COCHISE COUNTY
Arizona

Development
Services
Department

MEMORANDUM

TO: Cochise County Planning and Zoning Commission
FROM: Christine McLachlan, AICP, Planning Division Manager
FOR: Daniel Coxworth AICP, Development Services Director
SUBJECT: SU 23-11 (Winchester Solar) Application for a Special Use Authorization
DATE: May 3, 2023 2023, for the May 10, 2023, Meeting

DRT AND AGENCY COMMENTS DOCKET SU 23-09

On April 5, 2023, the Development Review Team for the County and relevant external agencies was transmitted case information for their review. Reviewers were given until April 25, 2023 to respond. At that time, they were notified that a failure to respond by that date would result in an automatic approval by their agency/Department. The following is a summation of all the comments that were received by that date.

Cochise County, Floodplain:
As of April 28, 2023, appropriate Drainage Analysis, Grading Plans, Civil Plans, and permits will be required for the construction project.
Comment: 1. Due to the massive land disturbance (3584 acres), refer to the uploaded document in Citizen Serve for checklist of associated permits from other agencies and departments for this development. Copies of these permits shall be required for submittal. Comment.
Not Passed: 2. A Drainage Report that is stamped, sealed, and signed by an Arizona Registered Professional Civil Engineer shall be required. This includes that the most significant reference shall be the Cochise County Floodplain Regulations (December 2015). Refer to Section 10 for the Drainage Report Requirements especially for the Hydrological and Hydraulic Analysis sections. Methodologies from outside agencies not approved by Cochise County will not be accepted. Not passed.
Not Passed: 3. Therefore, Appendix E, Technical Memorandum dated March 30, 2023, is not acceptable for a drainage analysis substitute. This is especially so since the end of the second paragraph states that, "this study should be used for internal planning purposes only and should not be used for submittal to regulatory agencies". Not passed.
Comment: 4. The consultant should be aware of the correct spelling of Willcox. Comment.
Not Passed: 5. A Floodplain Use Permit (FPUP) will be required.
Not Passed: 6. A Grading Plan is required.
Comment: 7. The consultant is aware that additional comments may be forthcoming.

Cochise County ROW: Not within maintenance

Cochise County Building: No comments received.

Cochise County Attorney's Office: No comments received.

Cochise County Environmental Health: EH has no concerns

Planning, Zoning and Building Safety
1415 Melody Lane, Building F
Bisbee, Arizona 85603
520-432-9300
planningandzoning@cochise.az.gov

City of Willcox: No comments received

Cochise County Sheriff's Office: No comments received.

Sulfur Springs Valley Electric Cooperative: SSVEC has no conditions to submit for this special use permit request.

If the property owner/applicant has not yet contacted SSVEC about this project, they are encouraged to do so to avoid any surprise expenses or project limitations, please have them refer to the Sulphur Springs Valley Electric Cooperative website at www.ssvec.org, then the "Services" tab for information about Service Conditions, Service Entrance Requirements, how to establish a new service, and for Line Extension/New Service Applications.
They can also contact our Engineering Services Representative for the Willcox Area at 520-384-5469.

Arizona Game and Fish: See attached

Emergency Management: No comments received.

National Resources Defense Council: No comments received.

Arizona Department of Environmental Quality: No comments received.

State Lands Department: No comments received.

Arizona Department of Water Resources: No comments received.

April 24, 2023

Ms. Christine McLachlan
Cochise County Development Services
1415 Melody Lane, Building F
Bisbee, Arizona 85603

Electronically submitted to CMcLachlan@cochise.az.gov

RE: SU-23-11 Winchester Solar project

Dear Ms. McLachlan:

The Arizona Game and Fish Department (Department) appreciates the opportunity to review the Winchester Solar project (SU-23-11). The Department understands that Torch Clean Energy, LLC, proposed to develop a photovoltaic (PV) solar facility with a battery energy storage system (BESS) on 3,584 acres of private and Arizona State Land Department (ASLD) lands. The first phase of the project would include a 160 MW PV system with a 160 MW BESS, with the option to expand to up to 400 MW PV and 400 MW BESS in the future. The project would be sited just north of Interstate 10 in Willcox, Arizona, between the Winchester Mountains and the Willcox Playa, in undeveloped semi desert grassland and Chihuahuan desert scrub habitat.

Under Title 17 of the Arizona Revised Statutes, the Department, by and through the Arizona Game and Fish Commission (Commission), has jurisdictional authority and public trust responsibilities to conserve and protect the state fish and wildlife resources. In addition, the Department manages threatened and endangered species through authorities of Section 6 of the Endangered Species Act and the Department's Section 10(a)(1)(A) permit. It is the mission of the Department to conserve and protect Arizona's diverse fish and wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

The Department recognizes the importance of planning efforts to develop renewable energy locations that contribute to regional and state economic growth needs and would like to work closely with Torch Clean Energy, LLC, during the planning and development of this facility. The Department recognizes that appropriate coordination, proper planning, and voluntary implementation of best management practices allow projects to be developed that avoid, minimize, or offset potential impacts to wildlife and recreational access during development and operation of the facilities. For your consideration, the Department provides the following comments based on the agency's statutory authorities, public trust responsibilities, and special expertise related to wildlife resources and recreation.

Arizona has recently seen an increase in the number of proposed and in-development renewable energy generation projects and associated infrastructure. A number of solar projects have been built or proposed within the vicinity of this project. Although each of these projects individually may have a minimal impact on the broader landscape, these projects cumulatively could result in loss of habitat, impact wildlife movements, and affect wildlife-related recreation. Additionally, long-term effects to wildlife can extend several kilometers beyond the footprint of a solar project area (Sawyer et al. 2022[1]). It is important to consider all potential cumulative effects and to evaluate this project in association with other projects in the area. Department staff are available to assist in identifying potential cumulative impacts to wildlife and associated voluntary conservation measures that can be implemented for the project.

The proposed project occurs within 1.5 miles of the Willcox Playa/Cochise Lakes Important Bird Area[2] (IBA). The Willcox Playa/Cochise Lakes area is of state and regional significance and serves as an important overwintering ground for sandhill cranes and numerous other avian species, including several shorebirds. Sandhill cranes are present on the playa between October and March and fly between roosting and feeding sites several times a day. The Department has concerns regarding the potential for bird fatalities or injuries (i.e., bird strikes) if avian species mistake the solar panels for open water. Large-scale solar photovoltaic facilities can result in bird mortality due to habitat loss, collision with panels, attraction due to an optical illusion of water, and unknown causes (Kosciuch et al. 2020[3]). The Department would welcome the opportunity to explore conservation measures with Torch Clean Energy, LLC, that aim to reduce potential impacts to cranes and other avian species, such as the following:

- The Department encourages the use of non-reflective coatings on the solar panels. Although some daytime reflectivity would still be expected, non-reflective coatings on the solar panels can reduce the appearance of the array as a body of water and reduce the attraction of birds to the site.
- To the extent feasible, the Department recommends maximizing the spacing between solar panels to reduce the "lake effect," in which continuous or closely-spaced panel arrays create an optical illusion of water.
- The Department encourages the use of both bird diverters and near-ultraviolet light Avian Collision Avoidance Systems (ACAS) on any new powerlines needed for this project. New powerlines in this area may pose a risk of collision and mortality for cranes and other large birds. Providing a combination of bird diverters (or floppy tags), which are useful in daytime/full light scenarios, and near-ultraviolet ACAS, which are useful in nighttime/low light scenarios, can significantly reduce the occurrence of crane strikes (Dwyer et al. 2019[4]). The Department also recommends following standards established by the Avian Power Line Interaction Committee (APLIC) for new powerlines, which can be found in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*[5] and *Reduced Avian Collisions with Power Lines: The State of the Art in*

[1] https://esajournals.onlinelibrary.wiley.com/doi/10.1002/fee.2498
[2] https://aziba.org/?page_id=712
[3] https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0232034
[4] https://www.researchgate.net/publication/333903783_Near-ultraviolet_light_reduced_Sandhill_Crane_collisions_with_a_power_line_by_98
[5] https://www.aplic.org/uploads/files/2643/SuggestedPractices2006(LR-2).pdf

2012[6]. Tuk Jacobson, the Department's Raptor Coordinator, can provide further information on specific design features and best management practices; he can be contacted at raptors@azgfd.gov or 623-236-7575.

- The Department encourages Torch Clean Energy, LLC, to implement post-construction monitoring for avian injuries and fatalities. Recommendations for monitoring design and frequency can be found in the U.S. Geological Survey's 2016 Mortality Monitoring Design for Utility-Scale Solar Power Facilities[7]. Any avian injuries or fatalities should be reported both to the Department and by using the U.S. Fish and Wildlife Service's Injury and Mortality Reporting[8] website. Department staff are available to assist in developing the monitoring protocol and to further refine the monitoring and reporting recommendations in order to develop feasible and repeatable protocols to be implemented during operations. The Department is also available to help determine adaptive management measures based on results of the post-construction monitoring. For example, the U.S. Geological Survey has been conducting research that indicates birds are most attracted to solar arrays around midday, and tilting of panels during key times of strikes could reduce bird attraction.

The Department appreciates that field reconnaissance of the project area occurred and recommends conducting additional surveys in the project area and adjacent lands to further assess wildlife species presence. These surveys should be of sufficient duration and intensity to adequately assess all habitat types and potential species occurrence in and adjacent to the project area. Additionally, Department staff are available to assist Torch Clean Energy, LLC, in determining appropriate design features and best management practices that can help minimize potential impacts. Based on the information provided, the Department offers the following recommendations to reduce impacts to wildlife and habitat; additional information can be found in *Guidelines for Solar Development in Arizona*[9]:

- Bald and golden eagles, which are regulated under the Bald and Golden Eagle Protection Act (BGEPA), have been documented within 5 miles of the project area. If uncertain about the effects of the project to eagles, or if it is anticipated the project will not be in compliance with the BGEPA, the Department recommends contacting the U.S. Fish and Wildlife Service[10] (USFWS) for technical assistance, as well as Tuk Jacobson at raptors@azgfd.gov or 623-236-7575. The USFWS and the Department will provide options to comply with the BGEPA, such as conservation measures to avoid or minimize adverse effects to the eagles.
- The Department recommends conducting avian surveys in order to better understand species presence and to inform potential conservation measures. Department staff are available to assist with identifying appropriate conservation measures based on species presence at the site. The Department also recommends conducting surveys for nesting birds prior to vegetation removal and/or construction activities that occur during the

[6] https://www.aplic.org/uploads/files/15518/Reducing_Avian_Collisions_2012watermarkLR.pdf
[7] https://pubs.usgs.gov/of/2016/1087/ofr20161087.pdf
[8] https://ecos.fws.gov/imr/welcome
[9] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/FinalSolarGuidelines03122010.pdf
[10] https://www.fws.gov/office/arizona-ecological-services/contact-us

breeding season. The vegetation within the project area may provide nesting opportunities for avian species that are regulated under the Migratory Bird Treaty Act (MBTA). Breeding season for birds in this area is generally mid-January through late September, and raptor nesting season is generally January through late June. If it is anticipated the project will not be in compliance with MBTA, the Department recommends contacting the USFWS for technical assistance.

- The western burrowing owl, a special status species that is regulated under the MBTA, could occur within the project area. The Department recommends conducting occupancy surveys for western burrowing owls throughout the project area to determine if this species occurs within the project footprint. Guidelines for conducting this survey are found in *Burrowing Owl Project Clearance Guidance for Landowners*[11]. Please note that the surveys should be conducted by a surveyor who is certified by the Department or has similar qualifications. If an active burrowing owl burrow is detected, please contact the Department and the USFWS for direction, in accordance with the guidelines. The Department recommends conducting surveys in advance of the design phase to understand distribution of burrowing owls in the project site; avoidance of a large burrowing owl population may be advisable over removal or other conservation measures.
- The Sonoran desert tortoise, which is a federal and state species of concern, has been observed within the project vicinity. The Department recommends conducting surveys, in accordance with the *Desert Tortoise Survey Guidelines for Environmental Consultants*[12], to determine the presence of this species or its habitat. If tortoises are identified, please refer to and implement the *Recommended Standard Mitigation Measures for Projects in Sonoran Desert Tortoise Habitat*[13] and *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects*[14].
- Burrowing species could occur within the project area and could be influenced by construction activities and by loss of habitat. Surveys for these species are recommended to determine presence and to inform pre-construction activities. Department staff are available to assist in identifying suitable conservation measures, such as one-way exclosures on burrows that allow wildlife to exit the burrows and disperse to adjacent lands in advance of construction.
- A variety of other Arizona Species of Greatest Conservation Need (SGCN) have the potential to occur within the project area. If wildlife are encountered during construction activities, the Department recommends moving them out of harm's way, no more than 0.25 mile outside the project boundary within similar habitat. Please note that the Arizona State Wildlife Action Plan was recently updated, and the Department has an interactive website, Arizona Wildlife Conservation Strategy[15], that includes the most recent list of SGCN to help navigate and identify conservation opportunities.

[11] https://www.azgfd.com/wildlife/speciesofgreatestconservneed/raptor-management/burrowing-owl-mangement/
[12] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/2010SurveyguidelinesForConsultants.pdf
[13] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/MitigationMeasures.pdf
[14] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/2014%20Tortoise%20handling%20guidelines.pdf
[15] https://awcs.azgfd.com

Maintaining habitat connectivity is a priority for the Department, and wildlife movement corridors are important for wildlife to respond to changing environmental conditions. The landscape in which this project is proposed provides important movement pathways for wildlife. The Department would like to meet with Torch Clean Energy, LLC, to discuss opportunities to incorporate connectivity into the project design, including the following:

- The Department recommends incorporating open corridors across the project area into the project design to facilitate wildlife movement, including maintaining the ephemeral washes that occur in the project area in their natural state without fencing or other barriers to wildlife movement. These washes serve multiple functions in the ecosystem. Not only do they provide for hydrologic flow, which is especially important in areas that receive infrequent and isolated precipitation events, but these washes also serve as important landscape-level conveyance corridors for wildlife movement.
- The Department appreciates that minimal grading will occur in the project area. To the extent possible, the Department recommends retaining habitat features underneath the panels, including vegetation and soils. The topography in the majority of the site is flat and would require minimal trimming of shrubs and existing vegetation to install the panels. Keeping the existing soil and root structures intact would serve to minimize erosional run-off and help reduce biodiversity loss within the site (Grodsky and Hernandez 2020[16]).
- The Department's *Wildlife Compatible Fencing Guidelines*[17] provide information on how fencing impacts wildlife, ways to design fencing to prevent wildlife entanglement and impalement, and to ensure wildlife movement is not restricted. Department personnel are available as resources to help determine appropriate fencing design and layout that will achieve its objective while reducing impact to wildlife, such as leaving a 6–8-inch gap between the ground surface and bottom of the fence to allow for smaller wildlife species to move freely through the area and make use of any habitat within the project boundary.

Finally, the Department offers the following general recommendations to reduce potential impacts to wildlife and habitat during construction and operation of the facility:

- Because proposed ground disturbance (both temporary and permanent) will exceed 0.25 acre in areas with native vegetation, please ensure the project complies with Arizona Native Plant Law regulations[18]. A Native Plant Inventory may need to be conducted to identify, record, and coordinate plant salvage efforts for species that are Protected under the Arizona Native Plant Law.
- To minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects, and pathogens, the Department encourages taking precautions to wash and/or decontaminate equipment before entering and leaving the site. See the Arizona Department of Agriculture website[19] for a list of prohibited and restricted noxious weeds and the Arizona Native Plant Society[20] for recommendations on

[16] https://www.nature.com/articles/s41893-020-0574-x
[17] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/110125_AGFD_fencing_guidelines.pdf
[18] https://agriculture.az.gov/plantsproduce/native-plants
[19] https://agriculture.az.gov/pestspest-control/agriculture-pests/noxious-weeds
[20] https://aznps.com/invas

how to control them. To view a list of documented invasive species or to report invasive species in or near your project area, visit iMapInvasives[21], which is a national cloud-based application for tracking and managing invasive species.

- If trenching will occur for the proposed project, the Department recommends that trenching and backfilling crews be close together to minimize the amount of open trenches at any given time. Where trenches cannot be back-filled immediately, the Department recommends escape ramps be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The Department recommends that slopes be less than 45 degrees (1:1) and trenches that have been left open overnight be inspected to remove animals prior to backfilling.
- The Department recommends revegetating disturbed areas with native drought-tolerant species that represent the natural surrounding landscape. Landscaping with native plants can help support wildlife and pollinator species in the area while reducing dust and erosion. In addition, the applicable land management agencies should be consulted regarding guidelines for revegetation efforts.
- Artificial lighting could impair the ability of nocturnal animals to navigate (e.g., owls, migratory birds, bats, and other nocturnal mammals) and may affect wildlife behavior and populations (Davies et. al. 2013[22]). The Department recommends using only the minimum amount of light needed for safety. If feasible, narrow spectrum lighting is wildlife-friendly and should be used as often as possible to minimize the number of species affected by lighting. It is also beneficial that all lighting is shielded, canted, or cut to minimize the amount of upward shining light.

Thank you for the opportunity to provide input on the Winchester Solar project (SU-23-11). For further coordination, please contact Tiffany Sprague at tsprague@azgfd.gov or 623-236-7222.

Sincerely,

Luke Thompson
Habitat, Evaluation, and Lands Branch Chief

cc: Tom Koronkiewicz, SWCA Environmental Consultants
Raul Vega - Regional Supervisor, Region V
Laura Paulson - Region V Habitat, Evaluation, and Lands Program Specialist
Ginger Ritter - Project Evaluation Program Supervisor

AZGFD #M23-04102101

[21] https://imap.natureserve.org/imap/services/page/map.html
[22] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3657119