



MEMORANDUM

TO: Cochise County Planning and Zoning Commission
FROM: Christine McLachlan, AICP, Planning Division Manager
FOR: Daniel Coxworth AICP, Development Services Director
SUBJECT: SU 23-26 (Cochise Stronghold Solar) Application for a Special Use Authorization
DATE: October 27, 2023, for the November 8, 2023, Meeting

DRT AND AGENCY COMMENTS DOCKET SU 23-26

On October 1, 2023, the Development Review Team for the County and relevant external agencies was transmitted case information for their review. Reviewers were given until October 30, 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:

- Comment: 1. A review Checklist was uploaded into the Citizen Serve account (Documents section) on October 5, 2023 for the applicant's convenience. This is a list of departments and outside agencies that may possibly require additional permits, reports, etc.
- Comment: 2. A Drainage Analysis is required to prove that there will be no adverse impacts to the properties, property boundaries, adjacent properties, and roadways.
- Comment: 3. The Cochise County Floodplain Regulations shall be used as a primary reference for drainage calculations and drainage construction requirements. The current version is December 2015, however a revised edition expected to be released towards the end of 2023; Date to be determined.
- Comment: 4. A Floodplain Use Permit may be required. Requirements to be determined at a later date.

Cochise County ROW: Existing access to the property is established

Cochise County Building: No comments received.

Cochise County Attorney's Office: No comments received.

City of Willcox: No comments received

Cochise County Sheriff's Office: No comments received.

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

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.

El Paso Natural Gas: There are no EPNG (natural gas) or SFPP (petroleum products) pipelines on the Subject tax parcels, so no conflicts are expected.

Department of Defense: See attached.



October 23, 2023

Ms. Christine McLachlan
Planning Division Manager
Cochise County, Development Services
1415 Melody Lane, Building F
Bisbee, AZ 85603

Electronically submitted to CMcLachlan@cochise.az.gov

RE: Roadrunner Solar (Cochise Stronghold) SUP Application

Dear Ms. McLachlan:

The Arizona Game and Fish Department (Department) appreciates the opportunity to review the proposed Roadrunner Solar (Cochise Stronghold) project. The Department understands that Clenera Energy proposes to construct a 235 MW photovoltaic (PV) solar facility, a 235 MW battery energy storage facility, and associated infrastructure on a 2,437 acre parcel of land owned by AEPCO near Willcox in Cochise County, Arizona. The facility will be located in primarily undeveloped, fallow farmland with some areas of semi-desert grassland. The Department met with the project proponents on September 27, 2023, to discuss the project and subsequently provided a letter with the following information and recommendations.

Under Title 17 of the Arizona Revised Statutes, the Department, by and through the Arizona Game and Fish 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 Cochise County and the project proponents 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.

azgfd.gov | 602.942.3000

5000 W. CAREFREE HIGHWAY, PHOENIX AZ 85086

GOVERNOR: KATIE HOBBS **COMMISSIONERS:** CHAIRMAN TODD G. GEILER, PRESCOTT | CLAY HERNANDEZ, TUCSON | MARSHA PETRIE SUE, SCOTTSDALE
JEFF BUCHANAN, PATAGONIA | JAMES E. GOUGHNOUR, PAYSON **DIRECTOR:** TY E. GRAY **DEPUTY DIRECTOR:** TOM P. FINLEY

Arizona has recently seen an increase in the number of proposed and in-development renewable energy generation projects and associated infrastructure. A number of renewable energy 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 is adjacent to 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 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. As discussed during the meeting with the project proponents, 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 encourages exploring conservation measures that aim to reduce potential impacts to cranes and other avian species, such as the following:

- The Department understands that the project proponent plans to use solar panels with non-reflective coatings, which can reduce the appearance of the array as a body of water and reduce 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 power lines needed for this project. New power lines 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), which can be found in [Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006](#)⁵

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](https://www.aplic.org/uploads/files/2643/SuggestedPractices2006(LR-2).pdf)

and [Reduced Avian Collisions with Power Lines: The State of the Art in 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 the project proponent 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 site visits were conducted by the project proponents in August 2023 to categorize habitats and document potential species presence. Based on the information provided, the Department offers the following recommendations to reduce potential impacts to wildlife and habitat; additional information can be found in [Guidelines for Solar Development in Arizona](#)⁹:

- The western burrowing owl, a special status species that is regulated under the Migratory Bird Treaty Act (MBTA), has the potential to occur in the project area. The Department recommends conducting occupancy surveys for this species 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. Guidelines for conducting this survey are found in [Burrowing Owl Project Clearance Guidance for Landowners](#)¹⁰. Please note that the survey should be conducted by a surveyor who is certified by the Department or has similar training and qualifications. If an active burrowing owl burrow is detected, the project proponent should contact the Department and the [U.S. Fish and Wildlife Service](#)¹¹ (USFWS) for direction, in accordance with the guidelines.
- The Department recommends conducting additional avian surveys during the planning stage in order to better understand species presence and to inform potential conservation measures. Point counts are the preferred method for breeding bird surveys. These surveys

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://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/nongame/eagles/BurrowingOwlClearanceProtocol_2009.pdf

¹¹ <https://www.fws.gov/office/arizona-ecological-services/contact-us>

are conducted twice a year during the peak breeding season, which is generally mid-February through late September in this area; [McLaren et al. \(2019\)](#)¹² outline protocols.

- The Department also recommends conducting surveys for nesting birds prior to vegetation removal and/or construction activities that occur during the 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). If it is anticipated the project will not be in compliance with MBTA, the Department recommends the proponent contact the [USFWS](#) for technical assistance.
- Monarch butterflies, which are a candidate for listing under the ESA, have the potential to occur in the project area. If milkweed plants are present in the project area, the Department recommends avoiding their removal to the extent feasible as these species are important for monarch survival. The Department also encourages retaining existing or seeding for other native plants important to pollinator species.
- Burrowing mammals 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 their presence and to inform pre-construction activities. Department staff are available to assist in identifying suitable conservation measures, such as one-way enclosures 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 project 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](#)¹³, that includes the most recent list of SGCN to help navigate and identify conservation opportunities.

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 recommends that AEPSCO and Clenera Energy incorporate wildlife connectivity into the project design, including the following:

- The Department recommends that floodplains remain undeveloped and recommends incorporating open unfenced corridors across the project area into the project design to facilitate wildlife movement. The Department is available to help determine appropriate placement and design of corridors.
- The Department recommends conducting minimal grading in the project area and, to the extent possible, 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 existing vegetation to install the panels. Keeping the existing soil and root

¹² <https://www.birdconservancy.org/wp-content/uploads/2021/03/2020-Field-Protocol-for-Spatially-Balanced-Sampling.pdf>

¹³ <https://awcs.azgfd.com>

structures intact would serve to minimize erosional run-off and help reduce biodiversity loss within the site ([Grodsky and Hernandez 2020](#)¹⁴).

- The Department’s [Wildlife Compatible Fencing Guidelines](#)¹⁵ 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 on 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. The Department understands that Clenera Energy is exploring the possibility to utilize cutouts or knuckle wrap for the bottom of chain link fencing.

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 will exceed 0.25 acres in areas with native vegetation, please ensure the project complies with [Arizona Native Plant Law](#)¹⁶ regulations. 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](#)¹⁷ for a list of prohibited and restricted noxious weeds and the [Arizona Native Plant Society](#)¹⁸ for recommendations on how to control them. To view a list of documented invasive species or to report invasive species in or near the project area, visit [iMapInvasives](#)¹⁹, which is a national cloud-based application for tracking and managing invasive species.
- If trenching or digging of large holes is necessary, the Department recommends trenching/digging and backfilling crews be close together to minimize the amount of open holes at any given time. Where trenches or holes cannot be back-filled immediately, the Department recommends escape ramps be constructed in each hole and at least every 90 meters in trenches. 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 and holes that have been left open 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

¹⁴ <https://www.nature.com/articles/s41893-020-0574-x>

¹⁵ https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/110125_AGFD_fencing_guidelines.pdf

¹⁶ <https://agriculture.az.gov/plantsproduce/native-plants>

¹⁷ <https://agriculture.az.gov/pestspest-control/agriculture-pests/noxious-weeds>

¹⁸ <https://aznps.com/invas>

¹⁹ <https://imap.natureserve.org/imap/services/page/map.html>

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](#)²⁰). 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 Roadrunner Solar (Cochise Stronghold) project. For further coordination, please contact Laura Paulson at lpaulson@azgfd.gov or (520) 388-4447.

Sincerely,



Luke Thompson
Habitat, Evaluation and Lands Branch Chief

cc: Raul Vega - Regional Supervisor Tucson
Ginger Ritter – Project Evaluation Program Supervisor
Tiffany Sprague – Project Evaluation Program Specialist

AZGFD #M23-10122549

²⁰ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3657119>

From: [Teresa Murphy](#)
To: ["daniel.w.townes.ctr@mail.mil"](mailto:daniel.w.townes.ctr@mail.mil)
Cc: [McLachlan, Christine](#); [Kevin Barnes](#)
Subject: Transmittal SU 23-26 (Cochise Stronghold Solar)
Date: Monday, October 9, 2023 11:58:01 AM
Attachments: [AzGTlogocolorresized7_ef917063-507a-43c8-9d21-c10d2c022bd5.png](#)
[ApacheSolarIIParcel.kmz](#)

CAUTION: EXTERNAL EMAIL*

Mr. Townes,

We received your comments regarding AEPco's Apache Solar II project located in Cochise, Arizona. Our responses are below and I have attached is a kmz file of the subject parcels. Please let me know if you need any additional information.

Additional Project Information

- Solar Panel Height at maximum tilt (if unknown, please provide a will not exceed height):
Maximum height is 4m
- Axis Tracking (yes/no): **Yes**
- Anti-Reflective Panels (yes/no): **Yes**

Associated Transmission Infrastructure

- Maximum Pole Height: **120'**
- Grid Point of Interconnection Coordinates (if known): **32⁰3'35.63" N; 109⁰53'39.17" W**
- Rated Voltage (in kV) of Line: **230kV**

v/r,

Teresa Murphy

Teresa Murphy, Land Services Administrator III

tmurphy@azgt.coop

Mobile: 520-221-3448 | Office: 520-586-5062



1000 S. Hwy 80 | Benson, AZ 85602

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From: OSD Pentagon OUSD A-S Mailbox ASD EIE-RP-SC <osd.pentagon.ousd-a-s.mbx.asd-eie-rp-sc@mail.mil>
Sent: Thursday, October 5, 2023 9:37 AM
To: 'McLachlan, Christine' <CMcLachlan@cochise.az.gov>
Cc: OSD Pentagon OUSD A-S Mailbox ASD EIE-RP-SC <osd.pentagon.ousd-a-s.mbx.asd-eie-rp-sc@mail.mil>
Subject: RE: Transmittal SU 23-26 (Cochise Stronghold Solar)

Good afternoon Ms. McLachlan,

Your Informal Review request for the Cochise Stronghold Solar project has been received. We will begin processing the request shortly. Generally speaking, federal law gives the Department of Defense 50 calendar days to respond to Informal Review requests. However, we usually complete them in about 4 weeks or so (depending on the current workload and time of year). Right now, we are experiencing an extremely high number of requests. In order for us to have a chance at making the requested October 30 response deadline, we'll need the following information as soon as possible (preferably tomorrow morning) so we can get this project out for review with this week's batch of requests:

Additional Project Information

- Solar Panel Height at maximum tilt (if unknown, please provide a will not exceed height):
- Axis Tracking (yes/no):
- Anti-Reflective Panels (yes/no):

Associated Transmission Infrastructure

- Maximum Pole Height:
- Grid Point of Interconnection Coordinates (if known):
- Rated Voltage (in kV) of Line:

Please include a shapefile and/or KMZ file for mapping the project.

Thank you for the opportunity to review the project. Please let us know if you have any questions or concerns.

Respectfully,

Dan Townes

Military Aviation and Installation Assurance Siting Clearinghouse

Office of the Assistant Secretary of Defense (Energy, Installations and Environment)

Desk: 571-372-8414 (*limited access/shared line*)

NIPR: daniel.w.townes.ctr@mail.mil

From: McLachlan, Christine <CMcLachlan@cochise.az.gov>

Sent: Wednesday, October 4, 2023 1:07 PM

To: Solis, Joaquin <JSolis@cochise.az.gov>; Simmons, Bradley A <bsimmons@cochise.az.gov>; Watkins, Jackie <JWatkins@cochise.az.gov>; Amaya, Dora <DAmaya@cochise.az.gov>; Fast, Travis <TFast@cochise.az.gov>; Brady, Shon <SBrady@cochise.az.gov>; Esparza, Paul <PEsparza@cochise.az.gov>; Lopez, Gabe A <glopez@cochise.az.gov>; Duchon, Daniel <DDuchon@cochise.az.gov>; Correa, Paul <PCorrea@cochise.az.gov>; Capas, Carol <CCapas@cochise.az.gov>; cward@azwater.gov; pep@azgfd.gov; Sims, Kelley B (Kelley) <Kelley_Sims@Kindermorgan.com>; Ruth Bigelow <rbigelow@ssvec.com>; Susan Puzas <spuzas@azdot.gov>; Robert Kirschmann <Rkirschmann@willcox.az.gov>; Reyes, Alberto

<AReyes@cochise.az.gov>; OSD Pentagon OUSD A-S Mailbox ASD EIE-RP-SC <osd.pentagon.ousd-a-s.mbx.asd-eie-rp-sc@mail.mil>

Cc: BOS-Supervisors <BOSSupervisors@cochise.az.gov>; Coxworth, Daniel <dcoxworth@cochise.az.gov>; Bronson, Susan <SBronson@cochise.az.gov>; Taylor, Matthew <MTaylor@cochise.az.gov>

Subject: Transmittal SU 23-26 (Cochise Stronghold Solar)

Good morning, the County has received a special use authorization request application to construct and operate a 235-MW Solar Energy Power Plant and 235-MW Battery Energy Storage System (BESS) Project on 2,437-acres of land within Rural zoning in unincorporated Cochise County.

The Project site is situated southwest of the Wilcox Playa on AEPCO owned land near the existing Apache Generating Station at 3525 N. Highway 191, Cochise, Arizona. The installation of a solar energy power plant and BESS is subject to site development standards contained in the Cochise County Zoning Regulations and requires Special Use Authorization from the Planning and Zoning Commission in a rural zoning district.

This item will be considered by the Planning and Zoning Commission on November 8. Any comments are due by October 30.

As a reminder please to do not “reply to all.”

Thanks for your time,

Christine McLachlan, AICP
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520-432-9266
cmclachlan@cochise.az.gov

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