STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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Joanne Snarski
Energy Facility Site Evaluation Council (EFSEC)
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Olympia, WA 98504
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SENT VIA ELECTRONIC MAIL

RE: Badger Mountain Solar Energy Project: Shorelands, Wetlands and Waters of the State Review

Dear Joanne Snarski:

Aurora Solar, LLC, (the Applicant), a wholly owned subsidiary of Avangrid Renewables, applied for Site Certification (ASC) for the Badger Mountain Solar Energy Project (Project) on October 5, 2021. On October 31, 2023 **Ecology, EFSEC, Tetratech, WSP and Avangrid** met to discuss the wetland determination forms provided in attachment I of the original application and the Arid West regional supplement.

The purpose of this letter is to provide clarification of the questions presented in that meeting:

- Scope of work. Some of the questions related to identifying wetlands within the project area. Ecology requested information regarding DR4-W-01 and DR4-W-02 from the Badger Mountain Solar Project DEIS – Data Request #4, Table 1, dated October 16, 2023
- Questions regarding the process of identifying the presence of vegetation, soils, and hydrologic indicators in semi-arid environments consistent with the Arid West regional supplement.
    - In Ecology's May 31, 2023 letter to EFSEC regarding the site visit conducted in April 2023, Ecology requested the Applicant perform "often and frequent site visits to observe the presence and absence with consideration of shifts in hydrology and vegetation." This request includes installation of shallow monitoring wells to review and verify observations.

- **Ecology response**: The qualified professional will need to determine the frequency of site visits based on climatic information. Page 14 of the Arid West Regional Supplement states that the Arid-land vegetation is highly responsive to precipitation patterns. Wetlands subject to seasonal hydrology in the region often show substantial changes in species presence and abundance throughout the year. Ecology recommended tools to help identify patterns of when and where wetland conditions are likely to occur.

Scope of Work: Ecology requires the identification and characterization of all waters of the state, including Wetlands and their buffers, on or adjacent to the project site. Due to the scope of the property boundaries and the potential for site plan changes. Ecology continues to recommend expanding the critical area study, within and up to 250' past all property boundaries to accommodate wetland buffer widths consistent with Douglas County code *19.18B.020, Identification and rating* and 19.18B.050, *General standards*.

In many parts of the Arid West, ribbons of wetland are concentrated along rivers and streams that flow through parched landscapes. It is common to have wetland habitats found at, above, within, or adjacent to stream systems. Ecology requested determination forms for locations near and in between all stream segments and the identified areas requested for additional review in Appendix A of Ecology's letter to EFSEC dated July 11, 2022.

1. **Observe and document the site**. Clarification was requested for items DR4-W-01 and DR4-W-02 from the Badger Mountain Solar Project DEIS – Data Request #4, Table 2, dated October 16, 2023. Before making any decision about the presence or absence of hydric soils, the overall site and how it interacts with the soil should be considered. Ecology recommended tools to help identify when wetland indicators will be most likely found. Refer to the Arid West regional supplement for information on landscape characteristics. Indicators given in the Arid West Regional Supplement can be used to identify all wetlands, whether natural or created artificially by human activity.

2. **Determination forms.** To date, Ecology has reviewed 15 determination forms. There are not enough determination forms provided to be representative of the scale of the project area and the variety of existing environments. Ecology recommends the applicant provide more determination forms or, as many as needed, along ephemeral drainages to appropriately characterize the landscape.

    a. **Vegetation**: Several of the provided wetland determination forms identify little vegetation cover. This is not unsurprising for April conditions. Ecology recommends using the information for growing seasons on pg. 60 to better characterize on-site microclimates. A one-time observation of biological activity during a single site visit is often sufficient, however more site visits may be

required if growing season information is necessary to evaluate wetland hydrology indicators. The need for additional site visits is not uncommon to verify the preliminary wetland determination to complete the wetland delineation (pg. 18).

i. In cases where indicators of hydric soil and wetland hydrology are present, the vegetation should be re-evaluated with the prevalence index (Indicator 2), which takes into consideration all plant species in the community, not just a few dominants.
ii. Ecology recommends noting observations of disturbances and climatic fluctuations, such as floods, wildfires, drought, grazing, tilling, and recent site modifications. Because events can set back or alter the course of plant-community development, these areas may lack indicators and are described in Chapter 5.
    - 4.a Temporal Shifts in Vegetation (pg. 87)
    - 4.e Managed Plant Communities (pg. 92)
    - 4.g Vigor and Stress Responses to Wetland Conditions (pg. 93)
    - 5.a Direct Hydrologic Observations (pg. 95)
    - 5.b Reference Sites (pg. 95)
    - 5.c Technical Literature (pg. 95)

b. **Soil**: All of the provided wetland determination forms demonstrated a depth of 16", chapter 3 of the Arid West Regional Supplement. For most soils, the recommended excavation depth is approximately 20 in. (50 cm) from the soil surface. However, a shallower soil pit may be enough for some indicators, such as shallow aquitard (when bedrock is 12" deep also a secondary indicator for hydrology (D3)). See Chapter 3 of the manual under "Procedures for Sampling Soils" beginning on page 32.

    i. Ecology recommends digging all pits 24" deep to help inform the presence or absence of secondary hydrology indicator C2 during the normal dry season or during a drier-than-normal year.
    ii. Indicate whether the site visit occurred during a wetter-than normal, normal, normal-dry or drier-than-normal year.
    iii. Soils in the Arid West region are sometimes highly alkaline. Provide pH in sample.
    iv. If no hydric soil indicators are present, the additional site information below may be useful in documenting whether the soil is indeed non-hydric unless a "problem" hydric soil is present. Because shallow aquitard is a naturally problematic condition, refer to Chapter 5, Additional information for Seasonally Ponded Soils (page 97) and procedures beginning on page 98.

c. **Hydrology:** Many of the forms will require deeper pits. Some of the provided determination forms identify information that may indicate secondary hydrologic indicators or may require a dry season site visit. Ecology recommends using Rainfall Normality analysis (Attachment 1) to identify the wet portion of the growing season in a *normal* or *wetter-than-normal* rainfall year. Careful review of problematic conditions should be considered when hydrology is present.

   i. Ecology recommends a review of procedures in the Arid West regional supplement for *Wetlands that periodically lack indicators of wetland hydrology.* Procedures beginning on page 102
      1. Indicator C9: Saturation visible on aerial imagery
   ii. There are 7 Hydrology tools. These should be used only when an indicator-based wetland hydrology determination is not possible or would give misleading results. Review these on page 107 of the Arid West Regional Supplement.

<u>Ecology's findings</u>

To date, Ecology has **15** determination forms for the 2,390-acre project study area. Ecology has provided recommendations of tools to help identify conditions, where dry season indicators and optimal growing season might assist in identifying wetlands where indicators may be fleeting. Ecology is requesting wetland determination forms and provided maps of general areas requested using the procedures identified in the Arid West regional supplement.

Original Application Attachment I – Tetratech dated September 2021, field assessment dated 4/20/2021 provided 5 wetland determination forms, at or surrounding a National Wetland Inventory feature.

- WT-223: provide a deeper pit for soils and hydrology snow
- WT-224: provide a deeper pit and review optimal time for vegetation
- WT-225: provide a deeper pit and review
- WT-226: provide a deeper pit and review
- WT-227: provide a deeper pit and review

Badger Mountain Solar Energy Project: Data Request 3 Response – Wetlands and Waters – Tetratech dated June 16, 2023, field assessment dated April 20, 2021 provided 10 wetland determination forms at various locations.

- WT-100:
- WT-101:
- WT-122:
- WT-126:

- WT-228:
- WT-242:
- WT-332:
- WT-351:
- WT-381:
- WT-382:

Ecology recommends expanding the review to include additional areas located along or 250 feet beyond the property boundary.

Ecology looks forward to providing the Energy Facility Site Evaluation Council (EFSEC) with technical assistance and expertise in the future. If you have any questions or would like to discuss these comments, please call me at (509) 379-4541.

Sincerely,

Alicia Schulz
Environmental Specialist IV – Shorelands, Wetlands, Federal Permit Coordinator
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