Horse Heaven Wind Project EFSEC Review
Data Request No. 2 (received July 16, 2021) – Supplemental Response Package No. 2 (October 20, 2021)

The following contains Scout's supplemental responses to EFSEC's data requests Air-3, Air-5, Air-13, Aesthetics-2, and Aesthetics-3. Both the original response provided to EFSEC on 8/16/2021 as well as the new supplemental response is provided for each of these data requests.

Responses to the following items will be provided at a later date. Generally, we anticipate that responses to data requests involving habitat mitigation will be developed collaboratively with EFSEC and WDFW over the coming months. The majority of responses to the other items below will be provided prior to construction or as agreed with EFSEC:

- Earth-2
- Earth-4
- Vegetation-3
- Vegetation-7
- Vegetation-9
- Vegetation-14
- Vegetation-18
- Vegetation-19
- Vegetation-22
- Wildlife-7
- Wildlife-8
- Wildlife-11
- Wildlife-17
- Energy and Natural Resources-1
- Cultural/Historic-1
- Cultural/Historic-2
- Cultural/Historic-3
- Cultural/Historic-5
- Transportation-2

Data Request 2 Item ID	Code Citation Application Section	Item	Question or Information Request.	Applicant Response *(bold text indicates response conclusion and Applicant commitments, including commitments to provide supplemental materials)*
Air-3	WAC: 463-60-225 Section 3.2.2.1	Criteria Air Pollutant Emission Rates	For each distinct construction location (laydown area, turbine pads, solar cluster, switchyard, etc.), include an Excel spreadsheet with a list of all air pollution emitting equipment, equipment rating, expected duration of use, load factor, the applicable emission factor for each criterion air pollutant (NOx, SO2, PM10/2.5, CO, NMHC) and emission rate calculations in pounds/hour, pounds/day and tons/year. Include diesel generators, batch plant, and blasting emission rate estimates. Provide references for all emission factors and other assumptions used in all calculations. Indicate which sources of emissions will be operating concurrently and provide a summary of maximum emission rates for each averaging	*--Original Response:* Tables quantifying the estimated air emissions from construction of the Project will be provided to EFSEC under separate cover at a later date. Note that it will not be feasible to provide a list of air emitting equipment for each construction location, but a list of air emitting equipment for each phase of construction and operation should be possible to be provided. Air emissions will be quantified on a calendar year basis, but it will not be feasible to estimate maximum concurrent emission rates for each distinct construction location, or for 1-hour or 24-hour averaging periods. WAC 463-60-225 does not explicitly require this level of detail to be provided regarding short-term emission rates, nor is it considered prudent by the Applicant for a non-emitting renewable energy facility. Emissions from mobile equipment used during construction, operation, and maintenance are also not subject to stationary source permitting. Information regarding batch plant and blasting operations is not available at this time. Refer to Air-4 and Air-11 responses. *--New Supplemental Response:* **Emission tables quantifying the estimated air emissions from construction, operation, and maintenance of the project are provided in Attachment Air-3. WAC 463-60-225(1) specifies that EFSEC applications "shall describe and quantify all construction and operational air emissions subject to regulation by local, state or federal agencies." The provided emissions tables contain sufficient detail to satisfy the requirement of WAC 463-60-225(1).** Summary tables present the total emissions by overall project phase, as well as total emissions by calendar year during construction, operation, and maintenance of the project. Detailed tables for each project phase are also included that list the anticipated air emitting equipment for each phase, and include the assumed equipment ratings, load factors, and references for the emission factors and other assumptions used in the calculations. The emission factors used are also presented on separate tables. Construction schedules for each phase of the project, as well as the types and quantities of equipment used for each specific task during construction, operation, and maintenance of the Project.

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			period (e.g., hour, day. year) for each distinct construction location. Provide requested Excel file including all calculations in an unprotected format allowing all fields to be displayed.	Emission factors for nonroad mobile equipment to be used during construction of the Project were calculated using the current version of EPA's Motor Vehicle Emission Simulator (MOVES) emission factor modeling system. The current version of MOVES, known as MOVES3, is EPA's accepted model for creating mobile source emission inventories for both federal and state environmental assessments. MOVES runs were conducted using default input files for Benton County provided by the State of Washington Department of Ecology. Runs were conducted for two separate calendar years, 2023 and 2024, and were used to estimated emissions from the corresponding phase of construction occurring in each year. (2023 emission factors were used for Phase 1 construction emissions, and 2024 emission factors were used for both Phase 2a and Phase 2b construction emissions.) Emission for on-road mobile equipment to be used during construction, operation, and maintenance of the Project, including supply trucks, delivery vehicles, and worker commute vehicles, were also calculated using MOVES3 and the default input files for Benton County. Runs were conducted for calendar years 2023 and 2024 and applied to the corresponding phase of construction occurring in each calendar year. The 2024 emission factors were also used to estimate on-road vehicle emissions during operation and maintenance activities for calendar years 2025 onward. For nonroad equipment, MOVES3 produced emission factors for VOC, NO_x, CO, PM_{10}, $PM_{2.5}$, SO_2, CO_2, and CH_4 in units of grams per horsepower-hour. Emissions of N_2O from nonroad equipment used a default emission factor of 0.26 g N_2O/gallon fuel, based on Table B-8 of the EPA report, "*Direct Emissions from Mobile Combustion Sources, U.S. EPA Center for Corporate Leadership – Greenhouse Gas Inventory Guidance," EPA430-K-16-004, January 2016*. Emissions factors for HAP compounds from nonroad diesel equipment were based on the ERG report, "*Documentation for Aircraft, Commercial Marine Vessel, Locomotive, and Other Nonroad Components of the National Emissions Inventory," Volume I - Methodology, October 7, 2003*. Total emissions of greenhouse gases (in units of tons of CO_2 equivalents, or CO_2e) were calculated by applying the appropriate global warming potential factors (GWPs) from 40 CFR 98 to the estimated emissions of CO_2, CH_4, and N_2O. The GWPs for these greenhouse gases are 1 for CO_2, 25 for CH_4, and 298 for N_2O. For on-road vehicles, MOVES3 produced emission factors for VOC, NOx, CO, PM_{10}, $PM_{2.5}$, SO_2, CO_2, CH_4, N_2O, and CO_2e in units of grams per vehicle mile traveled. Emission factors for HAP compounds from on-road vehicles were not available from the MOVES3 runs. HAP emissions from on-road vehicles used during construction, operation, and maintenance of the project are presumed to be de minimis based on the relatively small total emissions contributed to the project by on-road vehicles for other pollutants.
Air-5	WAC: 463-60-312 Section 3.2.2.1	Fugitive Dust Emissions – Open Storage	Provide the number, size (pile height and diameter for piles), duration of open construction material stockpiles and open disturbed areas (acres), or other factors used to develop emission rate calculations. Quantify PM10 and PM2.5 emissions. Incorporate the control efficiency associated with the use of stockpile covers or other mitigation proposed to minimize or eliminate fugitive dust in the calculations. Provide a reference for control efficiency used in calculations.	*--Original Response:* A response to this comment will be provided to EFSEC under separate cover at a later date. *--New Supplemental Response:* **Estimated PM10 and PM2.5 emissions for nonroad mobile equipment are quantified in Attachment Air-3.** The number, size, and duration of open construction material stockpiles, and related control efficiency information and calculations, will not be available until the project design has been finalized and the detailed construction schedule has been developed.
Air-13	WAC: 463-60-312 Section 3.2.1	Climate Change	Quantify Project Greenhouse Gas (GHG) emissions during construction and operation. Compare GHG emissions to regional and statewide emissions and GHG reduction goals.	*--Original Response:* Tables quantifying the estimated GHG emissions from construction, operation, and maintenance of the Project will be provided to EFSEC under separate cover at a later date. This filing will also include: • A summary of Washington state's GHG emission inventory and GHG reduction targets • A summary of proposed GHG mitigation measures Also see our response to Air-11.

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			Describe any proposed GHG mitigation measures.	*--New Supplemental Response:* **Tables quantifying the estimated GHG emissions from construction, operation, and maintenance of the Project have been provided as part of the new supplemental response to Air-3 (see Attachment Air-3).** To compare project GHG emissions to statewide GHG emissions, the most recent inventory published by the State of Washington Department of Ecology (https://ecology.wa.gov/Air-Climate/Climate-change/Tracking-greenhouse-gases/Greenhouse-gas-reporting/Inventories) estimated statewide GHG emissions of 99.6 million metric tons in 2018. By comparison, the Project has estimated GHG emissions of 14,790 short tons (13,417 metric tons) in 2023; 16,654 short tons (15,108 metric tons) in 2023; and 134.9 short tons (122.3 metric tons) in calendar years 2025 and onward. The Project's maximum calendar year GHG emissions from construction in 2024 therefore represent about 0.015 percent of the statewide GHG emissions for 2018. Regarding GHG mitigation measures, the Project proposes to limit the idling of construction equipment and vehicles in accordance with accepted best management practices. It should be noted that the entire Project itself is expected to provide a large net reduction in statewide GHG emissions, since the construction and operation of renewable electric generation facilities like this project are one of the most significant components of the State of Washington's plan to achieve its GHG reduction targets (https://ecology.wa.gov/Air-Climate/Climate-change/Tracking-greenhouse-gases), which require a 45 percent reduction below 1990 levels by 2030, a 70 percent reduction below 1990 levels by 2040, and a 95 percent reduction below 1990 levels by 2050.
Aesthetics-2	WAC: 463-60-362 Section 4.2.3 Appendix Q	The selection of representative viewpoints for field survey, simulations, and analysis are predominately middle-ground viewing distance zone (0.5 to 5 miles) and do not represent foreground (less than 0.5 miles) viewing opportunities. Few of the viewpoints represent local communities or residential areas in the Tri-Cities area. It is acknowledged in the ASC that there are 13 non-participating landowners within a foreground viewing distance that would be exposed to relatively near views of the Project. It's illustrated in the ASC that there is potential visibility of the Project from nearby communities and residential areas (Figures 4.2.3-1 to 4.2.3-6). Comments received	Provide panoramic photos (similar to those provided in Appendix Q of the ASC) of the existing condition of the Project area from a representative viewing location in the following residential communities: • Benton City • Badger • Kennewick (Canyon Lakes area) • Highland These viewing locations should provide relatively unobstructed views towards the Project area and represent public viewing opportunities within these communities. Provide panoramic photos of the existing condition of the Project area from the following representative rural residential viewing location within a foreground viewing distance zone (0 to 0.5 miles): • Along County Well Rd (near the County Well Road Solar Array location) – view towards solar array and turbines	*--Original Response:* Proposed photo locations have been provided to EFSEC for review corresponding to the identified locations. With EFSEC's concurrence on the proposed locations, these photos will be provided to EFSEC under separate cover at a later date. *--New Supplemental Response:* **The requested panoramic photos are provided in the attached *Aesthetics Technical Memorandum for the Horse Heaven Wind Project* (see attachment Aesthetics-2).**

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		as part of the public scoping process identified a lack of representative viewpoints in nearby residential subdivisions or foreground areas.	• Near Sellards Rd and Travis Rd – view towards transmission line and turbines	
Aesthetics-3	WAC: 463-60-362 Section 4.2.3 Appendix Q	Simulations of the Project features are needed to support an understanding and analysis the visual character and potential visual impact of the project on viewpoints representing local residential communities or rural residential areas within a foreground viewing distance,	Provide photographic simulations (similar to those provided in Appendix Q of the ASC) of Project features from the same locations established in response to Aesthetics-2 data request. Include modelling of turbine layout options, solar array facilities and transmission line options within these simulations.	*--Original Response:* Photographic simulations will be provided to EFSEC under separate cover at a later date. *--New Supplemental Response:* **The requested photographic simulations are provided in the attached *Aesthetics Technical Memorandum for the Horse Heaven Wind Project* (see attachment Aesthetics-2).**

References

Attachment Air-3

Attachment Aesthetics-2