels. Accessed July 28, 2011. <http://www.tripadvisor.com>.
- U.S. Census Bureau. 2010. Profile of General Population and Housing Characteristics: 2010. Accessed August 3, 2011. <http://factfinder2.census.gov/>.
- Washington State Employment Security Department. 2011. Resident Labor Force and Employment in Washington State and Labor Market Areas. Accessed August 12, 2011.
http://www.workforceexplorer.com/admin/uploadedPublications/1885_laus_current.xls.
- Waste360. 1998. The Garbage Stops Here. Accessed August 3, 2011.
http://waste360.com/mag/waste_garbage_stops.

Figures

Figure U1: Major Transporter Routes

Figure U2: Public Roads