BADGER MOUNTAIN SOLAR APPLICATION REVIEW - EFSEC COMMENTS TO ORIGINAL APPLICATION

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DR-W-01	**Water**	N.A.	Describe the potential impacts of the Project on Stream ST-510 and any other potential waters of the State.	What Project features would impact streams?	As described in ASC Part 4, Section 4.3.B, the Applicant is designing the Project to avoid and minimize impacts to ephemeral streams to the extent feasible. Specific stream crossing locations are undetermined at this stage in Project design and, upon finalization, will be limited to ephemeral streams within the Project area, if needed. Per ASC Part 4, Section 4.3.C.1, the conceptual design shown on the Project's Preliminary Site Plan (ASC Attachment A, Figure A-1) includes the potential for ephemeral stream crossings or culverts to be installed over ephemeral drainages for Project components such as collector lines and road crossings, but as noted above, specific stream crossing locations are undetermined at this stage in Project design. While not anticipated, if bridge construction is necessary, the abutments would be placed outside of the ordinary high water mark unless no other feasible alternative placement exists.	Design is not adequate to determine stream impacts.	The Project layout will not be advanced to the level of design necessary to determine whether stream impacts will occur, until after the EFSEC SCA has been issued. The issuance of the SCA will allow Avangrid to engage a contractor to finalize the design, providing enough detail to support permit applications, if necessary. It is expected that the EIS and SCA would include provisions to minimize impacts on streams to the extent practicable and to obtain permits for any impacts that cannot be avoided from the agencies with jurisdiction through coordination with EFSEC.
					ASC Part 4, Section 4.3.B, states that the State of Washington considers all water bodies to be waters of the state and therefore has jurisdiction over the ephemeral streams found within the Project area. As such, crossings or other work within the ordinary high water marks of ephemeral streams may require a Hydraulic Project Approval (HPA) permit from the WDFW. The Applicant is designing the Project to avoid and minimize impacts to ephemeral streams to the extent feasible. Per WAC 220-660-010, the purpose of the HPA is to ensure that construction or performance of work is done in a manner that protects fish life. As described in Section 4.3.C, because the on-site ephemeral streams are not fish-bearing, the Applicant will engage with WDFW to determine if an HPA is necessary based on final Project design.		
					In addition, the Applicant submitted an Approved Jurisdictional Determination request to the USACE on July 12, 2022. Following a call with the USACE on December 9, 2022, and at the USACE's recommendation, the Applicant requested a Preliminary Jurisdictional Determination (PJD) for aquatic resources within the Project area. If streams cannot be avoided at final design, the Applicant would submit a Joint Aquatic Resources Permit Application to EFSEC to obtain necessary permitting for jurisdictional streams, if needed.		
				Would fill, culverts, or bridge abutments/piles be placed in any streams?	See the Applicant's response to the first item under DR-W-01 above.	Design is not adequate to determine stream impacts.	See the Applicant's response to the first item under DR-W-01 above.
				Would the stream impacts be temporary or permanent?	If impacts to streams cannot be avoided at final design, potential impacts may be temporary and permanent. ASC Part 4, Section 4.3.C.1, describes potential temporary impacts, which could include sediment and dust from the construction of Project components. Specific stream crossing locations are undetermined at this stage in Project design and, upon finalization, will be limited to ephemeral streams within the Project area, if any. Impacts associated with stream crossings could include excavation (removal and fill) within the stream corridor and below the ordinary high water mark, construction of roadway, and placement of culverts or bridges, if needed. Proposed avoidance, minimization, and mitigation strategies for potential impacts to ephemeral streams are addressed in Part 4, Section 4.3.D.	Design is not adequate to determine stream impacts.	See the Applicant's response to the first item under DR-W-01 above.
DR-WLF-09	**Wildlife**	Attachment G: 2021 Wildlife and Habitat Survey Report	Section 4.2.2.2 Mammals describes the observations of mammals and potential for the Project area to support mammals.	Active Burrows were observed in the Project footprint, but the species were not confirmed. Will monitoring occur to confirm use and species?	~~No additional surveys, pre-construction or otherwise, will be completed for burrowing mammals.~~ Pre-construction surveys will be conducted to document burrowing activity in the Project area. If active burrows are observed, attempts will be made to avoid impacts on active burrow systems during the final micrositing of project infrastructure. If active burrow systems cannot be avoided, documentation will be provided to EFSEC regarding why avoidance was impractical. ~~Impacts to burrows will be minimized as practicable.~~	Burrows, including inactive burrows, can be used by a variety of wildlife beyond the species that originally created it. Old burrows may be used by special status species such as sagebrush lizard and burrowing owl. The Applicant has noted that burrows exist on the Site including some that appeared to be active. Further, the Applicant has committed to minimizing impacts to burrows. Clarification is requested on how this will be achieved without conducting surveys prior to construction.	See the Applicant's revised response to DR-WLF-09.

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DR-WLF-25	**Wildlife**	ASC	4.9B Existing conditions – WAGS.	Are further surveys proposed to confirm abandonment of the known WAGS colony?	No ~~further~~ protocol surveys for WAGS are planned. See revised response to DR-WLF-09 for details on pre-construction surveys.	See follow up question to DR-WLF-09	See the Applicant's revised response to DR-WLF-09.
DR-WLF-32	**Wildlife**	ASC	4.9.C Changes to and from existing conditions.	Will abandoned and dilapidated buildings in and adjacent to the Project area be removed or disturbed (e.g., noise and light) by the Project?	~~See Applicant's response to DR-WLF-11.~~ Pre-construction surveys will be conducted in the project area and in accessible areas within 0.25 mile of the project area to document any active raptor nests. This pre-construction survey will include a survey of previously documented raptor nests, as well as potential nesting features and structures, including human made structures such as power poles and abandoned buildings.	DR-WLF-11 indicates that the buildings will not be removed. Will there be an increased sensory disturbance to wildlife using the buildings? If so, will surveys be conducted to document what species are occupying these features.	See the Applicant's revised response to DR-WLF-32.
DR-WLF-33	**Wildlife**	ASC	4.9.C Changes to and from existing conditions.	What is the corresponding impact to bats and raptors using these buildings?	No effect is anticipated to birds and bats since the abandoned buildings will not be removed. See Applicant's response to DR-WLF-~~11~~32 regarding preconstruction surveys that will be conducted. If raptor nesting activity is documented in the buildings or there are obvious signs of bat use (e.g., guano) a biologist will establish a "no activity buffer" around the buildings while the raptor nest is active, which generally coincides with the period of time when migratory bats have the potential to be present. If no raptor nests or bat activity is documented in the buildings, then no buffer will be implemented.	See response to DR-WLF-32. As surveys have not been conducted to document the use of these buildings how can the applicant state with confidence that there will be no impacts	See the Applicant's revised response to DR-WLF-32 and DR-WLF-33.
DR-WLF-34	**Wildlife**	ASC	4.9.C Changes to and from existing conditions.	Describe the extent of operational lighting and which lights will be turned off. Estimate light trespass and discuss the impacts on wildlife	Project lighting is described in ASC Part 2, Section A.2.3, where it is noted that limited lighting is needed for Project security and occasional after-hours work and maintenance. The Applicant will implement down-shield lighting at the Project collector substation, O&M building, and optional BESS as needed. Outdoor lighting will be sited, limited in intensity, shielded, and hooded in a manner that prevents the lighting from projecting onto adjacent properties and roadways. ASC Part 4, Section 4.9.C.1 describes that evening lighting may be used for periodic work at the O&M building and collector substation during construction and operations. However, lighting at the Project will be generally limited to security lighting; unnecessary lighting would be turned off at night to limit attraction of migratory birds. This includes using lights with timed shutoff, downward-directed lighting to minimize horizontal or skyward illumination, and avoidance of steady-burning, high- intensity lights.	Applicant to commit to NO light beyond the perimeter	As stated in the previous response, "*Outdoor lighting will be sited, limited in intensity, shielded, and hooded in a manner that prevents the lighting from projecting onto adjacent properties and roadways*."
DR-WLF-37	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – mammals.	An active badger den was documented in the Project area. Describe the impact to these burrows and this species. Provide mitigation for lost burrows.	Impacts to native habitats such as shrub-steppe and dwarf shrub-steppe will be minimized as feasible. Most impacts will occur in agricultural lands. So impacts to burrows, including those potentially used by badger, will be minimized, but they may not be completely avoided. Mitigation is not included specifically for loss of burrows, but mitigation is described in Attachment M to the ASC for habitat loss, including habitat most likely to support badgers.	Will the applicant avoid active burrows during construction and operation? If not will additional adaptative management measures be implemented. Mitigation measures included in the EIS includes conducting pre-construction surveys for active burrows and avoiding them	See the Applicant's revised response to DR-WLF-09, which explains in more detail how pre-construction surveys will be used to inform avoidance and minimization of burrow systems. It is recommended that mitigation measures in the EIS that require avoidance of burrows, instead adopt the language used in DR-WLF-09.
DR-WLF-38	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – burrowing owls.	Will the burrows in the gen-tie corridor that are suitable for burrowing owl be impacted? If so, what mitigation measures will be implemented to reduce effects?	See Applicant's response to DR-WLF-37.	See follow up question to DR-WLF-09	See the Applicant's revised response to DR-WLF-09.
DR-WLF-39	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – prairie falcon.	Will the barn structure where a pair of prairie falcons was observed be impacted either directly or indirectly (e.g., noise)	See response to DR-WLF-11 regarding the barn structures being retained. Though a pair of prairie falcons was documented on a fence nearby, no nest was confirmed, only the acknowledgement that the barn provides nesting habitat. Regardless, if a nest is confirmed prior to construction the need for no activity buffers during the nesting period will be coordinated with WDFW and EFSEC.	Will surveys of these features be conducted prior to construction to document use?	See the Applicant's revised response to DR-WLF-32 and DR-WLF-33.

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DR-WLF-40	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – movement corridors.	Provide a calculation of the amount of priority linkage area that will be impacted by the Project directly (e.g., within fence line) and indirectly through disturbance.	Landscape Integrity Core Areas (WHCWG) and Habitat Core Areas and Priority Linkage Areas (Arid Lands Initiative) are shown in **Attachments WLF-6a to -6c**. There is no overlap of the Project area for Landscape Integrity Core Areas (see **Attachment WLF-6a**). **Attachments WLF-6b and -6c** present the Composite Models for Habitat Core Areas and Linkages from the Columbia Plateau Ecoregion Connectivity modeling completed in 2012 and the Addendum completed in 2013. These Composite models show the total regional connectivity framework when the individual models for the eleven focal species are combined. There is 1.8 acres of Habitat Core Areas with Low Centrality in the Project area and 390 acres of Priority Linkage Areas with Low Centrality. In each case it is clear that the intended linkage is the canyon and talus slopes just west of the Project, and very likely not the Project area proper due to agricultural uses. Centrality refers to a group of landscape metrics that rank the importance of habitat patches or linkages in providing movement across an entire network, i.e., as gatekeepers of flow across a landscape. Centrality is ranked from Low to Very High. Habitat patches with high centrality are those whose loss could disconnect large portions of the network. Conversely, Habitat Core and Linkage Areas with Low Centrality would be less likely to disconnect large portions of the network, if impacted. Habitat Core Areas and Linkages are ubiquitous in the region, as shown on the figures. That, coupled with the fact that only the edge of the HCAs and Linkages that run west of the Project are mapped inside of the Project area, means that species will still be able to use that HCA and Linkage in the future. Therefore, no impacts are expected beyond the Project boundary as species have ample opportunities to move across the landscape.	Will the Project result in indirect impacts to Landscape Integrity Core Areas, Habitat Core Areas, and Priority Linkages from noise, light, glare, and physical human presence? Could these indirect impacts change wildlife in these area. What is the extent of this impact?	See Data Request 3 Response - Wildlife Memorandum attached to this data request response.
DR-WLF-41	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – bats.	Provide a discussion on the potential change in foraging habitat for bats due to the Project.	In this region bats will forage across multiple habitat types, though they are typically drawn to riparian areas or areas with available drinking water (e.g., ponds). No open water will be removed by the Project and there are no features within the Project area that could be noted as particular attractants to foraging bats. Therefore, installation of the Project would have a negligible effect on bat foraging habitat.	Could lighting associated with the Project change the abundance and frequency of bat use on and adjacent to the footprint?	Lighting on the Project will be limited, as noted in the Applicants Response to DR-WLF-34. This limited amount of lighting is unlikely to change the abundance and frequency of bat use, but even if there are nominal changes in how bats use the landscape in this area, the effect is not likely to be discernable from baseline bat use. This should not change any impact determination in the EIS.
DR-WLF-42	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – special status species.	Provide a quantification of direct and indirect habitat loss for special status species with potential to occur in the Project area.	See DR-WLF-30. Habitat Loss is summarized as permanent, temporarily, and altered, rather than direct and indirect. The categories are adapted from the WDFW Wind Power Guidelines and include recent permitting norms around the designation of altered habitat.	The calculations provided in the Application are associated with directly modified habitat (permanent, temporary, and altered). The potential of the Project to result in reduction in habitat function due to disturbance (e.g. sensory) have not been provided. Provide an estimation of the amount of habitat that could have indirect impacted due to sensory disturbance (noise, light, glare, human presence) of the project	See Data Request 3 Response - Wildlife Memorandum attached to this data request response.

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DR-WLF-45	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – habitat.	Estimate the zone of influence of the Project and provide a calculation of indirect habitat disturbance/ loss.	The Zone of Influence for this solar project is expected to be confined to the Project area boundary. There will be no indirect impacts, including species displacement or loss of habitat value, that extend beyond the Project area boundary. If indirect impacts occur it is anticipated that they will be fully mitigated through application of the habitat mitigation ratios outlined in the WDFW Wind Power Guidelines and recently agreed upon ratios for habitat that is modified (meaning under solar panels), which states that the ratios are intended of mitigate all habitat impacts. It is assumed that means direct and indirect impacts.	The calculations provided in the Application are associated with directly modified habitat (permanent, temporary, and altered). The potential of the Project to result in reduction in habitat function due to disturbance (e.g. sensory) have not been provided, although the ASC noise modelling demonstrates that noise from the project will extend beyond the Lease Boundary. Provide an estimation of the amount of habitat that could have indirect impacted due to sensory disturbance (noise, light, glare, human presence) of the project	See Data Request 3 Response - Wildlife Memorandum attached to this data request response.
DR-WLF-48	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – mortality.	Will the fence design consider mitigation measures to reduce perching?	No measures to reduce perching will be installed on the fences. No monitoring of raptor perching will be completed because any perching on new infrastructure will be an increase in perching compared to baseline. Monitoring is not necessary to draw that conclusion. Attempting to monitor how raptor perching on new infrastructure may increase predation pressure on prey animals in the Project vicinity is not a study that could be completed with any level of statistical rigor or confidence. ~~Measures could be considered through adaptive management if perching becomes a concern.~~	How would the applicant measure this to know if adaptive management is required	See the Applicant's revised response to DR-WLF-48.
DR-WLF-50	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – golden eagle.	Golden eagle nests were documented near the Project area. How will these nests be impacted by the Project (e.g., noise, reduction in survival from loss of foraging potential)?	Page 169 of the ASC states: If this territory is occupied during construction, eagles associated with these nests could experience disturbance, particularly early in the breeding season during courtship, nest building, incubation, and brooding. Given the close proximity of the nest to the Project there is some potential for disturbance as a result of construction activity; however, the fact that the nest location on the cliff below the Solar Array Micrositing Area has no line of sight to the Project may minimize this disturbance. Eagles within this territory could also experience a loss of foraging habitat if prey species are reduced within the home range associated with this territory as a result of the Project (Watson et al. 2014). However, the vast majority of the habitat that will be impacted by the Project is agricultural land, which typically provides limited forage value to golden eagles given the low prey availability in agricultural lands.	How will nesting be monitored so that adaptive management can be applied if necessary during Project construction?	See the Applicant's revised response to DR-WLF-32. As the result of pre-construction surveys the status of the golden nest just prior to the beginning of construction will be known. If the nest is occupied while construction is occurring and disturbance to nesting eagles is anticipated from noise or human presence, an Eagle Take Permit (ETP) for nest disturbance during construction will be pursued with the U.S. Fish and Wildlife Service. The ETP will include requirements for ongoing monitoring of nesting eagles during construction to determine if impacts occur and will include adaptive management measures for avoidance and/or minimization and mitigation, should disturbance occur despite efforts to avoid it.

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DR-WLF-55	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – habitat.	Provide a description of the indirect impacts to these areas.	Though not called out specifically indirect effects are discussed throughout Section 4.9. Indirect effects are caused by the action but are realized later in time. Those discussed in the ASC include, potential establishment or spread of noxious weeds, which could reduce adjacent habitat quality; disruption of species movement patterns, reduction in available species habitat causing species displacement or generational shifts in habitat use in the region; increased predation from raptors and corvids due to an increase in perch sites, particularly along the gen-tie line.	There is limited data on the disturbance effects of solar. WSP can estimate the indirect impacts (Zone of influence) using noise modelling provided in the ASC.	See Data Request 3 Response - Wildlife Memorandum attached to this data request response.
DR-WLF-56	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – habitat.	Will the Project require removal of any trees?	Very few trees occur in the Project area; therefore, if removal of trees is required, it would be very limited. Trees will be avoided where practical. No trees with raptor nests will be removed.	If few trees exist in the Project area then it is reasonable to expect that they can be quantified. Can trees be avoided? If not would the applicant replant trees so that there is continued access to nesting structures	See the Applicant's revised response to DR-WLF-56.
DR-WLF-58	**Wildlife**	ASC	4.9.C Changes to and from existing conditions – Sage grouse.	Page 167 suggests that sage grouse habitat may be adversely impacted from 0.62 to 6.2 miles from a lek. Calculate the amount of greater sage grouse habitat that may be indirectly impacted by the Project.	These effects are behavioral and not related to habitat loss. No sage-grouse leks have been documented within 6.2 miles of the Project area. The Project is at the outer edge of 6.2 miles from the nearest lek, and the combination of distance and topographic variation between the lek and the Project will minimize any minor and temporary indirect disturbance to the lek. Further, construction activities will not occur during the time of day when lekking is occurring (pre-dawn to just after dawn).	The results of the pellet survey demonstrate that sage grouse do occur in the Project area; although infrequently. Given the limited available habitat for sage grouse in the area could the construction and operation of the project result in disturbance to sage grouse adjacent to the project resulting in sage grouse be deterred from the area? Provide quantification of indirect habitat loss through disturbance	See Data Request 3 Response - Wildlife Memorandum attached to this data request response.
DR-WLF-59	**Wildlife**	ASC	4.9.C Changes to and from existing conditions –WAGS.	Page 168 makes the statement "If present, this species may experience slightly increased raptor predation pressure as a result of increased perching and nesting structures provided by the overhead gen-tie line; however, this effect does not appear to be large enough to cause long- term effects resulting in abandonment of ground squirrel colonies as thriving colonies have been found adjacent to and under existing transmission lines". Provide a figure showing the location of suitable WAGS habitat, HCA, and known or potential burrows associated with the gen-tie in.	Dwarf shrub-steppe, non-native grassland and forbland, and shrub-steppe habitat types could all be considered suitable habitat for WAGS. The location of those habitat types are shown on Figure 2 of ASC Attachment G - Wildlife and Habitat Survey Report. No known WAGS burrows were discovered in the Project area. Potential WAGS habitat is shown in **Attachment WLF-4r** and is limited to shrub- steppe habitat along the western edge of the Project area. Further, WAGS is not a listed species in Washington and during a meeting with WDFW on March 3, 2021 the species was not identified of concern in the Project area. Burrows observed during wildlife and habitat surveys conducted for the Project are shown in **Attachment WLF-9**; however, the vast majority of burrows observed during surveys appeared inactive and were too large to be considered potential WAGS burrows, as shown in the photos appended to ASC Appendix G.	Will additional mitigation measures be implemented to reduce predation pressures due to increased perching opportunities (e.g. perch deterrents)? If not, provide details on how these impacts will be monitored so that adaptive management strategies can be applied	See the Applicant's revised response to DR-WLF-48.
DR-WLF-61	**Wildlife**	ASC	4.9.D Proposed Mitigation and Monitoring.	Has the fence design considered guidance for mitigation to sage grouse, such as Sage- Grouse and Fences (usda.gov), WDFW's recommended guidance documents for wildlife fencing and sage-grouse?	Fencing will meet 2017 National Electrical Code (NEC), Article 691. There are no documented sage-grouse leks near the Project and only limited sage-grouse use of the area, based on pellet surveys, so the risk of sage-grouse encountering the new fence is low. The sage-grouse fence guidelines are primarily for barbed wire fencing in pasturelands, but the following will be applied to the solar project. 1. No barbed wire fencing will be placed on top of the security fence or anywhere on the Project. 2. The new fence will be flagged for the first year to provide a visual cue to sage-grouse or other species. 3. Any unnecessary or abandoned fencing within the Project's fenced solar area will be removed.	It is understood that the fencing will be designed to meet Electrical Code requirements; however, can aspects of the fencing guidelines developed for sage grouse also be incorporated into the design?	See the Applicants revised response to DR-WLF-61.

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DR-WLF-64	**Wildlife**	ASC	4.9.D Proposed Mitigation and Monitoring – priority area.	The Project overlaps with the Moses Coulee priority area for sage-grouse. Would additional mitigation be provided to accommodate the loss of priority habitat?	The Greater Sage-grouse Priority Conservation Areas are aimed at recovery and are not regulatory in nature. The habitat mitigation ratios presented in Table 3 in ASC Attachment M - Wildlife Habitat Management and Mitigation Plan are sufficient to guarantee no net loss of habitat functions and values for wildlife, including sage-grouse.	The Applicant in their response has made a fairly strong claim, that the mitigation measures they have proposed are guaranteed to be sufficient to result in no net loss of habitat function and value. However the Applicant has not provided data or studies to support this.	Habitat classification, as defined in the WDFW 2009 Wind Power Guidelines, has become the "currency" of mitigation for renewable energy projects in Washington. When each habitat classification is mitigated at the mitigation ratios prescribed in the WDFW 2009 Wind Power Guidelines, the assumption is that there would be no net loss of functions and values (including support of wildlife communities). Some habitat classifications have higher mitigation ratios and others have lower ratios, depending on the rarity of the habitat, the complexity of the habitat and the amount of time needed for it to reach full function, and the level of uncertainty in mitigation success. For habitats like shrub steppe, which are rare, complex, and take longer to establish, a higher mitigation ratio is required. This reduces uncertainty around mitigation success and also addresses any temporal loss of function that might occur between when impacts occur and when mitigation values are realized. In addition, the final compensatory mitigation package, including any lands identified for mitigation or funding provided for mitigation projects will be approved by EFSEC, through coordination with WDFW. Further study can be completed at that time. The guarantee that habitat function will not be lost is in part because EFSEC and WDFW will have the final authority to determine if the no net loss threshold has been met. Those details are not necessary for EFSEC to issue a Site Certification Agreement (SCA) and it is assumed that the SCA will include a requirement to gain approval of a final habitat mitigation plan prior to the commencement of construction.
DR-WLF-76	**Wildlife**	Attachment M: wildlife habitat	Section 7.2 Restoration.	The Applicant commits to preparing a vegetation and weed management plan; however, Attachment M provides little	The Vegetation and Weed Management Plan will describe methods (e.g., site preparation, seeding methods), success criteria, monitoring, and reporting activities that will be implemented associated with revegetation efforts, as well as methods, monitoring, and reporting activities associated with prevention	This would be further discuss with the review of The Vegetation and Weed	Chemical control can effectively remove noxious weeds through the targeted use of selective

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		management and mitigation plan		detail. Provide details on this plan including whether herbicides or pesticides might be used.	and control of the introduction and spread of noxious weeds from construction and operation of the Project. The selective use of herbicides may be required for noxious weed control. Only herbicides approved by the U.S. Environmental Protection Agency and Washington Department of Agriculture would be applied and appropriate best management practices would be implemented during application. Selective use of rodenticides may be used in and around the O&M building if a rodent infestation occurs.	Management Plan, where the following should be addressed: Provide a description of scenarios that may require the use of herbicide and of the mitigation measures that would be implemented if herbicide use is required to reduce impacts on wildlife and habitat.	herbicides. Specifications on the timing and application procedures will be included in the Vegetation and Weed Management Plan. Weed control efforts, including chemical control would be coordinated with the Douglas County Weed Management Task force and weed management efforts would be coordinated with others in the region, where applicable. Only herbicides approved by the U.S. Environmental Protection Agency and Washington Department of Agriculture would be applied and appropriate best management practices would be implemented during application. Prior to construction and every fall season during Facility operation, Badger Mountain Solar and its weed management contractor would consult with the Douglas County Weed Management Task Force on timing, method and application rates for each identified weed species of concern, to allow for adaptive weed management given changes in weed control effectiveness from noxious weed species tolerance to herbicide treatment over time.
DR-V-04	**Vegetation**	Attachment F: Rare Plant Survey Report		Provide additional information on how changes to surface water and groundwater infiltration, as a result of the Project will impact those habitats that can support species at risk off-site.	As noted in Section 4.3.B of the ASC, the Applicant is designing the Project to avoid and minimize impacts to ephemeral streams to the extent feasible. As noted in Section 4.3.D of the ASC, if required, stream crossing designs will minimize permanent impacts and stream crossing structures (i.e., culverts) will be sized to accommodate ordinary high water or other design flow, sediment, and woody debris. In addition, as noted in Section 4.5.C.1 of the ASC, based on the groundwater level of over 20 feet in depth identified in the Geotechnical Engineering Report (Attachment H-2 of the ASC), the Project is not expected to impact groundwater and, with implementation of mitigation measures, the slight increase in impervious surface from construction and operation of the Project is not expected to impact recharge to groundwater or stream flows. These mitigation measures include completing Project construction work in the dry season when no water is present (see Section 4.3.D of the ASC) and implementation of the Project's Erosion and Sediment Control Plan and Stormwater Pollution Prevention Plan. These plans will include measures to prevent and minimize stormwater runoff, flooding, and erosion. In addition, as noted in ASC Section 4.5.C.2, the Project will be designed to have the least impact to stormwater drainage patterns and erosion risk as feasible. Based on the above, the Project is unlikely to result in changes to surface water or groundwater infiltration and is; therefore, unlikely to impact habitats off-site that can support rare plant species. Also see Applicant's response to comment DR-V-01.	Water is an important limiting factor in this region for plants and ecosystems. Impervious surfaces, such as concrete pads, roads, and compacted earthen surfaces can redirect water and change drainage patterns within a site. Additionally, the presence of the panels may change where precipitation infiltrates. Explain how these surfaces will interact with the natural drainage patterns in the Project Boundary. Will these surfaces direct precipitation away from natural sites that are retained? Will these surfaces result in higher volumes of precipitation accumulating in new areas within the Project Boundary? Will these	A preliminary stormwater management plan was completed and submitted as Attachment J to the ASC. Project design has not advanced to the point where an updated stormwater study can be completed to determine the level of stormwater retention that will be necessary for the Project. That level of design will occur following the issuance of the SCA. A Stormwater Pollution Prevention Plan (SWPPP) will be required for the Project and modeling of how new infrastructure will change run off and infiltration patterns will be an integral part of the SWPPP. The Project will adhere to the 13 Elements required in the SWPPP template provided by the Washington Department of Ecology. The analysis in the EIS

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						surfaces result in changes to surface water (volume, direction) leaving the Project Boundary (e.g. resulting in off- site impacts)?	should assume that the Project will operate in compliance with the SWPPP and that EFSEC will have oversight of that compliance during construction and operations.
DR-V-25	**Vegetation**	Attachment M: wildlife habitat management and mitigation plan	Staging and work areas associated with the perimeter fence and gen-tie line among others are considered temporary impacts.	Please provide rationale for treating impacts to intact dwarf shrub-steppe and shrub-steppe as temporary.	Per the WDFW (2009) Wind Power Guidelines, "*temporary impacts to habitat are those that are anticipated to end when construction is complete and the impacts have been restored. Temporary impacts include trenching for placement of underground cables, construction staging areas, lay- down areas, and temporary construction access. Temporary impacts also include the portions of road corridors that are used during construction but that are re-vegetated at the end of construction, but do not include the portions of roads that continue to be used for project operations (which are considered permanently affected*)." As noted in the Draft Wildlife Habitat Management and Mitigation Plan prepared for the Project, the impact type (permanent or temporary) and associated mitigation ratios related to temporary and permanently impacts shown in Table 3 of the plan are consistent with the WDFW (2009) Wind Power Guidelines and employ the Guidelines' impact type definitions. As further noted in the plan, the impact definitions and mitigation ratios outlined in WDFW (2009) were employed due to the absence of solar-specific guidelines. This approach is consistent with EFSEC's treatment and recommendations for other permitted solar projects. In addition, as noted in WDFW (2009), the mitigation ratio for temporary impacts to native shrub- steppe lithosols (i.e., dwarf shrub-steppe) is 1:1 due to the increased length of time for restoration of this habitat type. These higher mitigation ratios for temporary impacts to dwarf shrub-steppe were incorporated in the Project's Draft Wildlife Habitat Management and Mitigation Plan.	Per the WDFW (2009) Wind Power Guidelines, "*Permanent impacts to habitat are those that are anticipated to persist and cannot be restored within the life of the project"* . Further, "*the goal of restoration of temporary impacts should be to restore the disturbed habitat to a condition that is at least as good as its project pre-condition* ". Will the Vegetation and Weed Management Plan contain evidence that shows shrub-steppe habitat can be restored to "*its project pre-condition* " within the life of the project and what benchmarks of successful restoration will be used?	It is expected that the dwarf shrub steppe and shrub steppe could be restored within the 50-year life of the Project. Success criteria will be included in the Vegetation and Weed Management Plan for shrub steppe restoration. EFSEC has final approval of the Vegetation and Weed Management Plan before construction. Performance criteria could include pre-project sampling of vegetation condition that could inform metrics for restoration success (e.g., shrub cover, and species diversity).

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DR-V-26	**Vegetation**	Attachment M: wildlife habitat management and mitigation plan		Is there supporting evidence that these systems can be restored to their current vegetation trajectory following decommissioning of the staging and work areas?	Only areas that are native shrub steppe or other habitat types will be restored. Most of the Project Area is agricultural land. In those instances the land will be returned to an agricultural condition following disturbance. Although restoration of dwarf shrub-steppe and shrub-steppe habitats presents challenges and can be slow, successful restoration has been shown to be possible. Some of the common challenges associated with shrub-steppe restoration include soil compaction and high weed cover (Benson et al. 2011). The Vegetation and Weed Management Plan will include methods to address these challenges (see response to comment DR-V-18). The Washington State Recreation and Conservation Office's PRISM database includes several successful shrub-steppe restoration projects. For example, see the North Douglas County Shrub- Steppe Restoration Project: (https://secure.rco.wa.gov/prism/search/ProjectSnapshot.aspx?ProjectNumber=08-1584) and the Post Fire Shrub Steppe Habitat Restoration Project (https://secure.rco.wa.gov/prism/search/ProjectSnapshot.aspx?ProjectNumber=16-1678). In addition, Link et al. (2004) provides case studies (e.g., Canoe Ridge) demonstrating successful shrub-steppe restoration. Case studies of successful shrub-steppe restoration are also discussed in Benson et al. (2011) and in the Case History Library noted in that reference (https://wdfw.wa.gov/sites/default/files/2019-10/FinalCaseHistoryLibrary_0.pdf).	These are good references; however, the projects are less than 20 years old. Are there other longer-term study results?	Unfortunately there are not any longer-term studies beyond those summarized in the Shrub-Steppe and Grassland Restoration Manual for the Columbia Basin (Benson et al. 2011). Though impacts to shrub-steppe have occurred for a century, restoration is fairly recent activity (~20 years). The exception is shrub-steppe plantings associated with mining reclamation activities in the great basin, but monitoring of results is not reliable and reporting of results is rare. In addition to those resources cited in the previous response, further review was done of the BLM's Enhancement of Degraded Shrub-Steppe Habitat with an Emphasis on Potential Applicability in Eastern Washington (Dunwiddie and Camp 2013) and the Project team has reach out to Kurt Merg, Restoration Coordinator of the Washington Shrub-Steppe Restoration Initiative to see if longer-term examples of monitored shrub-steppe restoration efforts have occurred and are available for review. In addition to existing studies, the Washington Shrub-Steppe Restoration Initiative, which includes WDFW, WDNR, and the Washington State Conservation Commission, along with the WDFW shrub-steppe restoration manual and the BLM produced a shrub-steppe enhancement technical note specifically for eastern Washington all demonstrate the level of activity in this area in the state. The science is evolving quickly and there is statewide support and expertise for this type of work that the Project can draw upon when planning and executing shrub-steppe restoration projects.

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DR-V-37	**Vegetation**	Attachment M: wildlife habitat management and mitigation plan	General Inquiry.	Discuss the potential for spills to enter habitats and avoidance and mitigation measures that will be employed with respect to spills during construction and the operation of the Project.	As noted in Section 7.1 of the Draft Wildlife Habitat Management and Mitigation Plan, the Applicant will prepare a Spill Prevention, Control, and Countermeasure (SPCC) Plan to be implemented during construction and operation to reduce the likelihood of an accidental release of a hazardous or regulated liquid and, in the event such a release occurs, to expedite the response to and remediation of the release. As noted in Section 4.13 of the ASC, all hazardous materials required for construction will be stored in compliance with a SPCC Plan that follows the EPA Amended Spill Prevention, Control, and Countermeasure Rule issued in 2006 (EPA-550-F-06-008). Further details on hazardous materials that may be required for construction and operation and measures that will be implemented to prevent or mitigate for any spills is provided in Section 4.1.3 of the ASC.	When will the SPCC be available?	The SPCC will be completed prior to construction. It is expected that this will be a condition of construction in the SCA. EFSEC will have final review and approval of the SCA. The analysis in the EIS should assume that the SPCC will be designed to prevent and minimize the occurrence and consequences resulting from spills of oil, substances listed under Title 40 Code of Federal Regulations (CFR) Parts 110, 112, 117 and 302, and other hazardous materials.