



Skookumchuck Wind Energy Project

Addendum to

Final Environmental Impact Statement

July 2019



SEPA Addendum to the Final Environmental Impact Statement (FEIS)

For the Skookumchuck Wind Energy Project

Purpose of this Addendum

This addendum describes the proposed change to the port of delivery and haul route for large turbine Project components for the Skookumchuck Wind Energy Project (Project). The proposed Project is described further below.

The changes to the port of delivery for large turbine components via marine vessel and associated changes in the haul route to the proposed Project site are described and analyzed for their potential environmental impacts below; see updated Figure 3.11-4 below for a map of the new port and associated haul route update.

This SEPA Addendum address the changes to the Project and provides new Project-related environmental information. This addendum has been prepared to provide an updated description of refinements made to the construction plan for the Project in the course of final design, and to evaluate how this change may affect the impact analyses contained in the FEIS and other environmental documentation for the Project. It does not substantially change the analysis of significant impacts in existing environmental documents.

Project Background

The proposed Project is a commercial-scale wind energy generation facility in Lewis and Thurston counties in southwestern Washington. The project will consist of up to 38 wind turbine generators with a nameplate capacity of up to 137 MW; a medium voltage (34.5 kV) electrical collection system linking each turbine to the Project substation; a Project substation where the electrical voltage of the current produced will be increased from 34.5 kV to 115 kV; temporary construction areas for batch plants and laydown storage yards; up to 17-mile aboveground 115 kV generation tie line used to transmit the electrical current from the Project substation to the Puget Sound Energy (PSE) Tono substation and equipment allowing interconnection to the PSE substation; an internal access road system; upgrades to the off-site haul roads; an operations and maintenance facility; three permanent meteorological towers; and system for safety, control, and security.

As the lead agency in the SEPA process, Lewis County determined that the proposed Project is likely to have a significant adverse impact on the environment. An environmental impact statement (EIS) is required under RCW 43.21C.030(2)(c). On October 30, 2018, the Draft EIS (DEIS) was issued with public notice of availability and the comment period appearing in local newspapers. The Final Environmental Impact Statement (FEIS) was subsequently prepared, and a notice of availability of the FEIS was issued on February 21, 2019.

Changes to the Port of Delivery and Haul Route

The change to the proposed Project described in this addendum is concerning the port of delivery for large turbine components and associated changes to the haul route from this port to the Project site. The FEIS stated that large Project components would be delivered to the Port of Tacoma via marine

vessel; however, due to schedule changes, the berth capacity at the Port of Tacoma became unable to support the volume and timing of large turbine component deliveries for the Project.

The Port of Longview in Cowlitz County had previously been evaluated as a potential alternative delivery point, and is now proposed for the delivery of large turbine components for the Project. The Port of Longview is a leader in wind energy cargo handling for the past 20 years and has adequate port capacity and storage space to accommodate the large turbine component deliveries for the Project. Both the Port of Longview and City of Longview have direct connections to major highways to facilitate oversized/overweight loads routinely traveling throughout the region for interstate commerce.

The Port of Longview is located approximately 100 miles south of the Port of Tacoma and approximately 75 miles from the Project site. The Project will still use the same haul route from Interstate 5 to the Project site, so the only change to the haul route will be the point of origin and the road connections from the Port of Longview to Interstate 5. The Project and their transportation subcontractors have conducted a final transportation survey and have coordinated closely with the Port of Longview, the City of Longview, and Cowlitz County (see Appendix A of this addendum) to ensure the new proposed haul route is acceptable and can be successfully used for the Project without impacts to the environment or public services.

Revisions to the FEIS

This section presents revisions to sections within Chapters 1 through Appendix 5.1-1 of the FEIS. These revisions are based on the following changes to the port of delivery and haul route:

- The large turbine components for the Project will be delivered to the Port of Longview
- The haul route from the Port of Longview will proceed on local roads in the City of Longview and Cowlitz County to northbound Interstate 5
- Once on Interstate 5 the large turbine components will travel to State Route (SR)-512 and onto the Project site via SR 507 and local roadways. This portion of the haul route from Interstate 5 to the Project remains consistent with the haul route that was presented and analyzed in the FEIS.

Revisions and updates are presented by chapter in the sequence that they appeared in the FEIS. Revisions are provided in strikethroughs and underlined text.

1.3 SUMMARY OF PUBLIC INVOLVEMENT, CONSULTATION, AND COORDINATION

1.3.1 Local Agencies

The following text has been added to Section 1.3.1 Local Agencies on page 1-3 in the FEIS as follows:

Susan Eugenis P.E., County Engineer, Cowlitz County
Norm Krehbiel, Chief Executive Officer, Port of Longview
Adam Trimble, Planner, City of Longview

2.1 FACT SHEET

The following change has been made to the table in Section 2.1 Fact Sheet on page 2.2-2 in the FEIS:

Road-Use <u>Right-of-Way</u> Permit*	City of <u>Longview</u> , Tacoma
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2.2 CHAPTER 1 - EXECUTIVE SUMMARY

The following change has been made to table 1.5-1 Project Permits and Approvals on page 2.2-3 in the FEIS:

Road-Use <u>Right-of-Way</u> Permit*	City of <u>Longview</u> , Tacoma
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Appendix 2.7-1 Mitigation Measures

Road Transportation

Project Site Access

The changes identified in the text below have been made to Appendix 2.7-1 Mitigation Measures on page 2.7-35 of the FEIS in the seventh bullet. Revisions are provided in strikethroughs and underlined text.

- The following mitigation measures are identified to avoid, reduce, or compensate for the potential impacts to the transportation system as a result of the heavy haul route from the Port of Longview Tacoma:
 - Schedule construction hauling outside of the weekday AM and PM peak commute periods.
 - Prepare a CTMP (to be submitted to applicable local agencies prior to construction for review) to direct and obligate the contractor to implement procedures to minimize traffic impacts in consultation with WSDOT, Thurston County, Cowlitz County, and the City of Longview Tacoma.
 - Comply with state, county, and city permitting requirements for oversize and overweight vehicles.
 - Notify adjacent land owners in the Project vicinity prior to construction of transportation routes that will be used for construction equipment and labor.
 - Place approved state, county, and/or city advanced warning construction signs prior to and during construction.
 - Use certified flaggers when necessary to direct traffic when oversize and overweight trucks either enter or exit public roads, to minimize risk of accidents.
 - Avoid restricting traffic flow for more than 20 minutes during the construction phase.
 - When slow or oversized wide loads are being hauled, appropriate vehicle and roadside signing and warning devices will be deployed per the CTMP. Pilot cars will be used as the WSDOT dictates, depending on load size and weight.
 - Conduct pre- and post-haul construction visual assessments of roadway surface conditions to identify weak or deteriorated areas along the haul route that may require repair as a result of Project-related traffic. Following the end of construction, repair all pavement sections affected by Project-related traffic as needed to pre-construction conditions or better.
 - The Applicant will videotape the haul route roadways to document pavement conditions before and after construction and address changes in discussions with WSDOT, Thurston County, Cowlitz County, and the City of Longview Tacoma.

Road Transportation

The changes identified in the text below have been made to Appendix 2.7-1 Mitigation Measures on page 2.7-36 through 37 of the FEIS:

Regional Haul Routes

- Physical obstructions (signs, barriers, light poles, etc.) present adjacent to the road can be temporarily moved or removed and then replaced in their original location when the transportation of WTG components is completed. Vegetation can be trimmed; if larger trees need to be removed, the Applicant will work with landowners to provide compensation for trees removed. Finally, at locations where travel in the wrong lane is needed to accommodate the load, the Applicant will obtain the necessary permits for such transits and will implement temporary traffic controls to ensure safer conditions for other road users. The haul route was physically surveyed to evaluate required route improvements by Vestas. Preliminary results of

the survey indicate that with the addition of the route improvements, it is feasible to transport materials for this Project. See Appendix 3.11-2 for more information.

- The Applicant has completed a delivery route analysis to identify roads to be used for transportation of oversize and overweight components. The Applicant will work with the affected jurisdictions to develop and implement plans to conduct temporary or permanent roadway improvements and/or temporary relocation of roadside equipment. If needed, the Applicant will obtain permits for temporary modifications to roads and their adjacent areas. If modifications are on private lands, the landowner will have the opportunity to decide if the improvements will be permanent or if the Applicant will return disturbed areas to their original condition.
- As part of the development of the CTMP, the Applicant will work with the various jurisdictions where roadway impacts are anticipated to determine applicable requirements on a case-by-case basis. Applicable communities and agencies include: Lewis County, Thurston County, Pierce County, Cowlitz County, the Port of Longview Tacoma, WSDOT, and the cities of Longview Tacoma, Parkland, Spanaway, Roy, and McKenna. Discussions are underway with these agencies; however, the Applicant does not currently have agreements in place. The Applicant will obtain applicable local and state permits for transportation of oversize and overweight loads.
- The current design for the haul route requires 24 ~~3~~ bridge crossings, 59 ~~13~~ underpass locations, one aerial underpass, and 21 ~~12~~ overpass locations. The Applicant will identify in the engineering design stage the structural condition and load-limit restrictions for bridges and culverts to be crossed with permitted oversize and overweight loads with each jurisdiction. The Applicant will work with local jurisdictions to identify deficiencies and implement solutions to mitigate for adverse impacts to such structures; if mitigation is not possible, the Applicant will select transportation routes avoiding such structures. Approximately 4 months in advance of WTG component delivery, the transportation contractor will engage with local, state, and federal agencies to assess any load and clearance restrictions and secure necessary permits.
- Port delivery of the WTG components has been evaluated from the Port of Vancouver, Port of Longview, Port of Olympia, and the Port of Tacoma. While the Port of Tacoma was originally targeted to be the designated port for the Project, after a more defined delivery schedule was set for larger turbine components the Port of Tacoma was also found to have insufficient berth space to accommodate the delivery schedule for the Project. Based on further discussions with the Port of Tacoma and the Port of Longview in regards to shipping schedules, and coordination with WSDOT it was determined that the Port of Longview would be more suitable for the larger turbine components. Due to handling and transportation constraints that would require significant transportation and infrastructure obstructions, such as nighttime transportation of the turbine blades under police escort against traffic flow along I-5, it has been established that the only feasible port of delivery is the Port of Tacoma. It is currently anticipated that turbine blade delivery will occur at night under police escort; the Applicant will enter into agreements with local law enforcement services and incur associated costs with this escort service. Discussions with the agencies and communities mentioned above, along with property owners is somewhat premature considering underway and it is anticipated that transportation of the components will not begin until early summer August 2019; however, outreach is underway.
- As part of the CTMP, the Applicant will also coordinate with appropriate jurisdictions to minimize impacts to public road users from temporary delays, detours, or road closures

resulting from the transportation of oversize or overweight components. The Applicant will coordinate with Weyerhaeuser and emergency responders to identify any temporary road closures that could prevent access to the site via specific routes, however the main Project access roads will be maintained in a cleared condition at all times.

Appendix 5.1-1 Distribution List

The following text was added to Appendix 5.1-1 Distribution List on page 5.1-7 of the FEIS:

<u>Susan Eugenis</u>	<u>Cowlitz County</u> <u>Engineer</u>	<u>360-577-3030 Ext.</u> <u>6538</u>	<u>eugeniss@co.cowlitz.wa.us</u>
<u>Norm Krehbiel</u>	<u>Port of Longview</u> <u>Chief Executive</u> <u>Officer</u>	<u>360-425-3305</u>	<u>nkrehbiel@portoflongview.com</u>
<u>Adam Trimble</u>	<u>City of Longview</u> <u>Planner</u>	<u>360-442-5092</u>	<u>adam.trimble@ci.longview.wa.us</u>

Revisions to the DEIS

The structure of the FEIS incorporated portions of the DEIS without revision into the FEIS. Therefore, the sections below from the DEIS were incorporated directly into the FEIS. Revisions and updates from this addendum are presented below by chapter in the sequence that they appeared in the DEIS.

Revisions are provided in strikethroughs and underlined text.

CHAPTER 1 EXECUTIVE SUMMARY

1.6.1 Proposed Action

The following changes were made to Table 1.6-1. Summary of Environmental Impacts and Mitigation on page 1-21 and 1-22 in the DEIS (which was incorporated in the same form into the FEIS):

Table 1.6-1. Summary of Environmental Impacts and Mitigation

Potential Environmental Impacts	Proposed Mitigation Measures
Transportation	
<p>During construction, temporary traffic impacts and road damage can occur as a result of Project construction-related traffic on local roads, and transportation of oversize and overweight equipment on regional haul routes.</p> <p>Operation-related impacts are limited to wear of private Project access roads and intrusion of the WTGs and meteorological towers into navigable airspace</p>	<p>Prior to beginning of operations, the Applicant will identify emergency access routes to permanent Project facilities in coordination with local emergency providers. The following mitigation measures are identified to avoid, reduce, or compensate for the potential impacts to the transportation system as a result of the heavy haul route from the Port of LongviewTacoma.</p> <ul style="list-style-type: none"> • Schedule construction hauling outside of the weekday AM and PM peak commute periods. • Prepare traffic control protocol (to be submitted to local agencies prior to construction for review) to direct and obligate the contractor to implement procedures to minimize traffic impacts in consultation with WSDOT, Thurston County, and City of LongviewTacoma. • Comply with state, county, and city permitting requirements for over-size and over-weight vehicles. • Notify adjacent land owners in the project vicinity prior to construction of transportation routes that would be used for construction equipment and labor. • Place approved state, county, and/or city advanced warning construction signs prior to and during construction. • Use certified flaggers when necessary to direct traffic when over-size and over-weight trucks either enter or exit public roads, to minimize risk of accidents. • Avoid restricting traffic flow for more than 20 minutes during the construction phase. • When slow or oversized wide loads are being hauled, appropriate vehicle and roadside signing and warning devices will be deployed per the transportation traffic management protocols. Pilot cars will be used as the DOT dictates, depending on load size and weight. • Conduct pre- and post-haul construction visual assessments of roadway surface conditions to identify weak or deteriorated areas along the haul route that may require repair as a result of project-related traffic. Following the end of construction, repair all pavement sections affected by project-related traffic as needed to pre-construction conditions or better • Applicant will videotape the haul route roadways to document pavement conditions before and after construction and address changes in discussions with WSDOT, Lewis/Thurston/PierceCowlitz counties, and City of LongviewTacoma.

CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES

2.4.5.4 Regional Haul Routes

The following changes were made to 2.4.5.4 Regional Haul Routes on page 2-14 in the DEIS (which was incorporated in the same form into the FEIS):

In addition to the roads directly accessing the Project facilities, the Project will use regional roads to transport Project components from marine ports of entry into Washington State. These are described in additional detail in section 3.11.4.1.

The main access routes to Project facilities are located north and west of the Project Area. The O&M Facility will be accessed via the public road network originating at various locations in Thurston County and terminating at Vail Loop Road SE. A new access to Vail Loop Road SE will be required to allow construction and operations ingress and egress from the O&M Facility.

Certain Project components (e.g., oversized parts, WTG blades, and towers) will be shipped via marine vessels to the Port of Longview Tacoma. Upon vessel arrival at the Port of Longview Tacoma, the components will be trans - loaded to specialized heavy haul trucks and will be shipped via the existing road network to the main Project laydown area in the vicinity of the proposed O&M Facility. Because certain components are very long, temporary modifications to roadside areas and potentially road shoulders may be required to allow passage of such loads. The Applicant has conducted preliminary analyses of the existing transportation routes which will be used to transport components from the Port of Longview Tacoma (Lonestar Transportation 2017, updated June 2019). The analyses provide specific consideration for transporting materials such as the wind blades, tower sections, and hubs and nacelles that require trucks with longer wheel bases and limited maneuvering capabilities. The revised Figure 3.11-4 illustrates regional routes considered in the analyses in this addendum.

A final route analysis was completed by the Applicant in coordination with the turbine supplier, Vestas and their transportation subcontract. ~~The final route analysis has been will be completed once WTG components have been acquired by the Applicant and routes reviewed and approved by the Washington State Department of Transportation (WSDOT) and appropriate cities and counties.~~ It is possible that deviations from the routes currently analyzed could be selected to further minimize impacts. Nevertheless, the impacts identified in the preliminary analyses represent the range of impacts that may result to transportation corridors from the Port of Longview Tacoma. The impacts identified in the transportation route analysis, and measures to mitigate such impacts, are summarized in Chapter 3.11, Transportation.

CHAPTER 3 AFFECTED ENVIRONMENT, IMPACTS AND MITIGATION

3.7.4.1 Construction

The changes identified in the text below have been made to 3.7.4.1 Construction on page 3.7-8 in the DEIS (which was incorporated in the same form into the FEIS):

Traffic volumes will increase on local roadways surrounding the Project Area during the construction phase due to commuting construction workers and the transportation of materials. Haul trucks delivering the WTGs will access the Project area via Vail Loop Road SE and existing private roads and will

pass near a few local residences along the route. Noise from the haul route would be consistent with existing noise levels (similar to semi-trucks) both to and from the Port of ~~Longview Tacoma~~. As a result, noise levels along local roadways will increase temporarily. However, most deliveries and site access trips will occur during daytime hours.

Level of Service

The changes identified in the text below have been made to Level of Service on page 3.11-5 in the DEIS (which was incorporated in the same form into the FEIS):

WSDOT sets the LOS standards for state highways of statewide significance as stated in RCW 47.06.140. Highways of Statewide Significance (HSS) as defined by the WSDOT are interstate highways and other major arterials essential in interstate connectivity. Per the 2009 Statewide Map of Highways of State Significance, Highways of Statewide Significance List, and Puget Sound Map of Highways of Statewide Significance, no state routes providing primary access to the Project Area (i.e., SR 507 and SR 508) are listed as a HSS (WSDOT 2009a, 2009b, 2009c). SR 512, SR 99, SR 432 and SR 433 ~~705~~ near the Port of ~~Longview Tacoma~~ (see component haul route discussion in Section 3.11.4.1) are listed as HSS.

Traffic Volumes

The changes identified in the text and table below have been made to Traffic Volumes on page 3.11-5 in the DEIS (which was incorporated in the same form into the FEIS):

Traffic volumes on the roads in the immediate vicinity of the Project Area are relatively low. As discussed previously, travel to the Project will primarily occur via I-5 and state routes including SR 507. Table 3.11-2 shows the annual average daily traffic (AADT) volumes between 2012 and 2016 for the roadways traveled between the Port of ~~Longview Tacoma~~ and the Project Area. These volumes are based on available traffic data from WSDOT.

Table 3.11-2. Traffic Volumes (AADT)

Roadway	Location	Year				
		2012	2013	2014	2015	2016
SR 509	West of Port of Tacoma Road	27,000	27,000	28,000	29,000	30,000
I-705	North of I-5	69,000	60,000	71,000	73,000	74,000
<u>SR 433</u>	<u>West of SR 432/Milepost 0.7</u>	<u>21,000</u>	<u>21,000</u>	<u>22,000</u>	<u>22,000</u>	<u>23,000</u>
<u>SR 432</u>	<u>West of I-5/After Milepost 9.66</u>	<u>31,000</u>	<u>31,000</u>	<u>32,000</u>	<u>35,000</u>	<u>36,000</u>
I-5	S 48th Street Interchange	183,000	188,000	190,000	197,000	197,000
SR 512	East of I-5	105,000	106,000	107,000	108,000	110,000
SR 507	Southwest of SR 7	13,000	13,000	14,000	14,000	15,000

The changes identified in the table below have been made to Table 3.11-3. Existing Weekday PM Peak Hour Level of Service in Section 3 on page 3.11-6 in the DEIS (which was incorporated in the same form in the FEIS):

Table 3.11-3. Existing Weekday PM Peak Hour Level of Service

Freeways	Location	Number of Lanes per Direction	PM Peak Hour Directional Volume ¹	Density (pc/mi/ln) ²	LOS Standard	Existing LOS
I-705 SR 509	West of Port of Tacoma Road	2	1,551	11.4	D	B
I-705	North of I-5	3	3,389	17.1	D	B
SR 432	Cowlitz River Bridge	2	1,800	14.4	D	B
I-5	S 48th Street Interchange	4	7,584	31.5	D	D
SR 512	East of I-5	4	4,235	15.7	D	B
2-Lane Highway	Location	Number of Lanes per Direction	Peak Hour Directional Volume ²	V/C Ratio ³	LOS Standard	Existing LOS
SR 507	Southwest of SR 7	1	866	0.54	C	E
SR 433	NE of Colombia River Bridge	1	1,150	0.76	D	E

3.11.3.4 Rail and Waterway Transportation

The changes identified in the text below have been made to Section 3.11.3.4 Rail and Waterway Transportation on page 3.11-9 in the DEIS (which was incorporated in the same form into the FEIS):

There are no waterways serving the Project location. Several public ports are located in Western Washington with capability to receive freight via marine vessels and trans load to rail and road transportation methods for delivery throughout the state including the Centralia-Chehalis urbanized area and then westward towards the Project location. These include, for example, the Ports of Grays Harbor, Tacoma, Olympia, Longview, Kelso, Kalama, and Vancouver (WSDOT 2017d). The existing marine freight handling infrastructure in Western Washington is fully developed given the importance of import and export markets, which are handled through Washington State (BST Associates 2017). Several ports already have the experience and capability to receive, store, and load wind energy generation components such as the Port of Longview Tacoma that will be used in the construction and operation of the Project (Port of Longview 2017, Port of Olympia 2017, Port of Vancouver 2016).

3.11.4 Impacts of the Project

3.11.4.1 Construction

The changes identified in the text and table below have been made to 3.11.4.1 Construction on page 3.11-16 in the DEIS (which was incorporated in the same form into the FEIS):

Roadway LOS with Construction

For SR 433 and SR 432 SR 509 and I-705 analysis, it was assumed 50 percent of the generated trips will use each roadway based on the routing. For the remaining studied roadways, 100 percent of peak hour trips is assumed. Table 3.11-5 summarizes the level of service with the construction and Project impact.

Table 3.11-5. Level of Service with Construction and Project Impact

Freeways	Location	Number of Lanes per Direction	Peak Hour Directional Volume ¹	Density (pc/mi/ln) ²	LOS
<u>SR 509</u>	West of Port of Tacoma Road	2	1,735	12.8	B
<u>I-705</u>	North of I-5	3	3,573	18.1	C
<u>SR 432</u>	Cowlitz River Bridge	2	2,167	17.3	B
<u>I-5</u>	S 48th Street Interchange	4	7,952	34.1	D
<u>SR 512</u>	East of I-5	4	4,602	17.2	B
Highways	Location	Number of Lanes per Direction	Peak Hour Directional Volume ¹	V/C Ratio ³	LOS
<u>SR 507</u>	Southwest of SR 7	1	1,233	0.76	E
<u>SR 433</u>	NE of Colombia River Bridge	1	1,517	1.00	E

Regional Haul Routes

The changes identified in the text below have been made to Regional Haul Routes on page 3.11-18 in the DEIS (which was incorporated in the same form into the FEIS):

As described below, certain Project components will be shipped to western Washington via marine vessels. Upon vessel arrival at the selected ports, the components will be transloaded to specialized heavy haul trucks and will be shipped via the existing road network to the main Project laydown area in the vicinity of the O&M Facility. Because certain components are very long, temporary modifications to roadside areas and potentially road shoulders may be required to allow passage of such loads. The Applicant has conducted preliminary analyses of the existing transportation routes which will most likely be used to transport components from the Port of Longview Tacoma (Lonestar Transportation 2017 updated 2019, RES 2017). The analyses provide specific consideration for transporting materials such as the wind blades, tower sections, and hubs and nacelles that require trucks with longer wheel bases and limited maneuvering capabilities. Figure 3.11-4 illustrates regional routes considered in these analyses. The analysis of specific route segments is detailed below.

FIGURE 3.11-4

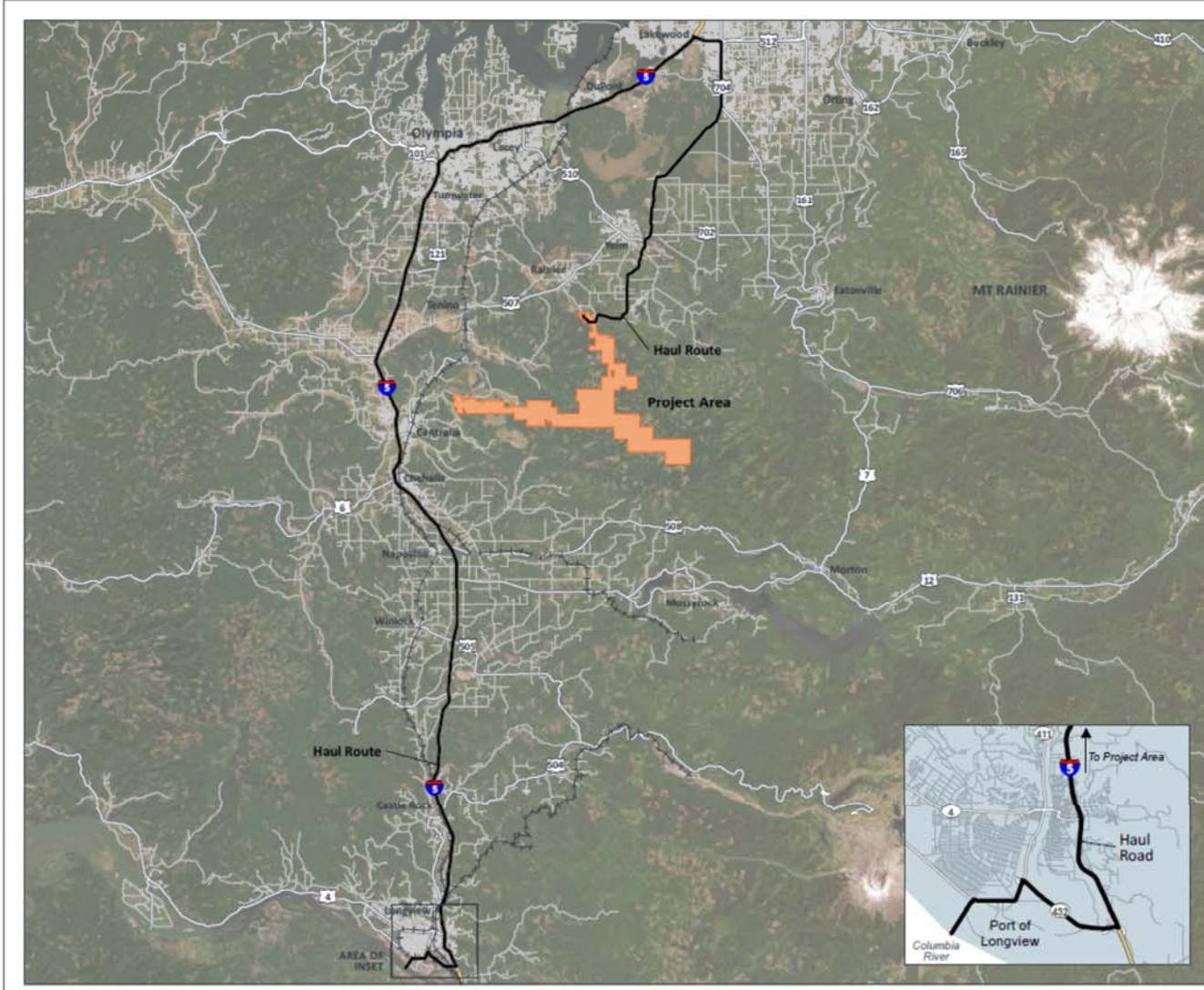
The following update has been made to the Haul Route Map 3.11-4 on page 3.11-19:

Figure Error! No text of specified style in document.-1. Large Component Haul Route

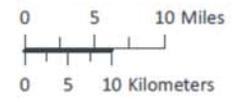
**FIGURE 3.11-4
LARGE COMPONENT
HAUL ROUTE**

UPDATED FROM FIGURE 3.11-4 IN THE DRAFT EIS

-  Haul Route
-  Interstate
-  Highway
-  Local Road
-  Rail
-  Project Area



SOURCES: CHAMBERS GROUP 2017, WDNR 2016, LEWIS CO. 2016, THURSTON CO. 2016, USGS 2017, WSDOT 2017



7/12/2019

SKOOKUMCHUCK WIND PROJECT

Summary of Potential Route Haul Impacts from Port of Tacoma to Vail, WA

The following changes in the table below were made to Regional Haul Routes in Section 3 in Table 3.11-6 on pages 3.11-20 through 3.11-22 in the DEIS (which was incorporated in the same form in the FEIS):

Table Error! No text of specified style in document.-1. Summary of Potential Haul Route Impacts from Port of Longview Tacoma to Vail, WA

Route Segment	Location of Impact or Obstruction	Description of Impacts/Obstructions	Mitigation
<p>Blair Peninsula: Direct I-5 southbound Access from Port of Tacoma Road</p> <p>Travel on Port of Tacoma Road Merge onto I-5 southbound ramp, and then I-5^s</p>	<p>On ramp to I-5 south bound</p>	<ul style="list-style-type: none"> — Concrete traffic island. And curb/gutter — Traffic signals, street lights, ramp meter, other traffic signage 	<ul style="list-style-type: none"> — Truck may need to mount curbs or traffic island — Temporarily relocate traffic signals, street lights, ramp meter and other traffic signage
<p>Blair Peninsula: Southbound I-5 access via SR-509 and SR-705</p> <p>Travel on Port of Tacoma Road Merge left onto SR-509 southbound; merge left onto SR-705 southbound; merge left onto I-5 southbound ramp, and then I-5^s</p>	<p>On ramp to SR-509</p>	<ul style="list-style-type: none"> — Narrow ramp with concrete traffic island — Traffic controller cabinet, traffic signal pole with strain pile and span wires. 	<ul style="list-style-type: none"> — Truck may need to mount curbs or traffic island — Temporarily remove or relocate traffic signals
	<p>On ramp to SR-705</p>	<ul style="list-style-type: none"> — Narrow ramp with concrete traffic island — Street lights and traffic signals 	<ul style="list-style-type: none"> — Truck may need to oversteer the intersection or mount curbs or traffic island — Temporarily remove or relocate street lights and traffic signals

Route Segment	Location of Impact or Obstruction	Description of Impacts/Obstructions	Mitigation
<p><u>Port of Longview: I-5 northbound access from SR 432</u></p> <p><u>Travel on E Port Way onto SR 433 North, right onto SR 432/Industrial Way East, turns into 3rd Ave North</u></p> <p><u>Left onto Ramp SR 432/Tennant Way East, and right sharp curve onto I-5 northbound</u></p>	<p><u>On-ramp to SR 432</u></p>	<ul style="list-style-type: none"> - <u>Narrow ramp with concrete traffic island</u> - <u>Traffic controller cabinet, traffic signal pole with strain pile and span wires.</u> 	<ul style="list-style-type: none"> - <u>Truck may need to mount curbs or traffic island</u> - <u>Temporarily remove or relocate traffic signals</u>
<p><u>Port of Longview: I-5 northbound access from SR 432</u></p> <p><u>Travel on E Port Way onto SR 433 North, right onto SR 432/Industrial Way East, turns into 3rd Ave North</u></p> <p><u>Left onto Ramp SR 432/Tennant Way East, and right sharp curve onto I-5 northbound</u></p> <p>Hylebos Peninsula: Direct I-5 southbound access from 54th Avenue East</p> <p>Travel on Taylor Way East to 54th Avenue</p> <p>Merge left onto I-5 southbound</p>	<p>On ramp to I-5 north south bound</p>	<ul style="list-style-type: none"> - Concrete traffic island. And curb/gutter - Traffic signals, street lights, ramp meter, other traffic signage 	<ul style="list-style-type: none"> - Truck may need to mount curbs or traffic island - Temporarily relocate traffic signals, street lights, ramp meter and other traffic signage

Route Segment	Location of Impact or Obstruction	Description of Impacts/Obstructions	Mitigation
Divert towards SR 512 ^{1,5} Exit 127 left onto SR 512 eastbound ²	Off-ramp to SR-512 eastbound	<ul style="list-style-type: none"> - The off-ramp at the intersection with SR-512 is approximately 100-ft wide, with no raised traffic islands. 	<ul style="list-style-type: none"> - Oversteer truck through the intersection. - No physical impacts to existing infrastructure are anticipated.
Travel east on SR 512 ⁵	Exit SR-512 eastbound through an off-ramp to SR-7 southbound	<ul style="list-style-type: none"> - Narrow off-ramp - raised concrete median curb is located on SR-7 at the intersection - Road signs obstructing travel of long components - Traffic signal pole obstructing travel of long components 	<ul style="list-style-type: none"> - Oversteer truck - Mount the raised median, or temporarily remove curb - Temporary relocation of road signs and traffic signal.
Travel south on SR 7 from Parkland to Spanaway ⁵	Right turn-lane onto SR-507 southbound	<ul style="list-style-type: none"> - Narrow turn lane - Road signs obstructing travel of long components 	<ul style="list-style-type: none"> - Temporary relocation of road signs. - Temporary widening of turn lane embankment.
Travel southwest on SR 507 to Roy and McKenna ⁵	Veer right onto SR 507, travel towards Roy ²	<ul style="list-style-type: none"> - Must use vacant lot to make turn onto SR 507 in Roy - Wooden utility poles - Traffic signage 	<ul style="list-style-type: none"> - Obtain approval from private landowner to transit through vacant lot; minor regrading or fill to level out the lot - Temporary relocation of utility poles and road signs.
	Turn left from SR 507 onto Vail Road SE ^{2,3}	<ul style="list-style-type: none"> - Road signs obstructing travel of long components - Insufficient clearance of overhead utility lines - Obstructing vegetation on north side of intersection - Narrow SE corner of intersection 	<ul style="list-style-type: none"> - Manually steer blades - Existing signs to be temporarily relocated - Overhead utility line clearance to be checked, and increased if necessary - Approximately 450 square feet of area north of intersection to be temporarily cleared of vegetation for blade swing - Approximately 2,550 square feet of the SE corner of the intersection to be filled with approximately 67 cubic yards of fill.
Travel southwest on Vail Road SE	Right hand curve approaching intersection of Vail Road SE and Lindsey Road SE (25 mph curve) ¹	<ul style="list-style-type: none"> - Blades must manually steer. - Fence along left side is 5 feet tall. 	<ul style="list-style-type: none"> - Manually steer blades to avoid fence - Temporarily relocate fence

Route Segment	Location of Impact or Obstruction	Description of Impacts/Obstructions	Mitigation
Travel west on Vail Cut Off	Veer right to merge onto Vail Cut Off Road at intersection with Reichel Road ¹	<ul style="list-style-type: none"> - 30 mph right curve, with 19 foot tall signs on left 	<ul style="list-style-type: none"> - Manually steer blades
Travel south and southwest on Vail Cut Off	Left Turn onto Vail Loop Road ^{2,3}	<ul style="list-style-type: none"> - Road signs obstructing travel of long components - Insufficient clearance of overhead utility lines - Obstructing vegetation on north side of intersection - Narrow SE corner of intersection 	<ul style="list-style-type: none"> - Manually steer blades - Existing signs to be temporarily relocated - Overhead utility line clearance to be checked, and increased if necessary - Approximately 3,400 square feet of area north east of intersection to be temporarily cleared of vegetation for blade swing - Approximately 4,620 square feet of the SE corner of the intersection to be filled with approximately 1,070 cubic yards of fill.
Arrive at private staging area in vicinity of intersection of Vail Loop Road and NF-900.	Right turn from Vail Loop Road to O&M Facility staging yard (opposite NF-900) ¹	<ul style="list-style-type: none"> - Trees adjacent to road - Fence adjacent to road 	<ul style="list-style-type: none"> - Cut trees - Remove and replace fence
Or, travel to ridge, via Gordon Road SE ⁵	Sharp left curve from Vail Loop Road to Gordon Road SE	<ul style="list-style-type: none"> - Narrow embankment - Trees adjacent to curve - Wooden utility poles near road - Road signs near road 	<ul style="list-style-type: none"> - Temporary widening of embankment - Remove trees - Temporary relocation of utility poles and road signs.

1. AST 2017a

2. Lonestar Transportation 2017, updated 2019

3. RES 2017.

4. RES 2018.

5. Chambers Group, Inc. 2018

Summary of Potential Route Haul Impacts from Port of Longview ~~Tacoma~~ to Vail, WA

The changes identified in the text below have been made to Regional Haul Routes in Section 3 on pages 3.11-23 in the DEIS (which was incorporated in the same form in the FEIS):

~~Based on review of ports, the Applicant has determined that the Port of Tacoma is the only feasible port for delivery of large project components via marine vessel. For purposes of analysis in this EIS, two potential terminals at the Port of Tacoma have been identified: one located on the Hylebos Peninsula with access to Taylor Way and 54th Avenue, and one located on the Blair Peninsula with access to Port of Tacoma Road.~~

~~Once loaded, haul trucks will exit the Port of Tacoma via one of several potential routes:~~

- ~~• From the Blair Peninsula: after merging onto Port of Tacoma Road, right onto I-5 southbound; or right onto SR-509, then left on SR-705, and finally merging southbound onto I-5.~~
- ~~• From the Hylebos Peninsula: after merging onto Taylor Way, travelling on 54th Avenue southbound, and merging southbound onto I-5.~~

Based on further detailed review of the ports with the turbine supplier (Vestas), their subcontractor transportation haulers, and the ports, it was determined that Port of Longview is the most feasible point of delivery for the Project large turbine components. Once loaded, haul trucks will exit the Port of Longview via E Port Way onto 433 North and take a right onto SR 432/Industrial Way East, which turns into 3rd Avenue North. The trucks will take a left onto Ramp SR 432/Tennant Way East and a sharp right curve onto I-5 North. The trucks will follow I-5 north approximately 90 miles through Olympia toward Tacoma.

From I-5, the trucks will take Exit 127 to merge and then turn left onto SR 512 going east. Trucks will then travel south and southwestward via SR 7 and SR 507, and then towards the Vail area via county roads. Deliveries will terminate at the main construction laydown area located at the O&M Facility yard.

As identified in Table Error! **No text of specified style in document.**-1, most travel impacts occur as a result of minor obstructions (road signs, trees, light, and utility poles) adjacent to the travel route, which will prevent turning of the long load. In some cases, bridges or overpasses over roads may provide insufficient clearance for the height of the load in transit, resulting in the truck having to exit and re-enter the main thoroughfare to avoid the obstruction. Occasionally, intersections are configured in such a manner that the truck will need to cross into the wrong lane to travel through the intersection, oversteer an intersection, or mount medians or curbs.

~~Port delivery of the large project components has been evaluated from the Port of Vancouver, Port of Longview, Port of Olympia, and the Port of Tacoma. During this evaluation, the Applicant considered other regional haul routes originating from Port of Olympia and Port of Longview (ATS 2017a, ATS 2017b). These other routes resulted in various obstructions requiring wrong way travel on roads, tree removal, or temporary modifications to curbs and intersections. In particular, on a different approach route (west to east) near the O&M Facility, significant cut and fill would have been required at the intersection for the left turn on to Vail Loop Road from westbound Vail Cut Off Road to where the intersection is angled so as to require such a sharp turn that the loaded truck cannot pass. By selecting the Port of Tacoma, which was determined as the only feasible port of delivery, these obstructions will be avoided. Finally, some obstructions render certain routes impassible; for example, two railroad overpasses on SR-507 (one west~~

of Tenino and one east of Rainer) have insufficient clearance to entirely allow the use of SR 507 to deliver large components.

Rail and Waterway Transportation

The following changes were made to Rail and Waterway Transportation on page 3.11-24 in the DEIS as follows (which was incorporated in the same form in the FEIS):

Certain WTG and substation components will be delivered via marine vessel to of the Port of Longview Tacoma for receiving, handling, and temporarily storing the components. This port has the capability for these activities and the facilities and yards necessary for the component handling to occur. Receipts will be managed in the context of normal port operation, and improvements at the Port of Longview Tacoma specific to receiving Project components are not anticipated.

3.11.6 Mitigation Measures

3.11.6.1 Construction

Road Transportation

Project Site Access

The changes identified in the text below have been made to Road Transportation in Section 3 on pages 3.11-28 through 3.11-30 in the DEIS (which was incorporated in the same form into the FEIS):

The following mitigation measures are identified to avoid, reduce, or compensate for the potential impacts to the transportation system as a result of the heavy haul route from the Port of Longview Tacoma:

- Schedule construction hauling outside of the weekday AM and PM peak commute periods.
- Prepare a CTMP (to be submitted to applicable local agencies prior to construction for review) to direct and obligate the contractor to implement procedures to minimize traffic impacts in consultation with WSDOT, Thurston County, Cowlitz County, and the City of Longview Tacoma.
- Comply with state, county, and city permitting requirements for oversize and overweight vehicles.
- Notify adjacent land owners in the Project vicinity prior to construction of transportation routes that will be used for construction equipment and labor.
- Place approved state, county, and/or city advanced warning construction signs prior to and during construction.
- Use certified flaggers when necessary to direct traffic when oversize and overweight trucks either enter or exit public roads, to minimize risk of accidents.
- Avoid restricting traffic flow for more than 20 minutes during the construction phase.
- When slow or oversized wide loads are being hauled, appropriate vehicle and roadside signing and warning devices will be deployed per the CTMP. Pilot cars will be used as the WSDOT dictates, depending on load size and weight.

- Conduct pre- and post-haul construction visual assessments of roadway surface conditions to identify weak or deteriorated areas along the haul route that may require repair as a result of Project-related traffic. Following the end of construction, repair all pavement sections affected by Project-related traffic as needed to pre-construction conditions or better.
- The Applicant will videotape the haul route roadways to document pavement conditions before and after construction and address changes in discussions with WSDOT, Thurston County, Cowlitz County, and the City of Longview Tacoma.

Traffic Generation

As shown in the analysis, traffic impacts for the proposed Project will primarily be related to activity during construction. To manage the impacts, the CTMP will describe procedures for construction activity including such items as flagging, notifications, site-specific traffic control, truck routes, hours of operation, and delivery times. The Applicant will coordinate with local jurisdictions during preparation of the CTMP in order to minimize local traffic disruptions to the maximum extent possible. Construction activities will be scheduled so that the most intensive activities in terms of construction traffic arriving and departing the site are spread out over time to avoid the peak periods of traffic congestion.

As discussed in additional detail in Section 3.12.6, prior to beginning of construction, the Applicant will identify emergency access routes to Project construction sites in coordination with local emergency providers. These routes will include combinations of public and private access roads. The roads selected will be documented in the Construction Emergency Response Plan and the CTMP.

Regional Haul Routes

Table Error! **No text of specified style in document.**-1 identifies the typical means to mitigate transportation route obstructions. Physical obstructions (signs, barriers, light poles, etc.) present adjacent to the road can be temporarily moved or removed and then replaced in their original location when the transportation of WTG components is completed. Vegetation can be trimmed; if larger trees need to be removed, the Applicant will work with landowners to provide compensation for trees removed. Finally, at locations where travel in the wrong lane is needed to accommodate the load, the Applicant will obtain the necessary permits for such transits and will implement temporary traffic controls to ensure safer conditions for other road users. The haul route was physically surveyed to evaluate required route improvements by Vestas. Preliminary results of the survey indicate that with the addition of the route improvements, it is feasible to transport materials for this Project. See Appendix 3.11-2 for more information.

The Applicant has completed a delivery route analysis to identify roads to be used for transportation of oversize and overweight components. The Applicant will work with the affected jurisdictions to develop and implement plans to conduct temporary or permanent roadway improvements and/or temporary relocation of roadside equipment. If needed, the Applicant will obtain permits for temporary modifications to roads and their adjacent areas. If modifications are on private lands, the landowner will have the opportunity to decide if the improvements will be permanent or if the Applicant will return disturbed areas to their original condition.

As part of the development of the CTMP, the Applicant will work with the various jurisdictions where roadway impacts are anticipated to determine applicable requirements on a case-by-case basis.

Applicable communities and agencies include: Lewis County, Thurston County, ~~Cowlitz~~ Pierce County, the Port of ~~Longview Tacoma~~, WSDOT, and the cities of ~~Longview Tacoma~~, Parkland, Spanaway, Roy, and McKenna. Discussions are underway with these agencies; however, the Applicant does not currently have agreements in place. The Applicant will obtain applicable local and state permits for transportation of oversize and overweight loads.

The current design for the haul route requires ~~24~~ 3 bridge crossings, ~~59~~ 13 underpass locations, one aerial underpass, and ~~21~~ 12 overpass locations. The Applicant will identify in the engineering design stage the structural condition and load-limit restrictions for bridges and culverts to be crossed with permitted oversize and overweight loads with each jurisdiction. The Applicant will work with local jurisdictions to identify deficiencies and implement solutions to mitigate for adverse impacts to such structures; if mitigation is not possible, the Applicant will select transportation routes avoiding such structures. Approximately 4 months in advance of WTG component delivery, the transportation contractor will engage with local, state, and federal agencies to assess any load and clearance restrictions and secure necessary permits.

Port delivery of the WTG components has been evaluated from the Port of Vancouver, Port of Longview, Port of Olympia, and the Port of Tacoma. While the Port of Tacoma was originally targeted to be the designated port for the Project, after a more defined delivery schedule was set for larger turbine components the Port of Tacoma was also found to have insufficient berth space to accommodate the delivery schedule for the Project. Based on further discussions with the Port of Tacoma and the Port of Longview in regards to shipping schedules, and coordination with WSDOT it was determined that the Port of Longview would be more suitable for the larger turbine components. Due to handling and transportation constraints that would require significant transportation and infrastructure obstructions, such as nighttime transportation of the turbine blades under police escort against traffic flow along I-5, it has been established that the only feasible port of delivery is the Port of Tacoma. It is currently anticipated that turbine blade delivery will occur at night under police escort; the Applicant will enter into agreements with local law enforcement services and incur associated costs with this escort service. Discussions with the agencies and communities mentioned above, along with property owners is ~~somewhat premature~~ considering underway and it is anticipated that transportation of the components will ~~not begin until early summer August 2019;~~ however, outreach is underway.

As part of the CTMP, the Applicant will also coordinate with appropriate jurisdictions to minimize impacts to public road users from temporary delays, detours, or road closures resulting from the transportation of oversize or overweight components. The Applicant will coordinate with Weyerhaeuser and emergency responders to identify any temporary road closures that could prevent access to the site via specific routes, however the main Project access roads will be maintained in a cleared condition at all times.

Appendix 3.12-2 Transportation Survey

The following five attachments were added to DEIS Appendix 3.11-2:

- Lone Star Transportation Survey, Updated June 2019
- Omega Transportation Study, June 2019
- Port of Longview haul route letter, July 1, 2019
- City of Longview haul route letter, July 10, 2019
- Cowlitz County haul route letter, July 10, 2019