TOWNSITE SOLAR 2 PROJECT

INPUT SUMMARY REPORT

Bureau of Land Management
Southern Nevada District Office
Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130

September 2022

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APPENDICES

1.0 INTRODUCTION

Skylar Energy Resources, LLC (Applicant) has applied to the Las Vegas Field Office for a right-of-way grant for the construction and operation of the Townsite Solar 2 Project (Project), including a proposed 19-megawatt (MW) solar photovoltaic (PV) power generating facility, battery energy storage system (BESS), and a 34.5 kilovolt (kV) interconnection line to the Western Area Power Administration (WAPA) substation at Townsite Solar 1. The Project would be located on approximately 80 acres of Bureau of Land Management (BLM) administered land located in Clark County, Nevada.

The right-of-way regulations provide direction on solar and wind energy development applications and state information provided by the applicant and other parties will be utilized when evaluating the appropriateness of an application. As part of the evaluation, the BLM scheduled public information forums and a public input period for the Project to provide opportunities for public outreach and input. Information gathered during the public input period will inform the BLM determination on whether to continue to process, or to deny, the right-of-way application (application evaluation determination). The application evaluation determination is separate and comes before the National Environmental Policy Act (NEPA) process.

The BLM considers right-of-way applications for utility-scale solar energy development on a case-by-case basis based on environmental considerations; coordination with appropriate federal, state, and local agencies and tribes; and public outreach. Information gathered during the public input period will inform the BLM determination on whether to continue to process, or to deny, the right-of-way application (application evaluation determination). More information about the application evaluation process is included on the website: https://blm.gov/press-release/bureau-land-management-hold-virtual-public-information-forum-townsite-solar-2-project

The purpose of this report is to summarize input provided by individuals, organizations, tribes, and agencies during the public input period for the Project. This report also describes methods used for soliciting input.

PROJECT DESCRIPTION

The Townsite Solar 2 Project would include installation of solar array blocks consisting of PV modules that convert solar energy into direct current (DC) electricity that would be collected and converted to alternating current (AC) electricity through Power Conversion Stations (PCSs) containing inverters and medium voltage transformers housed on concrete pads. The Project would either include a new BESS or share the BESS on the adjacent Townsite Solar 1 Project. Power from the Townsite Solar 2 Project would be delivered to the Townsite Solar 1 Substation via a new 34.5-kV underground and overhead interconnection line. A new 34.5 kV to 230 kV step-up transformer would be installed within the Townsite Solar 1 Substation to interconnect to the WAPA. Construction of the Project is estimated to last approximately 12 months. All Project facilities would be located on lands administered by the BLM.

Regional access to the Project for component deliveries and worker access would be provided from US-95 located adjacent to the Project site. Project-related roads for direct access to the site include the primary and secondary access roads, perimeter road, and solar field access ways as described in the *Plan of Development*. Water is not required for PV generation; however, it would be required for Project

construction and operations. The Project would require water during construction primarily for dust control as well as some minor consumptive use for concrete and other needs. Water consumption during operation would be relatively low and primarily for potable uses by site personnel, dust control in conjunction with dust palliatives, and periodic washing of panels. Water would be obtained from commercial water sources with existing water rights, including Boulder City.

After the Project's useful life, the Project would be decommissioned, and existing facilities and equipment would be removed. Decommissioning would involve removal of the solar arrays and other facilities with some buried components potentially remaining in place. Following decommissioning, the solar site would be reclaimed and restored according to applicable regulations at the time.

2.0 NOTIFICATION AND SOLICITATION OF INPUT

During the public input period, the BLM informed the public, landowners, federal, state, and local government agencies, tribes, and interested stakeholders about the Project and solicited their input. The BLM announced the Project and the initiation of the public input process, held public information forums, and invited the public to comment and ask questions. The public information forums were publicized on the Project website and BLM social media accounts, in letters mailed to interested stakeholders, and through public notices/news releases. These outreach and notification activities are described in more detail in the following subsections.

TRIBAL CONSULTATION AND COORDINATION WITH NATIVE AMERICAN TRIBES

The BLM sent letters and emails to the Chemehuevi Indian Tribe, Colorado River Indian Tribes, Fort Independence Indian Community of Paiute, Fort Mojave Indian Tribe, Hualapai Tribe, Kaibab Band of Paiute Indians, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Paiute Indian Tribe of Utah, San Juan Southern Paiute Tribe, The Hopi Tribe, Twenty-Nine Palms Band of Mission Indians, and Utu Utu Gwaitu Paiute Tribe (Owens Valley Paiute Benton Reservation) on August 31, 2022, to assess initial interest on the Project and to initiate formal government-to-government consultation. The BLM also sent letters on September 1, 2022, to the Big Pine Paiute and Lone Pine Paiute Tribes. The Project has been discussed at government-to-government consultation meetings and staff-level meetings with tribes. The BLM and Moapa tribal staff visited the project area on February 2, 2022. The BLM emailed the tribes on August 15, 2022, to invite them to attend an interagency meeting on August 30, 2022 as an opportunity to learn more information about the proposed solar projects.

Summary of Tribal Input

- Request for visual analysis and for the Tribes to be included in identification of key observation points.
- Potential long-term impacts of the proposed solar Project.
- Concern about impact on cultural resources and the cultural landscape.
- Interest in Old Spanish National Historic Trail (OSNHT), which is in the vicinity of the Project.

Tribal Consultation for the Project is ongoing.

PROJECT WEBSITE

A press release was issued by the BLM on August 12, 2022. The press release included information about the Project and the solar application evaluation process; registration information for the virtual public information forum; instructions for providing written input; and contact phone numbers—one for the media and the other for general questions. After the virtual public information forum, the website was updated to include a link to the video recording of the forum in addition to the list of questions and answers from the forum. The website will remain active for the duration of the application evaluation process and can be accessed at https://www.blm.gov/press-release/bureau-land-management-hold-virtual-public-information-forum-townsite-solar-2-0.

NOTICE OF VIRTUAL PUBLIC INFORMATION FORUMS

Notice of the virtual public information forum for the Project was distributed via postcards, emails, and BLM social media accounts. Postcards were sent by the BLM to government agencies, elected officials, property owners near the Project, various non-governmental organizations, tribes, individual members of the public, and other interested stakeholders. The postcards briefly explained the Project, identified the application evaluation process, announced the virtual public information forum, and described how to access additional information. A map displaying the Project location was included on the postcard. Thirteen postcards were mailed to adjacent property owners on August 12, 2022. The postcard can be found in **Appendix A**. In addition to postcards, notifications of the virtual public information forum were distributed via email to interested parties, agencies, and tribes.

METHODS FOR SUBMITTING INPUT

The BLM publicized that public input would be accepted until September 15, 2022, and encouraged interested parties to submit input through a variety of methods:

- Written input could be submitted via email to BLM_NV_SND_EnergyProjects@blm.gov.
- Letters could be mailed to BLM Southern Nevada District Office, Attn: Townsite Solar 2 Project, 4701 N. Torrey Pines Drive, Las Vegas, NV 89130.
- Input could be provided verbally at the virtual public information forum. A link to the recording for the virtual public information forum can be found below: https://www.blm.gov/press-release/bureau-land-management-hold-virtual-public-information-forum-townsite-solar-2-0

3.0 VIRTUAL PUBLIC INFORMATION FORUM

The BLM hosted one virtual public information forum using the Zoom platform. At the meeting BLM provided a description of the application evaluation process, information on the Project, and the opportunity to ask questions and provide public input. The number of attendees and the time of the virtual public information forum was held is listed below.

Meeting Date / Time	Registered	Attended
September 1, 2022 6:00 p.m. to 8:00 p.m. PST	6	8
Total	**6**	**8**

Registration for the virtual public information forum opened August 12, 2022 and was announced via the press release and postcard. Registration was required in order to attend the meeting and participants were able to register at any time, including during the forum. The virtual public information forum was open for participation for the duration of the announced time from 6:00 p.m. to 8:00 p.m. PST. Those without access to a computer were still able to register and participate via phone. Those who were not able to join the live forum could access a recording of the meeting in addition to the list of questions and answers from the forums on the Project website.

PRESENTATION

A formal presentation was included as part of the forum. The presentation opened with a welcome and overview by Susanne Heim, a consultant for the BLM. The Field Manager, Shonna Dooman, provided introductions for the meeting. Then the Project Manager, Jessica Headen, provided information about the Project and application evaluation process. The presentation included maps and information about the Project location; descriptions of the major Project components; information about the application evaluation process; and resources for additional information.

After the formal presentation, Susanne Heim facilitated the live question and answer section with Jessica Headen before moving into the verbal input portion followed by meeting closeout by Shonna Dooman. Throughout the meeting, participants were reminded that the public input period would close on September 15, 2022, and that additional comments could be sent in via email or mail. Additional information about the question and answer and verbal input portions of the virtual public information forums is provided below.

The PowerPoint presentation provided a visual aid for the virtual public information forums and is provided in **Appendix B**. As previously mentioned, the entirety of each virtual public information forum was recorded and posted to the Project website.

QUESTION AND ANSWER

Written questions could be submitted throughout the meeting using the online platform's Q&A feature. Questions were either responded to in writing or answered verbally by the Project Manager, Jessica Headen. One question was asked and answered over the virtual public information forum. A copy of the question that was asked and answered is provided in **Appendix C**.

VERBAL INPUT

Verbal input could be provided during the verbal input portion of the virtual public information forum. While the meeting remained open for verbal input until 8 p.m., no verbal input was provided during the meeting.

A link to the recording for the virtual public information forum, which include the verbal public input portion, is below: https://www.blm.gov/press-release/bureau-land-management-hold-virtual-public-information-forum-townsite-solar-2-0.

AGENCY INPUT

The BLM conducted a meeting for federal, state, local governments, and Tribes to provide information on the Townsite Solar 2 Project, and to gather agency input. The virtual meeting was held on August 30, 2022, from 10:00 am to 11:00 am PST. The virtual meeting was attended by 15 individuals from 6 agencies, including:

- Advisory Council on Historic Preservation
- Environmental Protection Agency
- U.S. Bureau of Reclamation
- U.S. Fish and Wildlife Service
- Clark County
- Nevada Department of Transportation
- Nevada Division of State Lands

The agency input period concluded September 15, 2022, and 1 letter/email was submitted with agency input on the Project. The agency submission is included in **Appendix D.**

Summary of Agency Input

- The Plan of Development should discuss the Energy Act of 2020 which includes the goal of permitting 25 gigawatts (GW) of solar, wind, and geothermal energy production on public lands no later than 2025.
- The Plan of Development should discuss Nevada's renewable portfolio standards, enacted in 1997 and last modified in 2019, require an increase in renewable energy, starting with 22% in 2020 and increasing to 50% by 2030.
- Concerns about the clarity of the where existing roads are located within the project.
- Concerns about the project building new roads rather than using existing roads.
- The project should consider that mowing or over land drive and crush be used instead of disk and roll to the maximum extent feasible onsite. Maintain vegetation at a higher height of 18-24 inches if appropriate and feasible.
- The BLM should consider whether yucca and cacti will be salvaged (removed and transplanted in nurseries until they can be relocated) or destroyed.

4.0 COMMENT EVALUATION

The public input period began on August 12, 2022 - the date the press release was published. In addition to verbal comments received during the virtual public information forum, one (1) comment letter/email was received. The comment letter was read to identify key concerns/topics. All comments were evaluated, and a copy of the comment letter is contained in **Appendix E**.

This report summarizes concerns/topic areas identified from the input received throughout the public input period. For the purposes of this summary, all concerns/topics were given equal weight, regardless of whether they were mentioned once or mentioned several times. This report does not prioritize concerns/topic areas, but it provides tracking for the number of comments each concern/topic category received. The identified topics and areas of concern will be used to guide the application evaluation determination for the Project.

5.0 COMMENT SUMMARY

This section provides a summary of the key concerns/topics identified during the public input period for the Project. The Project received public input in a variety of ways and the public input table below summarizes the topics that were raised.

At the Public Input Forum on September 1, 2022, there was 1 comment. In addition to the comment received during the Public Input Forums, BLM received an email from the public. Therefore, in total, the BLM received a total of 2 public input submissions. The topics or areas of concern that were included in the public comments are listed below.

Solar Project Ranking

- Is the project on a separate track from other projects, or what is the project's ranking?

Alternatives

- BLM should evaluate alternatives in urban areas or highly degraded landscapes and should include an economic analysis of alternatives.

Affected Environment

- BLM should preform focused protocol-level surveys and a literature search for all special-status plants, rare plant, and animal species.
- BLM should ensure actions are implemented in compliance with the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and associated regulations, executive orders, and policies.

Environmental Consequences

- BLM should analyze how the project will impact the movement of tortoises relative to linkage habitats/corridors and cumulative impacts from other solar projects.
- BLM should include primary road effects to the desert tortoise and special-status species and should include information on locations, sizes, and arrangements of roads within the project site and who will have access to each type of road.

Mitigation Plans

- BLM should require preparation of a translocation plan, raven management plan; non-native plant species management plan; fire prevention plan; compensation plan, management and monitoring plan, and habitat restoration plan for the project. The plans should include a schedule that displays construction, operation, maintenance, decommissioning, and restoration phases of the project.

BLM Manual

- BLM should comply with BLM Manual 6840 –Special Status Species Management

Translocation Plan

- BLM should include implementation of a science-based monitoring plan approved by the Desert Tortoise Recovery Office.

Tortoise Predators

- BLM should analyze the project for an increase in predators of the desert tortoise in the action area and require a predator management plan.

Fire Prevention/Management Plans

- BLM should include a Fire Prevention Plan.

Climate Change and Non-native Plants

- BLM should address effects on climate change and climate change effects on the environment.

Hydrology and Water Quality

- BLM should include an analysis of impacts of water acquisition, use, and discharge.
- BLM should include an analysis of water use during construction, operations and maintenance, decommissioning, and habitat restoration.

Federal Land Policy and Management and Federal Endangered Species Act

- BLM should consider the quality or condition of the environment for the Mojave Desert tortoise including species' requirements for persistence and maintaining habitat quality.

Cumulative effects

- BLM should list and analyze all project impacts within the region including future state, federal, and private actions.

6.0 NEXT STEPS

As part of the solar application evaluation process, the BLM will continue agency coordination and evaluation of the information gathered during the public input period. The BLM will then determine whether to process or deny the right-of-way application by the Applicant for the Project. If the BLM determines to process the application, then the NEPA process will be initiated which involves NEPA analysis and further public involvement.

The BLM will post documents related to the application evaluation process for the Project at the Project website https://www.blm.gov/press-release/bureau-land-management-hold-virtual-public-information-forum-townsite-solar-2-0.

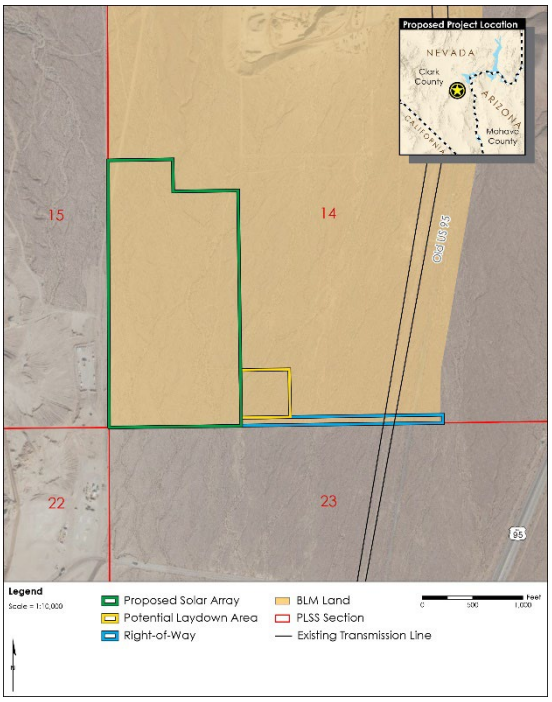
Appendix A - Post Card

U.S. Department of the Interior
Bureau of Land Management

NOTICE OF VIRTUAL PUBLIC INFORMATION FORUMS

The Bureau of Land Management (BLM) Right-of-Way under the Federal Land Policy and Management Act regulations (43 CFR 2800) provide direction on solar and wind energy development applications located on BLM-managed lands. The regulations state information provided by the applicant, Federal, State, and local government agencies, tribes, and through public input meetings can be utilized when evaluating the appropriateness of an application.

Skylar Energy Resources, LLC has applied for a right-of-way grant for the construction, operation and eventual decommissioning of a proposed 19 MW photovoltaic solar power project located on approximately 80 acres in Clark County, Nevada. The information forum is being held as part of application evaluation process and information gathered during the public input period will inform BLM's determination on whether to continue to process or to deny the application.



BLM Southern Nevada District Office
Attn: Townsite Solar 2 Project
4701 N Torrey Pines Drive
Las Vegas, NV 89130

Stamp

As part of the application evaluation process, the BLM will hold a virtual public information forum for the Townsite Solar 2 Project on September 1, 2022 from 6p.m. to 8p.m.

To register for the information forum, please use the following link:

https://us02web.zoom.us/meeting/register/tZ0rceytpzMrH9CNYeuIYJx0kJMncqY67vWL

If you have any questions or technical issues trying to register for the information forum, please call (559) 515-0933 for assistance. More information on the Project and the virtual forum can be found at https://blm.gov/press-release/bureau-land-management-hold-virtual-public-information-forum-townsite-solar-2-project

The information forum will be recorded, and a copy posted at that website for 30 days. The information forum will include brief presentations on the Project and BLM's application evaluation process followed by a question-and-answer portion and a public input period. Public input will be accepted until September 15, 2022.

MAIL LABEL

For more information, please visit our website at www.blm.gov

Appendix B – PowerPoint Presentation-Visual Aid

U.S. Department of the Interior
Bureau of Land Management

Townsite Solar 2 Project

Application Evaluation Virtual Public Information Forums

Agenda

- Field Manager Introduction
- Presentation
- Question & Answer Session
- Public Input
- Close out

This meeting will be recorded, and the video will be posted for 30 days on the project website

Introductions

Presenters

- Shonna Dooman, BLM Field Manager
- Jessica Headen, BLM Project Manager
- Susanne Heim, Principal, Panorama Environmental, Inc.

Additional Participants

- Steve Leslie, BLM
- Beth Ransel, BLM
- Vivian Browning, BLM
- Ernest Johnson, BLM
- Kirsten Cannon, BLM

Questions and Input

Tonight's meeting will provide opportunities to ask questions and provide public input

- Question & Answer: written questions can be submitted throughout meeting
- Verbal Public Input: after the presentations and Q&A portion

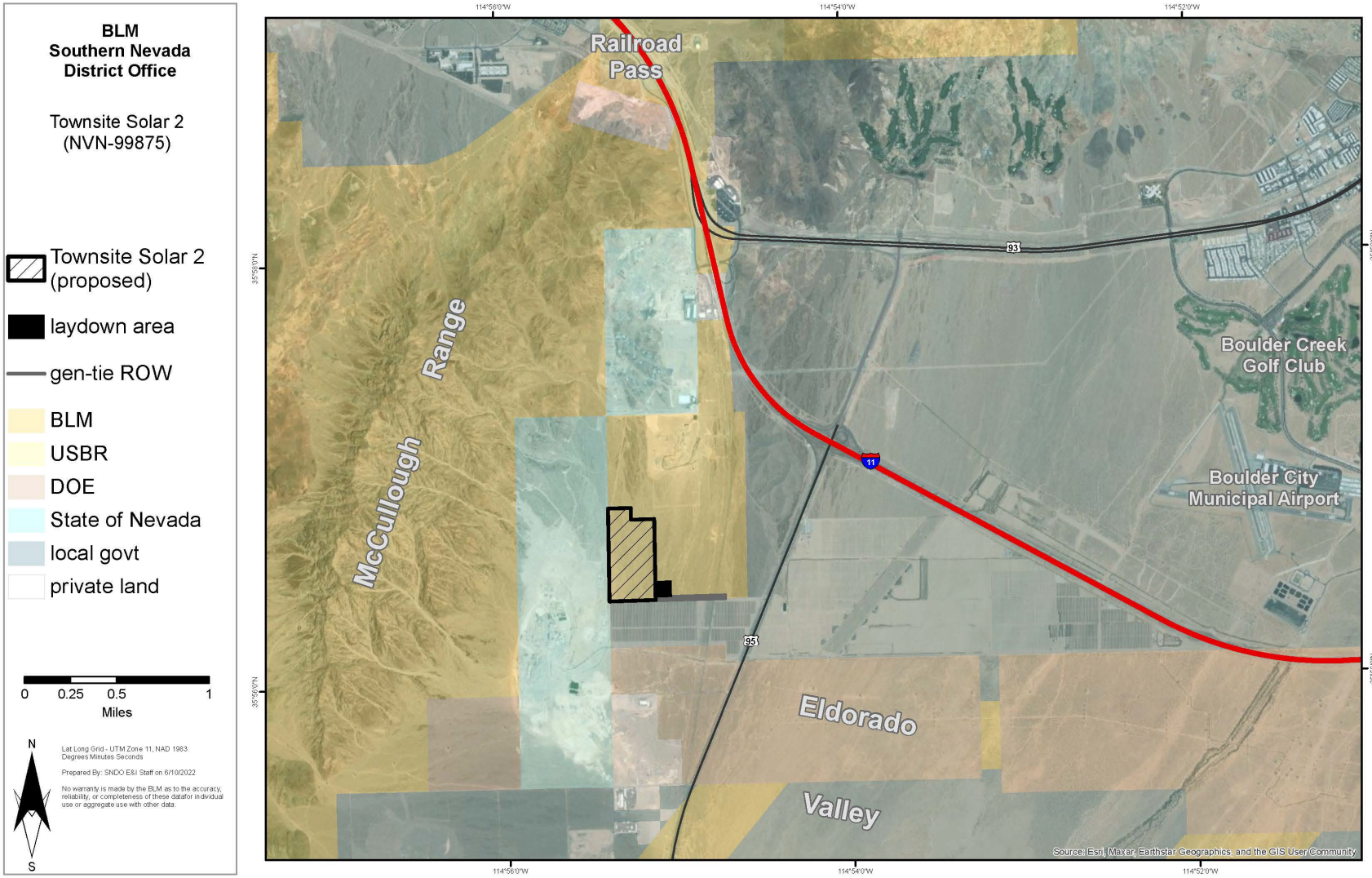
Want to provide input or questions after the meeting?

Input or questions can also be submitted after the meeting, until September 15, 2022, via:

EMAIL: BLM_NV_SND_EnergyProjects@blm.gov

MAIL: BLM Southern Nevada District Office,
Attn: Townsite Solar 2 Project
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

Townsite Solar 2 Project



Townsite Solar 2 Project

- Skylar Energy Resources, LLC has applied for a right-of-way grant requesting to utilize public land for the construction and operation of a proposed solar facility and interconnection to the regional transmission system.

- The request is to use approximately 80 acres of public land managed by the BLM Las Vegas Field Office, located in Clark County, immediately adjacent to Townsite Solar 1 Project.

- The project proposes to build and operate a 19 mega-watt alternating current solar photovoltaic power generating facility with battery storage.

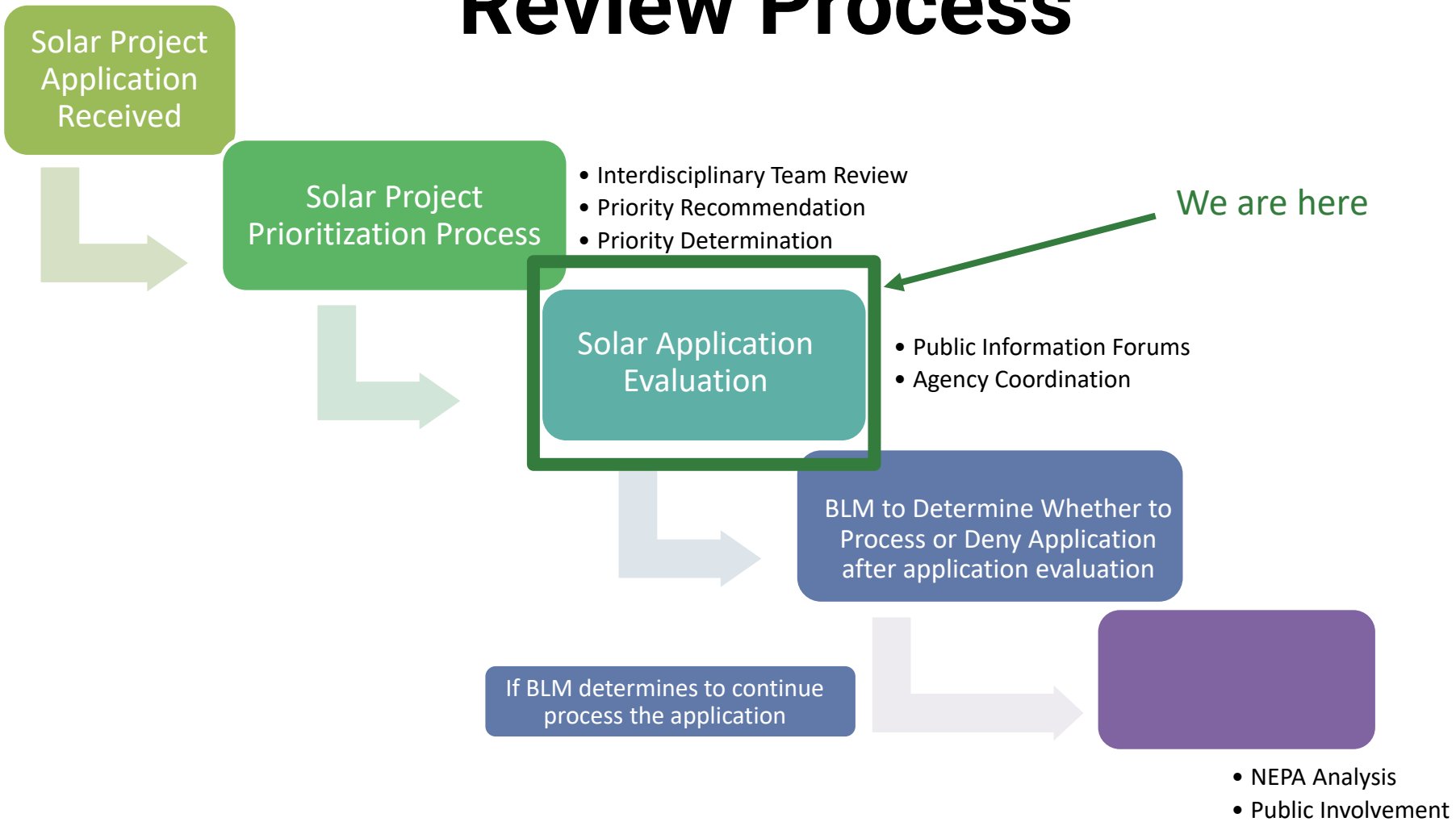
Additional Project Information

- The project would use photovoltaic modules that convert sunlight into direct current electricity. Direct current electricity is collected and converted to alternating current electricity through a system of inverters

- The proposed project intends to use the transmission infrastructure of the Townsite Solar 1 Project, located on adjacent lands leased from the City of Boulder City. Interconnecting into Townsite Solar 1's newly constructed bay at the Western Area Power Administration 230 kV substation

- Battery storage facilities would also be constructed on-site

Townsite Solar 2 Project Application Review Process



Townsite Solar 2 Evaluation Process

- In 2012, the BLM and the Department of Energy issued the Final Programmatic Environmental Impact Statement for Solar Energy Development (Solar PEIS.)

- The Townsite Solar 2 Project is less than 20 megawatts and not subject to the Solar PEIS, which addresses projects larger than 20 megawatts.

- Because of this, the application is not subject to any decisions adopted by the Solar PEIS Record of Decision, including the variance process.

Solar Application Evaluation Process

- The right-of-way regulations provide direction on solar and wind energy development applications located on BLM managed public lands.

- The BLM evaluates the appropriateness of right-of-way applications for renewable energy development on a case-by-case basis, based on:
  - Environmental considerations
  - Coordination with appropriate federal, state, and local agencies and Tribes
  - Public outreach

- The regulations state information provided by the applicant and other parties can be utilized when evaluating the appropriateness of an application.

- The application evaluation determination is separate and comes before the National Environmental Policy Act process.

Public Input as Part of Application Evaluation

- As part of the evaluation, the BLM has scheduled this public information forum and public input period for the Townsite Solar 2 Project to provide opportunities for public outreach and input.
- Information gathered during the public input period will inform the application evaluation process including the BLM determination on whether to continue to process, or to deny, the right-of-way application.
- The application evaluation determination is separate and comes before the National Environmental Policy Act process.

Next Steps

- Public input on the Townsite Solar 2 Project will be accepted until September 15, 2022.

- The information gathered will be review by the BLM Authorized Officer. The BLM Authorized Officer will make the determination of whether the project will move forward and be analyzed under the NEPA process. Determination expected in the Fall of 2022.

What Types of Input Would be Most Helpful Now

- Helpful public input at this point would include potential local concerns, barriers, and/or opportunities related to the proposed project.

- Input about types of use or resource concerns within the proposed area, like recreational activities and opportunities, wildlife, vegetation, visual resources, and other factors, would also be helpful at this time.

Questions and Input

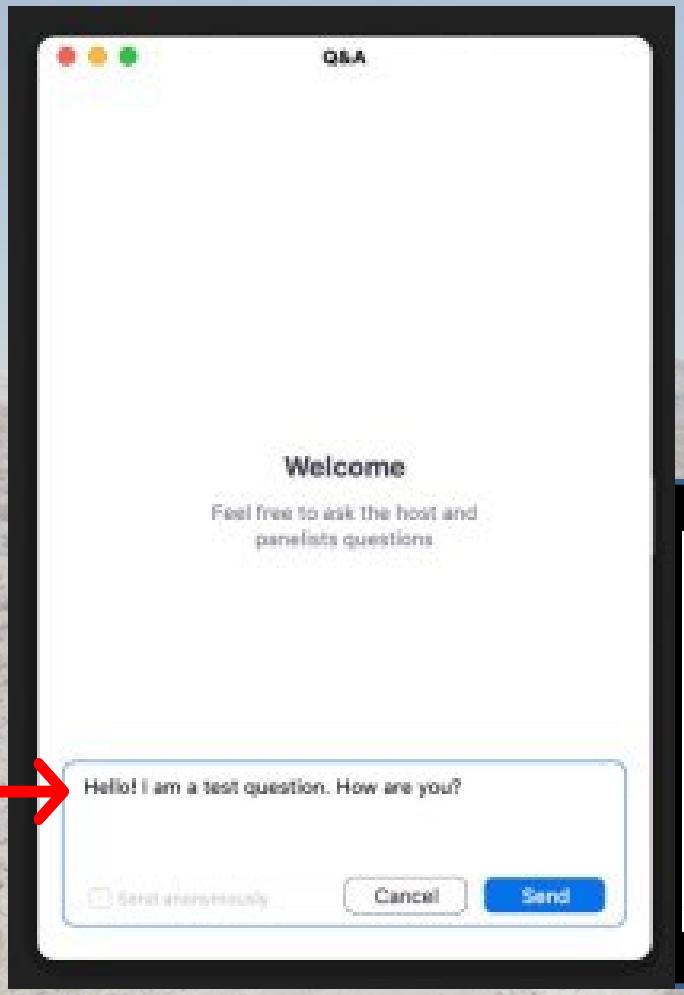
Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be publicly available at any time.

While you can ask that your personal identifying information be withheld from public review, BLM cannot guarantee that they'll be able to do so. Anonymity is not allowed for submissions from organizations or businesses and from individuals identifying themselves as representatives or officials of organizations or businesses.

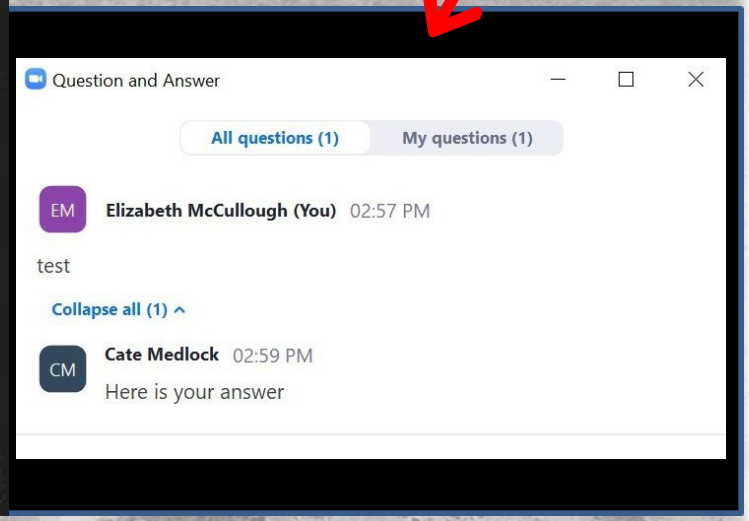
Question and Answer Section

1. Click "Q&A" button at bottom of screen

2. Type your question



BLM will answer your question in Zoom or live



More information is available at the website: https://www.blm.gov/press-release/bureau-land-management-hold-virtual-public-information-forum-townsite-solar-2-0

How to Provide Verbal Input

- Input will be accepted in order of registration
- Once your name is called, use the 'Raise Hand' feature and the meeting facilitator will open your microphone

- If you are on the phone, you can raise your hand with *9 and then unmute/mute using *6
- A timer will be displayed on your screen to show the time remaining for your input
- Your input will be included in the project record

Public Input Section

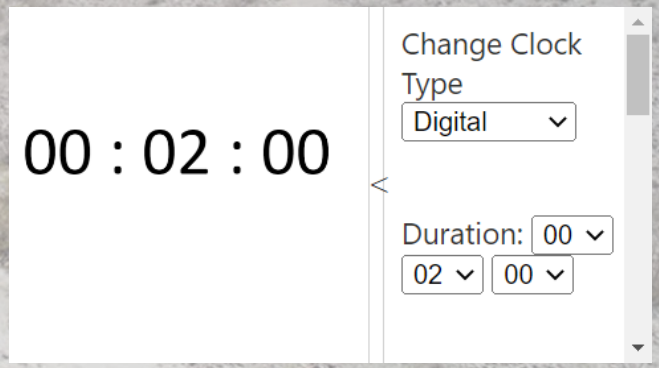
BLM wants to hear from all members of the public. Out of respect for everyone's participation and input, we will be using the following guidelines:

- Stay within your allotted time so that everyone can speak
- Please be respectful of others
- Refrain from profanity

If guidelines are not followed, your microphone will be muted, and we will move to the next person

Next 10 commenters

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.



How to Submit Further Input

More information is available at the website:

https://www.blm.gov/press-release/bureau-land-management-hold-virtual-public-information-forum-townsite-solar-2-0

Want to provide comment?

EMAIL: BLM_NV_SND_EnergyProjects@blm.gov

MAIL:

BLM Southern Nevada District Office
Attn: Townsite Solar 2 Project
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

Public input period closes
09/15/2022

Appendix C - Q&A From Virtual Public Information Forums

Question Report Copper Rays Solar Project Virtual Forum 12/16/2021		
1	Is this project on a separate track from the other field office solar projects? If not, where does it rank with the others?	The BLM is responding to multiple applications received for proposed renewable energy development projects. The Southern Nevada District has 32 pending applications for renewable energy rights-of-way and is utilizing a process in the regulations for prioritizing processing of renewable energy applications. The application prioritization process involves a preliminary review by interdisciplinary resource specialists. Then based on the preliminary review, prioritizing processing of applications that have the fewest resource conflicts and the greatest likelihood of success in the permitting process. This project rated as high priority for processing and subject to a case-by-case application evaluation process. BLM has initiated work on the Townsite Solar 2 Project application, determined by the BLM to be a High Priority for processing, and is in the application evaluation phase now.

Appendix D - Agency Emails

[EXTERNAL] EPA's comments on the Townsite Solar 2 Project POD

[redacted]

Tue 9/13/2022 1:55 PM

To: BLM_NV_SND_EnergyProjects <BLM_NV_SND_EnergyProjects@blm.gov>

Cc: Headen, Jessica A <jheaden@blm.gov>

1 attachments (40 KB)

2022-09-13_EPA POD_Review_Townsite2.docx;

Good afternoon, Jessica –

Attached please find a copy of EPA's comments on the Townsite Solar 2 Project Plan of Development. Thank you for providing us with the opportunity to provide feedback. Please contact me if you have any questions on our comments.

Regards,

Ann

Ann McPherson

U.S. EPA Region 9
Tribal, Intergovernmental, and Policy Division
Environmental Review Branch, TIP-2
75 Hawthorne St.
San Francisco, CA 94105

[redacted]

Date:
2022-09-13

Page Number	Section or Table	Commentator Name and Office	Comment
5	1.1.1	EPA Region 9 – Ann McPherson	The POD states that the existing access road on the south side of the Proposed Project is under the control of a third party, necessitating the request by the Applicant for its own ROW for access, distribution line, and underground 34.5 kV electric cables. *Recommendation:* It is unclear on the maps where the existing road is exactly. Is it possible to utilize the existing road (co-use) instead of building a new one? Has BLM or the Applicant discussed this option with the third party? Understandably, the Applicant will still need space for the distribution line and underground 34.5 kV electric cables.
6	Table 1-1	EPA - AKM	Table 1-1 – Proposed Project Schedule – shows the NEPA process beginning in Q2 2022. Not sure if that is true. May need to update.
7	1.1.3	EPA - AKM	The POD describes federal legislation between 2001 and 2009 that encourages the development of renewable energy, but the POD does not mention the national goal for renewable energy production on public lands as described in the Energy Act of 2020. *Recommendation*: Discuss the Energy Act of 2020 which includes the goal of permitting 25 gigawatts (GW) of solar, wind, and geothermal energy production on public lands no later than 2025.
7	1.1.4	EPA-AKM	*Text:* Nevada law requires utilities to phase out their use of coal-fired generation and partially replace that generation with renewable energy, as well as renewable portfolio standards that require utilities to increase their use of renewable energy. *Comment:* Revise sentence. Consider adding something like the following statement. Nevada's renewable portfolio standards, enacted in 1997 and last modified in 2019, require an increase in renewable energy, starting with 22% in 2020 and increasing to 50% by 2030.
25 30	1.3 (Veg Management) 2.2 (Site Clearing…)	EPA – AKM EPA – AKM	The POD states that the site would be allowed to re-vegetate following construction and that vegetation would typically be maintained to a height of no more than approximately 12 inches. The POD also states that the disk and roll technique would be used generally to prepare the surface of the solar field for post and PV panel installation. In areas where the terrain is not suitable for disk and roll, conventional cut and fill grading would be used.

			Comment: The 'disk and roll' technique would completely remove vegetation on site and compact soils. Native vegetation may not naturally regrow in areas that are cleared of vegetation, graded, or compacted. If the 'disk and roll' technique is used at the site – as stated in Section 2.2 – successful revegetation is much less likely to occur. Restoration efforts could be an order of magnitude more expensive and lengthier. The POD does not include the integration of lower-impact design elements such as mowing or drive and crush. Mowing would leave vegetation and natural contours in place, resulting in reduced erosion and runoff, preservation of soil structure and biological crusts, and less spread of invasive or noxius weed species. *Recommendation:* EPA recommends that mowing or overland drive and crush be used instead of disk and roll to the maximum extent feasible on site. We also recommend that vegetation be maintained at a higher height – 18-24 inches – if appropriate and feasible. Include mowing and drive and crush as design elements that will minimize environmental effects. Utilize mowing and drive and crush over disk and roll whenever feasible. The POD should also discuss if yucca and cacti will be salvaged (removed and transplanted in nurseries until they can be relocated) or destroyed.

Appendix E - Public Emails & Letters

[EXTERNAL] Townsite Solar 2 Project

Ed Larue [redacted]

Tue 9/13/2022 5:59 PM

To: BLM_NV_SND_EnergyProjects <BLM_NV_SND_EnergyProjects@blm.gov>;Headen, Jessica A <jheaden@blm.gov>

2 attachments (691 KB)

Townsite Solar 2 Project.9-13-2022.pdf; Solar Development in BLM's Pahrump Field Office Area.8-12-2022.pdf;

Dear Ms. Headen,

Please find attached formal comments on the above-referenced project. Our formal comments specific to the project are in the file entitled "Townsite Solar 2 Project." The letter from 8/12/2022 referenced in the primary letter is incorporated by reference and also provided as an attachment (i.e., "Solar Development in BLM's Pahrump Field Office").

Thanks for your consideration!

Ed LaRue
Chair, Ecosystem Advisory Committee
Desert Tortoise Council

DESERT TORTOISE COUNCIL
4654 East Avenue S #257B
Palmdale, California 93552
www.deserttortoise.org
eac@deserttortoise.org

Via email only

Date: 12 August 2022

Attn: Ms. Angelita Bullets, Energy & Infrastructure Team
Bureau of Land Management, Pahrump Field Office
4701 N. Torrey Pines Dr.
Las Vegas, NV 89130
BLM_NV_SND_EnergyProjects@blm.gov, abullets@blm.gov

RE: Proposed Solar Energy Development on Public Lands in Northwest Area of Pahrump Field Office

Dear Ms. Bullets,

The Desert Tortoise Council (Council) is a non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council routinely provides information and other forms of assistance to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.

As of June 2022, our mailing address has changed to:

Desert Tortoise Council
3807 Sierra Highway #6-4514
Acton, CA 93510

Our email address has not changed. Both addresses are provided above in our letterhead for your use when providing future correspondence to us.

We appreciate that the Council was contacted directly in an email dated July 13, 2022 giving us this opportunity to provide comments on the above-referenced project. Given the location of the 15 proposed solar project in habitats likely occupied by Mojave desert tortoise (*Gopherus*

agassizii) (synonymous with Agassiz's desert tortoise) in the northwestern portion of the Pahrump Field Office region, Clark County, Nevada, our comments include recommendations that will enhance protection of this species and its habitat during activities authorized by the Bureau of Land Management (BLM), which we recommend be added to project terms and conditions in the authorizing document (e.g., right of way grant, etc.) as appropriate. Please accept, carefully review, and include in the relevant project file the Council's following comments and attachments for the proposed project.

Project Description

According to the press release dated July 13, 2022, the BLM has received 15 applications for solar projects in this region that may affect as many as 81,123 acres of public lands, many of which are likely habitat for desert tortoises. Of those 15 applications, 14 are identified as occurring on variance lands and one is excluded from solar development under the Western Solar Plan [the reference is lacking in the press release, but we assume this is the Final Programmatic Environmental Impact Statement for solar development in six western states (BLM and DoE 2012; herein "Solar PEIS")]. Whereas the first part of the strategy is to consider competitive offerings and associated actions for four parcels, it is the second part that we are addressing in this letter; namely, "considering the appropriateness of additional future solar energy development in the northwest area of the Pahrump Field Office" (BLM press release, dated July 13, 2022).

Scoping Comments

We expect that each of the projects going forward will have its own National Environmental Policy Act (NEPA) documents, and firmly believe that these should be Environmental Impact Statements (EIS) rather than Environmental Assessments (EAs). We believe that this is warranted due to the numbers of tortoises displaced and occupied habitats already lost because of the Solar PEIS. We note, too, that the Solar PEIS Record of Decision (ROD) in 2012 predates significant findings between 2014 (Allison and McLuckie 2018) and 2022 (USFWS 2020, 2021, 2022a, and 2022b; see Appendix A), documenting the ubiquitous declines of tortoises throughout most of the listed range. We judge these declines to constitute a significant changed circumstance that likely warrants reinitiation of Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) to see if there should be a new Solar PEIS or Supplemental PEIS before there is any additional solar development under this outdated NEPA document. In addition, the Solar PEIS ROD in 2012 predates identification of the Pahrump Valley as a highly important area for providing connectivity among desert tortoise populations for maintaining a viable ecological network (Averill-Murray et al. 2021). "Maintaining an ecological network (recovery network) for the Mojave desert tortoise, with a system of core habitats (TCAs [Tortoise Conservation Areas]) connected by linkages (Hilty et al. 2020), is necessary to support demographically viable populations and long-term gene flow within and between TCAs" (Averill-Murray et al. 2021).

We are also taking this opportunity to apply the following scoping comments programmatically to all future solar projects that would be authorized under the auspices of the Solar PEIS. The purpose of scoping is to allow the public to participate in an "early and open process for determining the scope of issues to be addressed, and for identifying the significant issues related to a proposed action" (40 Code of Federal Regulations (CFR) 1501.7). The NEPA documents should discuss

how each proposed solar project fits within the management structure of the current land management plans for the area [e.g., Solar PEIS and perhaps Las Vegas Resource Management Plan (BLM 1998)]. It should provide maps of critical habitat for the Mojave desert tortoise (USFWS 1994a), Areas of Critical Environmental Concern (ACECs), and other areas identified for special management by BLM [e.g., National Conservation Lands (NCLs)]; USFWS (e.g., linkage habitats between desert tortoise populations); Nevada Department of Wildlife (NDOW); other federal, state, and local agencies; and tribal lands.

Proposed Action and Alternatives Considered

We fully expect that BLM will comply with all applicable statutes, regulations, Executive and Departmental Orders, BLM policies and manuals, and other requirements as they pertain to each solar project. BLM should demonstrate in the NEPA documents that the proposed projects meet all these requirements with respect to the tortoise, that:

- Each proposed project will be in conformance with decisions in current land use plan(s) and the Federal Land Policy and Management Act (FLPMA) with respect to sustained yield;

<u>That each project will</u>:

- be consistent with priority conservation, restoration, and/or adaptation objectives in the best available landscape-scale information (e.g., for tortoise population connectivity, etc.);
- ensure the applicant has coordinated with governments and agencies, including consideration of consistency with officially adopted plans and policies (e.g., recovery plans);
- be in an area with low or comparatively low resource conflicts and where conflicts can be resolved;
- be located in, or adjacent to, previously contaminated or disturbed lands;
- minimize adverse impacts on important fish and wildlife habitats and migration/movement corridors including the desert tortoise;
- minimize impacts on lands with wilderness characteristics and the values associated with these lands;
- not adversely affect lands donated or acquired for conservation purposes, or mitigation lands identified in previously approved projects such as translocation areas for desert tortoise;
- ensure significant cumulative impacts on resources of concern do not occur as a result of the proposed project (i.e., exceeding established thresholds such population viability for the tortoise and connectivity of tortoise populations among recovery units); and,
- ensure BLM's analyses use current data on the tortoise for the project area, population, Eastern Mojave Recovery Unit, and range wide, as population numbers and densities have substantially declined in most recovery units and the data/knowledge currently available on what is needed for habitat linkages for the tortoise is greater than in 2012.

We have serious concerns about BLM's commitment to manage effectively for the sustained yield of the tortoise. These concerns include past actions regarding:

- Mitigation to improve conditions within the connectivity areas, and if these options do not exist, mitigation may be applied toward the nearest tortoise conservation area (e.g., an ACEC for which tortoise had been identified in the Relevant and Important Criteria or critical habitat); and
- plans that ensure effective monitoring of desert tortoise impacts, including verification that desert tortoise connectivity corridors are functional. The required Federal Endangered Species Act (FESA) consultation should further define this monitoring plan.

Regarding the first concern, we believe that a multiagency approach is best to ensure BLM is meeting its obligations, soliciting review and input from pertinent federal and state resource agencies, Tribal governments/agencies, and non-governmental organizations (NGOs). Mitigation of impacts should include, in priority order, avoidance, minimization and compensation for unavoidable impacts. Mitigation should at a minimum offset all direct, indirect, and cumulative impacts, especially given the status and trend of the tortoise (please see *Affected Environment - Status of the Populations of the Mojave Desert Tortoise* below). BLM should ensure it is effectively implementing its section 7(a)(1) conservation mandate under the FESA.

Mitigation should be applied only in areas where the lands are effectively managed for the benefit of the tortoise for both the short-term and long-term. As currently managed, BLM ACECs in Nevada and the California Desert Conservation Area are not meeting this criterion. Consequently, mitigation should be implemented on lands with a durable conservation designation, or on privately owned lands with a conservation easement or other legal instrument that ensures conservation in perpetuity. Please see *Mitigation Plans* below for additional concerns and requested requirements.

Regarding the second concern, monitoring plans should (1) be scientifically and statistically credible; (2) be implementable; and (3) require BLM/project proponent to implement adaptive management to correct land management practices if the mitigation is not accomplishing its intended purposes. Compliance with Chapter 11 of the BLM NEPA Handbook H-1790-1 BLM (2008a) is needed to ensure this occurs as well as with the BLM Mitigation Policy, Manual and Handbook (BLM 2021).

We note that a federal appellate court has previously ruled that in an EIS a federal agency must evaluate a reasonable range of alternatives to the project including other project and mitigation sites, and must give adequate consideration to the public's needs and objectives in balancing ecological protection with the purpose of the proposed project, along with adequately addressing the proposed project's impacts on the desert's sensitive ecological system [*National Parks & Conservation Association v. Bureau of Land Management*, Ninth Cir. Dkt Nos. 05-56814 et seq. (11/10/09)]. Therefore, the Council requests that the BLM describe the purpose and need for each solar project and develop and analyze other viable alternatives, such as rooftop solar, which we believe constitute "other reasonable courses of actions" (40 CFR 1508.25).

The Council supports alternatives to reduce the need for additional solar energy projects in relatively undisturbed habitats in the Mojave Desert. For example, the City of Los Angeles has implemented a rooftop solar Feed-in Tariff (FiT) program, the largest of its kind in America. The FiT program enables the owners of large buildings to install solar panels on their roofs, and sell the power they generate back to utilities for distribution into the power grid.

We request that BLM include an urban solar alternative for each of the 15 projects. Under this alternative, owners of large buildings or parking areas would grant the project proponent permission to install solar panels on their roofs and cover parking areas, and sell the power they generate back to utilities for distribution into the power grid.

This approach puts the generation of electricity where the demand is greatest, in populated areas. It may also reduce transmission costs, greenhouse gas emissions from constructing energy projects far from the sources of power demand and materials for construction, the number of affected resources in the desert that must be analyzed under NEPA, and mitigation costs for direct, indirect, and cumulative impacts; monitoring and adaptive management costs; and habitat restoration costs following decommissioning. Each NEPA document should include an analysis of where the energy generated by each project would be sent and the needs for energy in those targeted areas that may be satisfied by urban solar. We request that at least one viable alternative be analyzed in each NEPA document where electricity generation via solar energy is located much closer to the areas where the energy will be used, including generation in urban/suburban areas.

In addition, BLM should include another viable alternative of locating solar projects on bladed or highly degraded tracts of land (e.g., abandoned agricultural fields). Such an alternative would not result in the destruction of desert habitats and mitigation for the lost functions and values of these habitats. These losses and mitigation are costly from an economic, environmental, and social perspective.

The latter two alternatives are important to consider to minimize or avoid the loss of vegetation that sequesters carbon. Studies around the world have shown that desert ecosystems can act as important carbon sinks. For example, the California deserts account for nearly 10 percent of the state's carbon sequestration; below ground in soil and root systems, and above ground in biomass. Protecting this biome can contribute to securing carbon stores in the state (MDLT 2021). This situation is likely true for Nevada. Given the current climate change conditions, there is an increasing need for carbon sequestration. Because vascular plants are a primary user of carbon and the proposed Project would result in the loss/degradation of thousands of acres of plants and their ability to sequester carbon for decades or longer unless successful measures are implemented to restore the same biomass of native vegetation as it is being destroyed, it is imperative that each proposed project not result in the loss of vegetation.

The NEPA documents should consider the monitoring results of recently developed solar projects where soils have been bladed versus those facilities where the vegetation has been mowed or crushed and allowed to revegetate the area. In the latter case, it may be appropriate to allow tortoises to enter the facilities and re-establish residency (i.e., repatriate) under the solar panels as vegetation recolonizes the area. This could be an *option* for each of the currently described projects. It should be designed/implemented as a scientific experiment to add to the limited data on this approach to determine the extent of effects on Mojave desert tortoise populations and movements/connectivity between populations, which is an important issue for this species, particularly over the long-term (see *Desert Tortoise Habitat Linkages/Connectivity among Populations and Recovery Units* below). Long-term monitoring for the life of the project would need to be included to accurately evaluate the effectiveness of this strategy.

Connected Actions

Pursuant to Section 1508.25 of the Council on Environmental Quality's (CEQ) regulations (40 CFR 1508.25), any NEPA document must cover the entire scope of a proposed action, considering all connected, cumulative, and similar actions in one document. Pursuant to Section 1506.1(a) of these regulations, an agency action cannot "[l]imit the choice of reasonable alternatives" before reaching a final decision in a published [Record of Decision] (ROD). These regulations ensure agencies will prepare a complete environmental analysis that provides a "hard look" at the environmental consequences of all proposed actions instead of segmenting environmental reviews (Novack 2015). Please explain whether any current proposed actions within the region are connected and if not, why.

Affected Environment

Status of the Population of the Mojave Desert Tortoise: The Council provides extensive information on the status of tortoises in each recovery unit in Appendix A. We expect that, at a minimum, this information will be included in each NEPA document to demonstrate that BLM is using the latest and best available scientific information on which to base its decisions. That being said, the Council does not believe that any new solar development should be authorized in southern Nevada until such time USFWS and BLM can demonstrate, at least, stable populations of desert tortoises occur within the affected region.

The Endangered Mojave Desert Tortoise: The Council believes that the Mojave desert tortoise meets the definition of an endangered species. In the FESA, Congress defined an "endangered species" as "any species which is in danger of extinction throughout all or a significant portion of its range…" Because most of the populations of the Mojave desert tortoise were non-viable in 2014, most are declining, and the threats to the Mojave desert tortoise are numerous and have not been substantially reduced throughout the species' range, the Council believes the Mojave desert tortoise should be designated as an endangered species by the USFWS.

Mojave desert tortoise is now on the list of the world's most endangered tortoises and freshwater turtles. It is in the top 50 species. The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers Mojave desert tortoise to be Critically Endangered (Berry et al. 2021). As such, it is a "species that possess an extremely high risk of extinction as a result of rapid population declines of 80 to more than 90 percent over the previous 10 years (or three generations), a current population size of fewer than 50 individuals, or other factors." It is one of three turtle and tortoise species in the United States to be critically endangered.

The summary of data in Appendix A indicates that BLM's current management actions for the Mojave desert tortoise are inadequate to help recover the desert tortoise. BLM has been ineffective in halting population declines, which has resulted in non-viable populations. The Council believes that these management actions are inadequate in preventing the extirpation of the Mojave desert tortoise in California and Nevada.

Standardized Surveys – Desert Tortoise and Other Species

For each NEPA document to fully analyze the effects and identify potentially significant impacts, the following surveys must be performed to determine the extent of rare plant and animal populations occurring within areas to be directly and indirectly impacted.

Prior to conducting surveys, a knowledgeable biologist should perform a records search of the Nevada Natural Heritage Program (NNHP) (http://heritage.nv.gov/get_data) for rare plant and animal species reported from the region. The results of the NNHP review would be reported in the NEPA document with an indication of suitable and occupied habitats for all rare species reported from the region based on performing species specific surveys described below.

The project proponent should fund focused surveys for all rare plant and animal species reported from the vicinity of each proposed project. Results of the surveys will determine appropriate permits from NDOW, BLM, and USFWS and associated avoidance, minimization, and mitigation measures. Focused plant and animal surveys should be conducted by knowledgeable biologists for respective taxa (e.g., rare plant surveys should be performed by botanists), and to assess the likelihood of occurrence for each rare species or resource (e.g., plant community) that has been reported from the immediate region. Focused plant surveys should occur only if there has been sufficient winter rainfall to promote germination of annual plants in the spring. Alternatively, the environmental documents may assess the likelihood of occurrence with a commitment by the proponents to perform subsequent focused plant surveys prior to ground disturbance, assuming conditions are favorable for germination.

Special Status Plants: There are likely to be special status plant species found in/near the project areas. This information should be assessed by accessing the NNHP literature review prior to conducting field surveys. Species or their habitats known to occur in/near the project area should be sought during field surveys and their presence/absence discussed in the NEPA document. Surveys should be completed at the appropriate time of year by qualified botanists using the latest acceptable methodologies. In addition, Nevada Administrative Code (NAC) 527 provides a list of species and subspecies of native plants to be critically endangered and threatened with extinction. These fully protected species may not be removed or destroyed except pursuant to a permit issued by the State Forester (NAC 527.090). The methods used to survey for special status plant species, the results, and the mitigation/monitoring/adaptive management that will be implemented to avoid or otherwise mitigate adverse effects to these species and their habitats should be included in the NEPA documents.

Migratory Birds/Eagles: BLM should ensure that all actions it authorizes are implemented in compliance with the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and associated regulations, executive orders, and policies (e.g., Driscoll 2010, Pagel et al. 2010) to avoid mortality or injury to migratory birds and harassment of eagles.

Burrowing owl: Since Nevada does not have a specified protocol, surveys for western burrowing owl (*Athene cunicularia*) should be performed implementing available methods (CDFG 2012). In addition to the project footprint, the protocol requires that peripheral transects be surveyed at 30-, 60-, 90-, 120-, and 150-meter intervals in all suitable habitats adjacent to the subject property to

determine the potential indirect impacts of the project on this species. If burrowing owl sign is found, CDFG (2012) describes appropriate minimization and mitigation measures that would be required. Also note that BLM should demonstrate in the NEPA document how it will comply with "E.O. 13186 – Responsibilities of Federal Agencies To Protect Migratory Birds," since the burrowing owl is on the USFWS list of migratory birds. If burrowing owl sign is found, BLM and the project proponent should develop a science-based mitigation/monitoring/adaptive management plan with the USFWS and NDOW and ensure that this plan is implemented. In California, if burrowing owl sign is found, CDFG (2012) describes appropriate minimization and mitigation measures that would be required.

Mojave Desert Tortoise Surveys: Formal protocol surveys for Mojave desert tortoise (USFWS 2019) must be conducted at the proper times of year. Because USFWS (2009) requires only experienced biologists to perform protocol surveys, USFWS biologist(s) should review surveyors' credentials prior to initiating the surveys. Per this protocol, if the impact area is larger than 500 acres, the surveys must be performed in the time periods of April-May or September-October so that a statistical estimate of tortoise densities can be determined for the "action area" (please see below). If any tortoise sign is found, the project proponent should coordinate with USFWS to determine whether "take" under FESA is likely to occur from implementation of the proposed project. If tortoises are present, the project proponent must obtain a biological opinion under Section 7(a)(2) from the USFWS for activities on federal lands/actions prior to conducting any ground disturbance. If there was a programmatic biological opinion associated with the 2012 Solar PEIS, it too would be outdated, and we feel that reinitiation of formal Section consultation is warranted.

We request that protocol-level surveys be performed at the area of the proposed project *and the alternatives that are being considered* in the NEPA document. The results of these surveys should be published in the NEPA document and should include density estimates for each alternative assessed. We find it unacceptable to choose a single site and restrict all studies to that site, which seems pre-decisional; i.e., that a given site is chosen before any analyses are completed as the best location to minimize impacts and help realize BLM mandates. The Council's persisting concern is that proponents of solar projects continue to identify a single site for development without any attempt to identify alternative sites. As such, when focused studies reveal significant accumulations of tortoises on the proponent's selected site, because there is only one site identified for the project, there is no opportunity to select an alternative site where impacts would be minimized.

Too often, a single impact footprint is identified, all surveys are restricted to that site, and no alternative sites are assessed, as required by NEPA. We are concerned that any one of these solar projects may have already pre-determined the project footprint. As such, there may be other areas of lower tortoise densities where impacts could be minimized. However, those areas would not be considered if the project footprint is predetermined before survey data are available. As such, we request that more than one site, preferably three, be identified and analyzed in the NEPA documents and that the alternative with the fewest impacts to tortoises be adopted for development.

To determine the full extent of impacts to tortoises and to facilitate compliance with the FESA, authorized biologist(s) must consult with the USFWS to determine the action area for this project. The USFWS defines "action area" in the Code of Federal Regulations and their Desert Tortoise Field Manual (USFWS 2009) as "all areas to be affected directly or indirectly by proposed development and not merely the immediate area involved in the action (50 CFR §402.02)." Limiting studies to the impact area footprint does not adequately assess impacts within the action area.

We suggest that the "action area" of the proposed project be several times larger than the project footprint so that those portions of the site with fewer tortoises could be selected. Proponents of the Gemini Solar Site in southern Nevada, for example, ignored these recommendations, and displaced more than 100 tortoises, when based on their presence-absence tortoise surveys, a shift of the site to the east would have avoided many of those animals. Note that we consider the Gemini Site to be a "connected action," and the NEPA documents need to address successes and failures associated with all previous development under the Solar PEIS.

It is current management to require desert tortoise protocol surveys (USFWS 2019) on a given site, but all too often translocation sites are ignored. We feel strongly that protocol surveys should occur on multiple or enlarged sites as given above *and* on all proposed translocation sites, assuming tortoises will be translocated.

Mojave Desert Tortoise Impacts Analysis:

Analysis of Direct and Indirect Impacts: The alternatives analysis should include an economic analysis that provides the total cost of constructing the proposed project versus other alternatives, so the public can see how much the total cost of each alternative is. This would include an analysis of the costs of replacing all public resources that would be lost from granting the proposed project including direct, indirect, and cumulative impacts. Please note, this analysis would include habitat replacement or restoration costs including the time needed to achieve full replacement, not just acquisition, management, monitoring, and adaptive management costs.

The NEPA documents should include a thorough analysis of the status and trend of the tortoise in the action area, tortoise conservation area(s), recovery unit(s), and range wide (see Appendix A). Tied to this analysis should be a discussion of all likely sources of mortality for the tortoise and degradation and loss of habitat from implementation of solar development including construction, operation and maintenance, decommissioning, and restoration of the public lands. The NEPA documents should use the data from focused plant and wildlife surveys in their analysis of the direct, indirect, and cumulative impacts of the proposed project on the Mojave desert tortoise and its habitat, other listed species, and species of concern/special status species.

We expect that each project-specific NEPA document will publish how many acres would be impacted directly by solar arrays, access roads to the site, administration/maintenance buildings, parking areas, transmission towers, switchyards, laydown areas, internal access roads, access roads along gen-tie lines, perimeter roads, perimeter fencing, substations, battery storage (e.g., the project footprint). We also request that separate calculations document how many acres of desert tortoise habitats would be temporarily and permanently impacted both directly and indirectly (e.g., "road effect zone," etc.) by the proposed Project. As given below, these acreages should be based on field surveys for tortoises not just available models.

Road Effect Zone: We request that the NEPA documents include information on the locations, sizes, and arrangements of roads to the proposed project and within it, who will have access to them, whether the access roads will be secured to prevent human access or vandalism to tortoises, and if so, what methods would be used. The presence/use of roads even with low vehicle use has numerous adverse effects on the desert tortoise and its habitats that have been reported in the scientific literature. These include the deterioration/loss of wildlife habitat, hydrology, geomorphology, and air quality; increased competition and predation (including by humans); and the loss of naturalness or pristine qualities.

Vehicle use on new roads and increased vehicle use on existing roads equates to increased direct mortality and an increased road effect zone for desert tortoises. Road construction, use, and maintenance adversely affect wildlife through numerous mechanisms that can include mortality from vehicle collisions, and loss, fragmentation, and alteration of habitat (Nafus et al. 2013; von Seckendorff Hoff and Marlow 2002).

In von Seckendorff Hoff and Marlow (2002), they reported reductions in Mojave desert tortoise numbers and sign from infrequent use of roadways to major highways with heavy use. There was a linear relationship between traffic level and tortoise reduction. For two graded, unpaved roads, the reduction in tortoises and sign was evident 1.1 to 1.4 km (3,620 to 4,608 feet) from the road. Nafus et al. (2013) reported that roads may decrease tortoise populations via several possible mechanisms, including cumulative mortality from vehicle collisions and reduced population growth rates from the loss of larger reproductive animals. Other documented impacts from road construction, use, and maintenance include increases in roadkill of wildlife species as well as tortoises, creating or increasing food subsidies for common ravens, and contributing to increases in raven numbers and predation pressure on the desert tortoise.

Please include in the NEPA document analyses, the five major categories of primary road effects to the tortoise and special status species: (1) wildlife mortality from collisions with vehicles; (2) hindrance/barrier to animal movements thereby reducing access to resources and mates; (3) degradation of habitat quality; (4) habitat loss caused by disturbance effects in the wider environment and from the physical occupation of land by the road; and (5) subdividing animal populations into smaller and more vulnerable fractions (Jaeger et al. 2005a, 2005b, Roedenbeck et al. 2007). These analyses should be at the population, recovery unit, and rangewide levels.

In summary, road establishment/increased use is often followed by various indirect impacts such as increased human access causing disturbance of species' behavior, increased predation, spread of invasive species that alters/degrades habitat, and vandalism and/or collection. The analysis of the impacts from road establishment and use should include cumulative effects to the tortoise with respect to nearby critical habitat and other Tortoise Conservation Areas (TCAs), areas identified as important linkage habitat for connectivity between nearby critical habitat units/TCAs as these linkage areas serve as corridors for maintaining genetic and demographic connectivity between populations, recovery units, and rangewide (see *Desert Tortoise Habitat Linkages/Connectivity among Populations and Recovery Units* below). These and other indirect impacts to the Mojave desert tortoise should be analyzed in the NEPA documents from project construction, operations and maintenance, decommissioning, and habitat restoration.

Desert Tortoise Habitat Linkages/Connectivity among Populations and Recovery Units: The NEPA documents should analyze how each proposed project will impact the movement of tortoises relative to linkage habitats/corridors. The documents should include an analysis of the minimum linkage design necessary for conservation and recovery of the desert tortoise (e.g., USFWS 2011, Averill-Murray et al. 2013, Hromada et al. 2020, Averill-Murray et al. 2021), and how the project, along with other existing projects, would impact the linkages between tortoise populations and all recovery units that are needed for survival and recovery. We strongly request that the environmental consequences section of each NEPA document include a thorough analysis of this indirect effect (40 CFR 1502.16) and appropriate mitigation to maintain the function of population connectivity for the Mojave desert tortoise and other wildlife species be identified. Similarly, please document how this project may impact proximate conservation areas, such as BLM-designated ACECs.

Mitigation Plans

Each NEPA document should include effective mitigation for all direct, indirect, and cumulative effects to the tortoise and its habitats. The mitigation should use the best available science with a commitment to implement the mitigation commensurate to impacts to the tortoise and its habitats. Mitigation should include a fully-developed desert tortoise translocation plan, including protection of tortoise translocation area(s) from future development and human disturbance in perpetuity; raven management plan; non-native plant species management plan; fire prevention plan; compensation plan for the degradation and loss of tortoise habitat that includes protection of the acquired, improved, and restored habitat in perpetuity for the tortoise from future development and human use; and habitat restoration plan when the lease is terminated and the proposed project is decommissioned.

All plans should be provided in each NEPA document so the public and the decisionmaker can determine their adequacy (i.e., whether they are scientifically rigorous and would be effective in mitigating for the displacement and loss of tortoises and degradation and loss of tortoise habitat from project implementation). Too often, such plans are alluded to in the draft environmental document and promised later, which does not allow the reviewers to assess their adequacy, which is unacceptable. If not available as appendices in draft documents, all indicated plans must be published in the final environmental documents. Their inclusion is necessary to determine their adequacy for mitigating direct, indirect, and cumulative impacts, and monitoring for effectiveness and adaptive management regarding the desert tortoise. If these plans are not provided, it is not possible for BLM, other decisionmakers, and the interested public to determine the environmental consequences of the project to the tortoise.

These mitigation plans should include an implementation schedule that is tied to key actions of the construction, operation, maintenance, decommissioning, and restoration phases of the project so that mitigation occurs concurrently with or in advance of the impacts. The plans should specify success criteria, include an effectiveness monitoring plan to collect data to determine whether success criteria have been met, and identify/implement actions that would be required if the mitigation measures do not meet the success criteria.

BLM Manual 6840: Special Status Species Management includes the following BLM directives (BLM 2008b) that are applicable to the Mojave desert tortoise:

6840.01 Purpose. The purpose of this manual is to provide policy and guidance for the conservation of BLM special status species and the ecosystems upon which they depend on BLM-administered lands. BLM special status species are: (1) species listed or proposed for listing under the FESA, and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the FESA, which are designated as BLM sensitive by the State Director(s).

6840.02 Objectives. The objectives of the BLM special status species policy are (a) To conserve and/or recover FESA-listed species and the ecosystems on which they depend so that FESA protections are no longer needed for these species, and (b) to initiate proactive conservation measures that reduce or eliminate threats to BLM-sensitive species to minimize the likelihood of and need for listing of these species under the FESA.

With respect to the Mojave desert tortoise, we expect that each Proposed action and other alternatives contribute to meeting objectives in BLM Manual 6840 – Special Status Species Management (BLM 2008b).

Translocation Plan - Translocated Tortoises & Translocation Sites: How many tortoises will be displaced by the proposed project? How long will translocated tortoises be monitored? Will the monitoring report show how many of those tortoises lived and died after translocation and over time? Are there any degraded habitats or barren areas that may impair success of the translocation? Are there incompatible human uses in the new translocation area that need to be eliminated or managed to protect newly-translocated tortoises? Were those translocation areas sufficiently isolated that displaced tortoises were protected by existing or enhanced land management? How will the proponent minimize predation of translocated tortoises and avoid adverse climatic conditions, such as low winter rainfall conditions that may exacerbate translocation success? Were tortoises translocated to a site where they would be protected from threats (e.g., off-highway vehicles, future development, etc.)? These questions should be answered in the Environmental Consequences section of each NEPA document.

Each project proponent should implement the USFWS' Translocation Guidance (USFWS 2020) and coordinate translocation with BLM and NDOW. In addition, the proponent's project-specific translocation plan should be based on current data and developed using lessons learned from earlier translocation efforts (e.g., increased predation, drought). (see *Desert Tortoise Translocation Bibliography Of Peer-Reviewed Publications*[1] in the footnote).

The Translocation Plan should include implementation of a science-based monitoring plan approved by the Desert Tortoise Recovery Office that will accurately access these and other issues to minimize losses of translocated tortoises and impacts to their habitat. For example, the health of tortoises may be jeopardized if they are translocated during drought conditions, which is known to undermine translocation successes (Esque et al. 2010). If drought conditions are present at the time of project development, we request that the proponent confer with the USFWS immediately prior to translocating tortoises and seek input on ways to avoid loss of tortoises due to stressors associated with drought. One viable alternative if such adverse conditions exist is to postpone site development until which time conditions are favorable to enhance translocation success.

[1] https://www.fws.gov/nevada/desert_tortoise/documents/reports/2017/peer-reviewed_translocation_bibliography.pdf

Moving tortoises from harm's way, the focus of the Translocation Guidance, does not guarantee their survival and persistence at the translocation site, especially if it will be subject to increased human use or development. In addition to the Translocation Guidance and because translocation sites are mitigation for the displacement of tortoises and loss of habitat, these sites should be managed for the benefit of the tortoise in perpetuity. Consequently, a conservation easement or other durable legal designation should be placed on the translocation sites. The project proponent should fully fund management of the site to enhance it for the benefit of the tortoise in perpetuity.

Tortoise Predators and a Predator Management Plan: Common ravens are known predators of the Mojave desert tortoise and their numbers have increased substantially because of human subsidies of food, water, and sites for nesting, roosting, and perching to hunt (Boarman 2003). Coyotes and badgers are also predators of tortoises. Because ravens can fly at least 30 miles in search of food and water daily (Boarman et al. 2006) and coyotes can travel an average of 7.5 miles or more daily (Servin et al. 2003), this analysis should extend out at least 30 miles from the proposed project site.

Each NEPA document should analyze if this new use would result in an increase in common ravens and other predators of the desert tortoise in the action area. During construction, operations and maintenance, decommissioning, and restoration phases of the proposed project, the BLM should require science-based management of common raven, coyote, and badger predation on tortoises in the action area. This would include the translocation sites.

For local impacts, the Predator Management Plan should include reducing/eliminating human subsidies of food and water, and for the common raven, sites for nesting, roosting, and perching to address local impacts (footprint of the proposed project). This includes buildings, fences, and other vertical structures associated with the project site. In addition, the Predator Management Plan should include provisions that eliminate the pooling of water on the ground or on roofs.

The Predator Management Plan should include science-based monitoring and adaptive management throughout all phases of the project to collect data on the effectiveness of the Plan's implementation and implement changes to reduce/eliminate predation on the tortoise if existing measures are not effective.

For regional and cumulative impacts, the BLM should require the project proponent to participate in efforts to address regional and cumulative impacts. For example, in California, the project proponent should be required to contribute to the National Fish and Wildlife Foundation's Raven Management Fund to help mitigation for regional and cumulative impacts. Unfortunately, this Fund that was established in 2010 has not revised its per acre payment fees to reflect increased labor and supply costs during the past decade to provide for effective implementation. The National Fish and Wildlife Foundation should revise the per acre fee.

We request that for any of the transmission options, the project use infrastructure (particularly towers) that prevent raven nesting and perching for hunting. For example, for gen-ties/transmission lines the tubular design pole with a steep-pointed apex and insulators on down-sloping cross arms is preferable to lattice towers, which should not be used. New fencing should not provide resources for ravens, like new perching and nesting sites.

Fire Prevention/Management Plans: The proposed project could include numerous infrastructure components that have been known to cause fires. Lithium-ion batteries at the project site have the potential to explode and cause fires and are not compatible with using water for fighting fires. Photovoltaic panel malfunctions have caused vegetation to burn onsite. We request that the NEPA document include a Fire Prevention Plan in addition to a Fire Management Plan specifically targeting methods to deal with explosions/fires produced by these batteries/panels as well as other sources of fuel and explosives on the project site.

Climate Change and Non-native Plants

Climate Change: We request that each NEPA document addresses the effects of the proposed action on climate change warming and the effects that climate change may have on the proposed action. For the latter, we recommend including: an analysis of habitats within the project area that may provide refugia for tortoise populations; an analysis of how the proposed action would contribute to the spread and proliferation of nonnative invasive plant species; how this spread/proliferation would affect the desert tortoise and its habitats (including the frequency and size of human-caused fires); and how the proposed action may affect the likelihood of human-caused fires. We strongly urge the BLM require the project proponent to develop and implement a management and monitoring plan using this analysis and other relevant data that would reduce the transport to and spread of nonnative seeds and other plant propagules within the project area and eliminate/reduce the likelihood of human-caused fires. The plan should integrate vegetation management with fire prevention and fire response.

Impacts from Proliferation of Nonnative Plant Species and Management Plan: The NEPA document should include an analysis of how the proposed project would contribute to the spread and proliferation of non-native invasive plant species; how this spread/proliferation would affect the desert tortoise and its habitats (including the frequency and size of human-caused fires); and how the proposed project may affect the frequency, intensity , and size of human-caused and naturally occurring fires. For reasons given in the previous paragraph, we strongly urge the BLM require the project proponent to develop and implement a management and monitoring plan for nonnative plant species. The plan should integrate management/enhancement of native vegetation with fire prevention and fire response to wildfires.

Hydrology and Water Quality

Regarding water quality of surface and ground water, each NEPA document should include an analysis of the impacts of water acquisition, use, and discharge for panel washing, potable uses, and any other uses associated with this proposed project, and cumulative impacts from water use and discharge on native perennial shrubs and annual vegetation used for forage by the Mojave desert tortoise, including downstream and downstream impacts. Each NEPA document should analyze how much water is proposed to be used during construction and operation; how any grading, placement, and/or use of any project facilities will impact downstream/downslope flows that are reduced, altered, eliminated, or enhanced. This analysis should include impacts to native and non-native vegetation and habitats for wildlife species including the Mojave desert tortoise, for which washes are of particular importance for feeding, shelter, and movements.

Therefore, we request that each NEPA document include an analysis of how water use during construction, operations and maintenance, decommissioning, and habitat restoration will impact the levels of ground water in the region. These levels may then impact surface and near-surface flows at springs, seeps, wetlands, pools, and groundwater-dependent vegetation in the basin. The analyses of water quality and quantity of surface and ground water should include appropriate measures to ensure that these impacts are fully mitigated, preferably beginning with avoidance and continuing through CEQ's other forms of mitigation (40 CFR 1508.20).

Federal Land Policy and Management and Federal Endangered Species Act

Federal Land Policy and Management Act (FLPMA): In 1976, Congress passed the FLPMA, and wrote a lengthy definition of "multiple use" for the management of public lands and their various resource values. The definition included "… the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and non-renewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output."

Congress defined "sustained yield" as the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use. The Mojave desert tortoise and its habitats are renewable resources.

The definition of "environmental quality" is a set of properties and characteristics of the environment, either generalized or local, as they impinge on human beings and other organisms. It is a measure of the condition of an environment relative to the requirements of one or more species and or to any human need or purpose. Thus, BLM must consider the quality or condition of the environment of the Mojave desert tortoise with respect to the species' requirements for persistence and must maintain this habitat quality.

The Council believes that BLM's management of the Mojave desert tortoise and its habitats in Nevada is not in compliance with FLPMA. The large number of non-viable populations and downward trend in population densities for the Mojave desert tortoise in southern Nevada confirm non-compliance with the "immediate and future protection of public lands," "conserving resources for future generations," and definitions of multiple use, sustained yield, and environmental quality.

Section 7(a)(1) of the Endangered Species Act: Section 7(a)(1) of the Endangered Species Act states that all federal agencies "…shall… utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to Section 4 of this Act." In Section 3 of the FESA, "conserve," "conserving," and "conservation" mean "to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition…"

The Council believes that the data given herein demonstrate that BLM's management of the Mojave desert tortoise and its habitat has not been effective in meeting BLM's Section 7(a)(1) mandate of carrying out programs for its conservation. To meet its Section 7(a)(1) responsibilities, the BLM needs to adopt and implement the management actions of the one population of the Mojave desert tortoise in California that is increasing, which is managed by the National Park Service (NPS). The NPS' land management practices are closer to managing areas of land as reserves, which is what the 1994 recovery plan (USFWS 1994b) described as part of the recovery strategy for the Mojave desert tortoise.

When analyzing and implementing aspects of the project, we request that BLM demonstrate how it is contributing effectively to the conservation and recovery of the Mojave desert tortoise, in southern Nevada. We request that BLM show how mitigation for the project will do more than offset all direct, indirect, and cumulative impacts so that the status of the Mojave desert tortoise as described herein will improve. By providing this information, BLM would demonstrate its compliance with section 7(a)(1) of the FESA for the Mojave desert tortoise.

One of the requirements in a biological opinion is that reinitiation is required if new information reveals the effects of the proposed action on listed species or critical habitat is in a manner or to an extent that was not considered in the biological opinion. We believe that BLM should request reinitiation under Section 7 of the FESA because of recent information on the declining status and trend of adult and juvenile Mojave desert tortoises. This information was not available at the time the biological opinion was prepared.

Cumulative Effects

With regards to cumulative effects, each NEPA document should list and analyze all project impacts within the region including future state, federal, and private actions affecting listed species on state, federal, and private lands. It is our understanding that Variance Lands are secondary locations for solar development, which was intended by the Solar PEIS to primarily occur in Solar Energy Zones (SEZs). Yet, 14 of the 15 solar projects are proposed on Variance Lands and the 15th one is not even be covered by the Solar PEIS. In addition to justifying extensive development of Variance Lands, we expect that the environmental documents will provide a detailed analysis of the "heat sink" effects of solar development on adjacent desert areas and particularly Mojave desert tortoise in addition to climate change.

In the cumulative effects analysis of each NEPA document, please ensure that the CEQs "Considering Cumulative Effects under the National Environmental Policy Act" (1997) is followed, including the eight principles, when analyzing cumulative effects of the proposed action to the tortoise and its habitats. CEQ states, "Determining the cumulative environmental consequences of an action requires delineating the cause-and-effect relationships between the multiple actions and the resources, ecosystems, and human communities of concern. The range of actions that must be considered includes not only the project proposal but all connected and similar actions that could contribute to cumulative effects." The analysis "must describe the response of the resource to this environmental change." Cumulative impact analysis should "address the sustainability of resources, ecosystems, and human communities." For example, each NEPA document should include data on the estimated number of acres of tortoise habitats degraded/lost and the numbers of tortoises that may be lost to growth-inducing impacts in the region.

CEQs guidance on how to analyze cumulative environmental consequences, which contains eight principles listed below:

1. Cumulative effects are caused by the aggregate of past, present, and reasonable future actions.
The effects of a proposed action on a given resource, ecosystem, and human community, include the present and future effects added to the effects that have taken place in the past. Such cumulative effects must also be added to the effects (past, present, and future) caused by all other actions that affect the same resource.

2. Cumulative effects are the total effect, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken, no matter who (federal, non-federal, or private) has taken the actions.
Individual effects from disparate activities may add up or interact to cause additional effects not apparent when looking at the individual effect at one time. The additional effects contributed by actions unrelated to the proposed action must be included in the analysis of cumulative effects.

3. Cumulative effects need to be analyzed in terms of the specific resource, ecosystem, and human community being affected.
Environmental effects are often evaluated from the perspective of the proposed action. Analyzing cumulative effects requires focusing on the resources, ecosystem, and human community that may be affected and developing an adequate understanding of how the resources are susceptible to effects.

4. It is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.
For cumulative effects analysis to help the decision maker and inform interested parties, it must be limited through scoping to effects that can be evaluated meaningfully. The boundaries for evaluating cumulative effects should be expanded to the point at which the resource is no longer affected significantly or the effects are no longer of interest to the affected parties.

5. Cumulative effects on a given resource, ecosystem, and human community are rarely aligned with political or administrative boundaries.
Resources are typically demarcated according to agency responsibilities, county lines, grazing allotments, or other administrative boundaries. Because natural and sociocultural resources are not usually so aligned, each political entity actually manages only a piece of the affected resource or ecosystem. Cumulative effects analysis on natural systems must use natural ecological boundaries and analysis of human communities must use actual sociocultural boundaries to ensure including all effects.

6. Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects.
Repeated actions may cause effects to build up through simple addition (more and more of the same type of effect), and the same or different actions may produce effects that interact to produce cumulative effects greater than the sum of the effects.

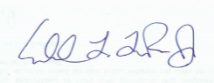
7. Cumulative effects may last for many years beyond the life of the action that caused the effects.
Some actions cause damage lasting far longer than the life of the action itself (e.g., acid mine damage, radioactive waste contamination, species extinctions). Cumulative effects analysis needs to apply the best science and forecasting techniques to assess potential catastrophic consequences in the future.

8. Each affected resource, ecosystem, and human community must be analyzed in terms of its capacity to accommodate additional effects, based on its own time and space parameters.
Analysts tend to think in terms of how the resource, ecosystem, and human community will be modified given the action's development needs. The most effective cumulative effects analysis focuses on what is needed to ensure long-term productivity or sustainability of the resource.

We request that each NEPA document (1) include these eight principles in its analysis of cumulative impacts to the Mojave desert tortoise; (2) address the sustainability of the tortoise given the information on the *Status of the Mojave Desert* given herein; and (3) include mitigation along with monitoring and adaptive management plans that protect desert tortoises and their habitats during both construction and operation of approved facilities.

We appreciate this opportunity to provide scoping comments on this project and trust they will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Desert Tortoise Council wants to be identified as an Affected Interest for this and all other projects funded, authorized, or carried out by the BLM that may affect species of desert tortoises, and that any subsequent environmental documentation for this project is provided to us at the contact information listed above. Additionally, we ask that you respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this project.

Respectfully,



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Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson

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Appendix A. Status and Trend of the Mojave Desert Tortoise (*Gopherus agassizii*)

BLM's implementation of a conservation strategy for the Mojave desert tortoise in its resource management plans through 2020 has resulted in the following changes in the status for the tortoise throughout its range and in Nevada from 2004 to 2014 (Table 1; USFWS 2015) and 2004 to 2020 (Table 2). There are 17 populations of Mojave desert tortoise described below that occur in the critical habitat units (CHUs) and Tortoise Conservation Areas (TCAs); 14 are on lands managed by the BLM.

To assist the Agencies with their analysis of the direct, indirect, and cumulative impacts of the Proposed Project on the Mojave desert tortoise, we provide the following information on its status and trend. In reviewing the data presented below, note that the location of the proposed project is within the Eastern Mojave Recovery Unit, the unit that has experienced the greatest decline in tortoise density and abundance, -67%, since 2004.

The Desert Tortoise Council (Council) has serious concerns about direct, indirect, and cumulative sources of human mortality for the Mojave desert tortoise given the status and trend of the species range-wide, within each of the five recovery units, and within the Tortoise Conservation Areas (TCAs) that comprise each recovery unit.

Densities of Adult Mojave Desert Tortoises: A few years after listing the Mojave desert tortoise under the Federal Endangered Species Act (FESA), the U.S. Fish and Wildlife Service (USFWS) published a Recovery Plan for the Mojave desert tortoise (USFWS 1994a). It contained a detailed population viability analysis. In this analysis, the minimum viable density of a Mojave desert tortoise population is 10 adult tortoises per mile^2 (3.9 adult tortoises per km^2). This assumed a male-female ratio of 1:1 (USFWS 1994a, page C25) and certain areas of habitat with most of these areas geographically linked by adjacent borders or corridors of suitable tortoise habitat. Populations of Mojave desert tortoises with densities below this density are in danger of extinction (USFWS 1994a, page 32). The revised recovery plan (USFWS 2011) designated five recovery units for the Mojave desert tortoise that are intended to conserve the genetic, behavioral, and morphological diversity necessary for the recovery of the entire listed species (Allison and McLuckie 2018).

Range-wide, densities of adult Mojave desert tortoises declined more than 32% between 2004 and 2014 (Table 1) (USFWS 2015). At the recovery unit level, between 2004 and 2014, densities of adult desert tortoises declined, on average, in every recovery unit except the Northeastern Mojave (Table 1). Adult densities in the Northeastern Mojave Recovery Unit increased 3.1% per year (SE = 4.3%), while the other four recovery units declined at different annual rates: Colorado Desert (–4.5%, SE = 2.8%), Upper Virgin River (–3.2%, SE = 2.0%), Eastern Mojave (–11.2%, SE = 5.0%), and Western Mojave (–7.1%, SE = 3.3%)(Allison and McLuckie 2018). However, the small area and low starting density of the tortoises in the Northeastern Mojave Recovery Unit (lowest density of all Recovery Units) resulted in a small overall increase in the number of adult tortoises by 2014 (Allison and McLuckie 2018). In contrast, the much larger areas of the Eastern Mojave, Western Mojave, and Colorado Desert recovery units, plus the higher estimated initial densities in these areas, explained much of the estimated total loss of adult tortoises since 2004 (Allison and McLuckie 2018).

At the population level, represented by tortoises in the TCAs, densities of 10 of 17 monitored populations of the Mojave desert tortoise declined from 26% to 64% and 11 have densities less than 3.9 adult tortoises per km^2 (USFWS 2015).

Population Data on Mojave Desert Tortoise: The Mojave desert tortoise was listed as threatened under the FESA in 1990. The listing was warranted because of ongoing population declines throughout the range of the tortoise from multiple human-caused activities. Since the listing, the status of the species has changed. Population numbers (abundance) and densities continue to decline substantially (please see Tables 1 and 2).

Table 1. Summary of 10-year trend data for 5 Recovery Units and 17 Critical Habitat Units (CHU)/Tortoise Conservation Areas (TCA) for the Mojave desert tortoise, *Gopherus agassizii* (=Agassiz's desert tortoise). The table includes the area of each Recovery Unit and Critical Habitat Unit (CHU)/Tortoise Conservation Area (TCA), percent of total habitat for each Recovery Unit and Critical Habitat Unit/Tortoise Conservation Areas, density (number of breeding adults/km^2 and standard errors = SE), and the percent change in population density between 2004-2014. Populations below the viable level of 3.9 adults/km^2 (10 adults per mi^2) (assumes a 1:1 sex ratio) and showing a decline from 2004 to 2014 are in red (Allison and McLuckie 2018, USFWS 2015).

Recovery Unit Designated Critical Habitat Unit/Tortoise Conservation Area	Surveyed area (km^2)	% of total habitat area in Recovery Unit & CHU/TCA	2014 density/km^2 (SE)	% 10-year change (2004–2014)
Western Mojave, CA	**6,294**	**24.51**	**2.8 (1.0)**	**–50.7 decline**
Fremont-Kramer	2,347	9.14	2.6 (1.0)	–50.6 decline
Ord-Rodman	852	3.32	3.6 (1.4)	–56.5 decline
Superior-Cronese	3,094	12.05	2.4 (0.9)	–61.5 decline
Colorado Desert, CA	**11,663**	**45.42**	**4.0 (1.4)**	**–36.25 decline**
Chocolate Mtn AGR, CA	713	2.78	7.2 (2.8)	–29.77 decline
Chuckwalla, CA	2,818	10.97	3.3 (1.3)	–37.43 decline
Chemehuevi, CA	3,763	14.65	2.8 (1.1)	–64.70 decline
Fenner, CA	1,782	6.94	4.8 (1.9)	–52.86 decline
Joshua Tree, CA	1,152	4.49	3.7 (1.5)	+178.62 increase
Pinto Mtn, CA	508	1.98	2.4 (1.0)	–60.30 decline
Piute Valley, NV	927	3.61	5.3 (2.1)	+162.36 increase
Northeastern Mojave	**4,160**	**16.2**	**4.5 (1.9)**	**+325.62 increase**
Beaver Dam Slope, NV, UT, AZ	750	2.92	6.2 (2.4)	+370.33 increase
Coyote Spring, NV	960	3.74	4.0 (1.6)	+ 265.06 increase
Gold Butte, NV & AZ	1,607	6.26	2.7 (1.0)	+ 384.37 increase
Mormon Mesa, NV	844	3.29	6.4 (2.5)	+ 217.80 increase
Eastern Mojave, NV & CA	**3,446**	**13.42**	**1.9 (0.7)**	**–67.26 decline**
El Dorado Valley, NV	999	3.89	1.5 (0.6)	–61.14 decline
Ivanpah, CA	2,447	9.53	2.3 (0.9)	–56.05 decline
Upper Virgin River	**115**	**0.45**	**15.3 (6.0)**	**–26.57 decline**
Red Cliffs Desert	115	0.45	15.3 (6.0)	–26.57 decline
Total amount of land	**25,678**	**100.00**		**–32.18 decline**

Density of Juvenile Mojave Desert Tortoises: Survey results indicate that the proportion of juvenile desert tortoises has been decreasing in all five recovery units since 2007 (Allison and McLuckie 2018). The probability of encountering a juvenile tortoise was consistently lowest in the Western Mojave Recovery Unit. Allison and McLuckie (2018) provided reasons for the decline in juvenile desert tortoises in all recovery units. These included decreased food availability for adult female tortoises resulting in reduced clutch size, decreased food availability resulting in increased mortality of juvenile tortoises, prey switching by coyotes from mammals to tortoises, and increased abundance of common ravens that typically prey on smaller desert tortoises.

Declining adult tortoise densities through 2014 have left the Eastern Mojave adult numbers at 33% (a 67% decline of their 2004 levels) (Allison and McLuckie 2018, USFWS 2015). Such steep declines in the density of adults are only sustainable if there are suitably large improvements in reproduction and juvenile growth and survival. However, the proportion of juveniles has not increased anywhere in the range of the Mojave desert tortoise since 2007, and in the Eastern Mojave Recovery Unit the proportion of juveniles in 2014 declined from 14 to 11 percent (a 21% decline) of their representation since 2007 (Allison and McLuckie 2018).

The USFWS and Utah Division of Wildlife Resources have continued to collect density data on the Mojave desert tortoise since 2014. The results are provided in Table 2 along with the analysis USFWS (2015) conducted for tortoise density data from 2004 through 2014. These data show that adult tortoise densities in most Recovery Units continued to decline in density since the data collection methodology was initiated in 2004. In addition, in the Northeastern Mojave Recovery Unit that had shown an overall increase in tortoise density between 2004 and 2014, subsequent data indicate a decline in density since 2014 (USFWS 2016, 2018, 2019, 2020, 2022a, 2022b).

Table 2. Summary of data for Agassiz's desert tortoise, *Gopherus agassizii* (=Mojave desert tortoise) from 2004 to 2021 for the 5 Recovery Units and 17 Critical Habitat Units (CHUs)/Tortoise Conservation Areas (TCAs). The table includes the area of each Recovery Unit and CHU/TCA, percent of total habitat for each Recovery Unit and CHU/TCA, density (number of breeding adults/km^2 and standard errors = SE), and percent change in population density between 2004-2014 (USFWS 2015). Populations below the viable level of 3.9 breeding individuals/km^2 (10 breeding individuals per mi^2) (assumes a 1:1 sex ratio) (USFWS 1994a, 2015) or showing a decline from 2004 to 2014 are in **red.**

Recovery Unit: Designated CHU/TCA &	**% of total habitat area in Recovery Unit & CHU/TCA**	**2004 density/ km^2**	**2014 density/ km^2 (SE)**	**% 10-year change (2004–2014)**	**2015 density/ km^2**	**2016 density/ km^2**	**2017 density/ km^2**	**2018 density/ km^2**	**2019 density/ km^2**	**2020 density/ km^2**	**2021 density/ km^2**
Western Mojave, CA	**24.51**		**2.8 (1.0)**	**–50.7 decline**							
Fremont-Kramer	9.14		2.6 (1.0)	–50.6 decline	4.5	No data	4.1	No data	2.7	1.7	No data
Ord-Rodman	3.32		3.6 (1.4)	–56.5 decline	No data	No data	3.9	2.5/3.4*	2.1/2.5*	No data	1.9/2.5*
Superior-Cronese	12.05		2.4 (0.9)	–61.5 decline	2.6	3.6	1.7	No data	1.9	No data	No data
Colorado Desert, CA	**45.42**		**4.0 (1.4)**	**–36.25 decline**							
Chocolate Mtn AGR, CA	2.78		7.2 (2.8)	–29.77 decline	10.3	8.5	9.4	7.6	7.0	7.1	3.9
Chuckwalla, CA	10.97		3.3 (1.3)	–37.43 decline	No data	No data	4.3	No data	1.8	4.6	2.6
Chemehuevi, CA	14.65		2.8 (1.1)	–64.70 decline	No data	1.7	No data	2.9	No data	4.0	No data
Fenner, CA	6.94		4.8 (1.9)	–52.86 decline	No data	5.5	No data	6.0	2.8	No data	5.3
Joshua Tree, CA	4.49		3.7 (1.5)	+178.62 increase	No data	2.6	3.6	No data	3.1	3.9	No data

Recovery Unit: Designated CHU/TCA	% of total habitat area in Recovery Unit & CHU/TCA	2004 density/ km^2	2014 density/km^2 (SE)	% 10-year change (2004–2014)	2015	2016	2017	2018	2019	2020	2021
Pinto Mtn, CA	1.98		2.4 (1.0)	–60.30 decline	No data	2.1	2.3	No data	1.7	2.9	No data
Piute Valley, NV	3.61		5.3 (2.1)	+162.36 increase	No data	4.0	5.9	No data	No data	No data	3.9
Northeastern Mojave AZ, NV, & UT	**16.2**		**4.5 (1.9)**	**+325.62 increase**							
Beaver Dam Slope, NV, UT, & AZ	2.92		6.2 (2.4)	+370.33 increase	No data	5.6	1.3	5.1	2.0	No data	No data
Coyote Spring, NV	3.74		4.0 (1.6)	+ 265.06 increase	No data	4.2	No data	No data	3.2	No data	No data
Gold Butte, NV & AZ	6.26		2.7 (1.0)	+ 384.37 increase	No data	No data	1.9	2.3	No data	No data	2.4
Mormon Mesa, NV	3.29		6.4 (2.5)	+ 217.80 increase	No data	2.1	No data	3.6	No data	5.2	5.2
Eastern Mojave, NV & CA	**13.42**		**1.9 (0.7)**	**–67.26 decline**							
El Dorado Valley, NV	3.89		1.5 (0.6)	–61.14 decline	No data	2.7	5.6	No data	2.3	No data	No data
Ivanpah Valley, CA	9.53		2.3 (0.9)	–56.05 decline	1.9	No data	No data	3.7	2.6	No data	1.8

Recovery Unit: Designated CHU/TCA	% of total habitat area in Recovery Unit & CHU/TCA	2004 density/ km^2	2014 density/km^2 (SE)	% 10-year change (2004–2014)	2015	2016	2017	2018	2019	2020	2021
Upper Virgin River, UT & AZ	**0.45**		**15.3 (6.0)**	**–26.57 decline**							
Red Cliffs Desert**	0.45	29.1 (21.4-39.6)**	15.3 (6.0)	–26.57 decline	15.0	No data	19.1	No data	17.2	No data	
Range-wide Area of CHUs - TCAs/Range-wide Change in Population Status	**100.00**			**–32.18 decline**							

*This density includes the adult tortoises translocated from the expansion of the MCAGCC, that is resident adult tortoises and translocated adult tortoises.

**Methodology for collecting density data initiated in 1999.

Abundance of Mojave Desert Tortoises: Allison and McLuckie (2018) noted that because the area available to tortoises (i.e., tortoise habitat and linkage areas between habitats) is decreasing, trends in tortoise density no longer capture the magnitude of decreases in abundance. Hence, they reported on the change in abundance or numbers of the Mojave desert tortoise in each recovery unit (Table 2). They noted that these estimates in abundance are likely higher than actual numbers of tortoises, and the changes in abundance (i.e., decrease in numbers) are likely lower than actual numbers because of their habitat calculation method. They used area estimates that removed only impervious surfaces created by development as cities in the desert expanded. They did not consider degradation and loss of habitat from other sources, such as the recent expansion of military operations (753.4 km^2 so far on Fort Irwin and the Marine Corps Air Ground Combat Center), intense or large scale fires (e.g., 576.2 km^2 of critical habitat that burned in 2005), development of utility-scale solar facilities (as of 2015, 194 km^2 have been permitted) (USFWS 2016), or other sources of degradation or loss of habitat (e.g., recreation, mining, grazing, infrastructure, etc.). Thus, the declines in abundance of Mojave desert tortoise are likely greater than those reported in Table 3.

Habitat Availability: Data on population density or abundance does not indicate population viability. The area of protected habitat or reserves for the subject species is a crucial part of the viability analysis along with data on density, abundance, and other population parameters. In the Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994a), the analysis of population viability included population density and size of reserves (i.e., areas managed for the desert tortoise) and population numbers (abundance) and size of reserves. The USFWS Recovery Plan reported that as population densities for the Mojave desert tortoise decline, reserve sizes must increase, and as population numbers (abundance) for the Mojave desert tortoise decline, reserve sizes must increase (USFWS 1994a). In 1994, reserve design (USFWS 1994a) and designation of critical habitat (USFWS 1994b) were based on the population viability analysis from numbers (abundance) and densities of populations of the Mojave desert tortoise in the early 1990s. Inherent in this analysis is that the lands be managed with reserve level protection (USFWS 1994a, page 36) or ecosystem protection as described in section 2(b) of the FESA, and that sources of mortality be reduced so recruitment exceeds mortality (that is, lambda > 1)(USFWS 1994a, page C46).

Table 3. Estimated change in abundance of adult Mojave desert tortoises in each recovery unit between 2004 and 2014 (Allison and McLuckie 2018). Decreases in abundance are in red.

Recovery Unit	Modeled Habitat (km^2)	2004 Abundance	2014 Abundance	Change in Abundance	Percent Change in Abundance
Western Mojave	23,139	131,540	64,871	-66,668	-51%
Colorado Desert	18,024	103,675	66,097	-37,578	-36%
Northeastern Mojave	10,664	12,610	46,701	34,091	270%
Eastern Mojave	16,061	75,342	24,664	-50,679	-67%
Upper Virgin River	613	13,226	10,010	-3,216	-24%
Total	**68,501**	**336,393**	**212,343**	**-124,050**	**-37%**

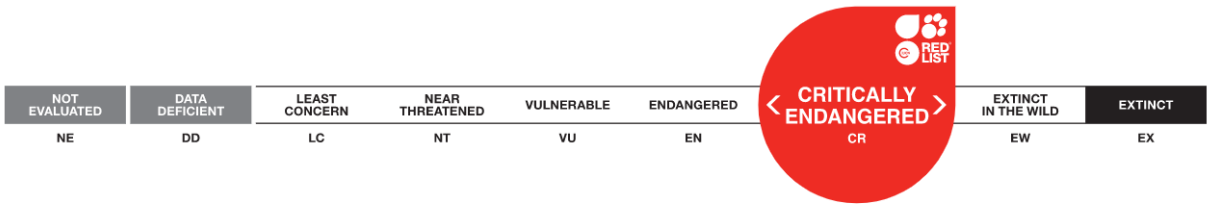
Habitat loss would also disrupt the prevailing population structure of this widely distributed species with geographically limited dispersal (isolation by resistance Dutcher et al. 2020). Allison and McLuckie (2018) anticipate an additional impact of this habitat loss/degradation is decreasing

resilience of local tortoise populations by reducing demographic connections to neighboring populations (Fahrig 2007). Military and commercial operations and infrastructure projects that reduce tortoise habitat in the desert are anticipated to continue (Allison and McLuckie 2018) as are other sources of habitat loss/degradation.

Allison and McLuckie (2018) reported that the life history of the Mojave desert tortoise puts it at greater risk from even slightly elevated adult mortality (Congdon et al. 1993; Doak et al. 1994), and recovery from population declines will require more than enhancing adult survivorship (Spencer et al. 2017). The negative population trends in most of the TCAs for the Mojave desert tortoise indicate that this species is on the path to extinction under current conditions (Allison and McLuckie 2018). They state that their results are a call to action to remove ongoing threats to tortoises from TCAs, and possibly to contemplate the role of human activities outside TCAs and their impact on tortoise populations inside them.

Densities, numbers, and habitat for the Mojave desert tortoise declined between 2004 and 2014 and densities continue to decline in most Recovery Units since 2014. As reported in the population viability analysis, to improve the status of the Mojave desert tortoise, reserves (area of protected habitat) must be established and managed. When densities of tortoises decline, the area of protected habitat must increase. When the abundance of tortoises declines, the area of protected habitat must increase. We note that the Desert Tortoise (Mojave Population) Recovery Plan was released in 1994 and its report on population viability and reserve design was reiterated in the 2011 Revised Recovery Plan as needing to be updated with current population data (USFWS 2011, p. 83). With lower population densities and abundance, a revised population viability analysis would show the need for greater areas of habitat to receive reserve level of management for the Mojave desert tortoise. In addition, we note that none of the recovery actions that are fundamental tenets of conservation biology has been implemented throughout most or all of the range of the Mojave desert tortoise.

IUCN Species Survival Commission: The Mojave desert tortoise is now on the list of the world's most endangered tortoises and freshwater turtles. It is in the top 50 species. The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers Mojave desert tortoise to be Critically Endangered (Berry et al. 2021). As such, it is a "species that possess an extremely high risk of extinction as a result of rapid population declines of 80 to more than 90 percent over the previous 10 years (or three generations), a current population size of fewer than 50 individuals, or other factors." It is one of three turtle and tortoise species in the United States to be critically endangered. This designation is more grave than endangered.



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DESERT TORTOISE COUNCIL
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Via email only

13 September 2022

Attn: Ms. Jessica Headen
Bureau of Land Management
Southern Nevada District Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130
BLM_NV_SND_EnergyProjects@blm.gov, jheaden@blm.gov

RE: Townsite Solar 2 Project

Dear Ms. Headen,

The Desert Tortoise Council (Council) is a non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council routinely provides information and other forms of assistance to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.

As of June 2022, our mailing address has changed to:

Desert Tortoise Council
3807 Sierra Highway #6-4514
Acton, CA 93510

Our email address has not changed. Both addresses are provided above in our letterhead for your use when providing future correspondence to us.

First, we would like to thank you and the Bureau of Land Management (BLM) for contacting the Council directly via email on 12 August 2022 providing us this opportunity to comment on the above-referenced project. Given the location of the proposed project in habitats that may be

occupied by Mojave desert tortoise (*Gopherus agassizii*) (synonymous with Agassiz's desert tortoise), our comments pertain to enhancing protection of this species during activities funded, authorized, or carried out by the BLM, which we assume will be added to the Decision Record for this project if it is developed. Please accept, carefully review, and include in the relevant project file the Council's following comments and attachments for the proposed project.

In the press release for this action, dated 12 August 2022, we read the following, which leads us to believe that the BLM is seeking *scoping comments* for this potential project: "As we take the next steps in evaluating the application for the Townsite Solar 2 Project, we look forward to input from the public and our partners in local, state, federal and Tribal governments," said Shonna Dooman, Las Vegas Field Office Manager. "Input we receive provides critical information to support BLM's review as we decide how to move forward with this right-of-way application to ensure that we can help meet the nation's needs for renewable energy while we continue to sustain the health, diversity and productivity of public lands." And "The information forum is being held as part of the solar application evaluation process and information gathered during the public input period will inform BLM's determination on whether to continue to process or to deny the Townsite Solar 2 Project right-of-way application."

The Mojave desert tortoise is among the top 50 species on the list of the world's most endangered tortoises and freshwater turtles. The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers the Mojave desert tortoise to be Critically Endangered (Berry et al. 2021), as it is a "species that possess an extremely high risk of extinction as a result of rapid population declines of 80 to more than 90 percent over the previous 10 years (or three generations), population size fewer than 50 individuals, other factors." It is one of three turtle and tortoise species in the United States to be critically endangered. This status, in part, prompted the Council to join Defenders of Wildlife and Desert Tortoise Preserve Committee (Desert Tortoise Council 2020) to petition the California Fish and Game Commission in March 2020 to elevate the listing of the Mojave desert tortoise from threatened to endangered in California.

Comments Specific to the Plan of Development: Unless otherwise noted, the following page numbers reference the "Plan of Development, Skylar Energy Resources LLC, Townsite Solar 2 Project," prepared by the BLM, and dated May 22, 2022 (herein "POD"). We note in Section 1.2 on page 14 that the 9th bullet indicates that a "Desert tortoise exclusion fencing around the Project perimeter" will be installed. Please be sure that the fence follows the specifications given on pages 8-4 and 8-5 of the U.S. Fish and Wildlife Service (USFWS) Field Manual (USFWS 2009).

Section 5.4.1 on page 46 includes the following mitigation measure: "If trenches are needed, trenches would have tortoise escape ramps built to USFWS standards placed at least every 1 mile." It follows current management to have open trenches checked a minimum of three times per day (more frequent checks are advisable). Is has been our experience that if escape ramps are to be used, intervals of 300-to-500 feet are appropriate; certainly, escape ramps at one-mile intervals are too far apart. In fact, open trenches that are that long tend to entrap numerous animals, not just tortoises, and should be avoided; backfilling immediately after pipe placement is the recommended approach.

We concur that the five bulleted mitigation measures listed on page 46 are a good start. However, we expect that the BLM will significantly supplement this abbreviated list with numerous other stipulations that reflect current management. Some of these additional, standard protection measures include: delineating the impact area and restricting all impacts to that area; prohibiting pets and firearms on the site; identifying local qualified veterinarian(s) in case tortoises are harmed and identifying procedures to report tortoises accidentally injured or killed; implementing measures intended to minimize attraction of tortoise predators, including common ravens and coyotes, to the site by avoiding ponding of water and disposing of all food and trash items in containers with lids. These are a few of the protective measures that BLM should identify along with any others typically required in USFWS biological opinions and BLM stipulations.

General Scoping Comments for the Future Environmental Document: We assume that the appropriate National Environmental Policy Act (NEPA) document for this project will be an Environmental Assessment (EA), and ask that as an affected interest, the Council be provided with a copy of that document upon its release.

Although the POD anticipates performing tortoise surveys within a perimeter fence, we believe that the EA should be developed based on the best available information, which requires that a protocol presence/absence survey (USFWS 2019) be performed *before* any fencing activities. Then, if tortoise sign is found, a clearance survey should be performed within the fenced area, which requires that transects are surveyed at 5-meter intervals and that if tortoises are found during the second pass, a third survey is warranted (see Chapter 6 of USFWS 2009).

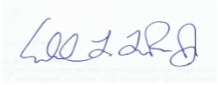
Although not mentioned elsewhere, the note in Section 5.3 on page 45 referencing the Solar Programmatic Environmental Impact Statement Record of Decision (therein, "Solar PEIS ROD (BLM 2012"), suggests that the Townsite Solar 2 Project is subject to stipulations, restrictions, and guidelines set forth in the 2012 ROD.

On 12 August 2022, the Council submitted a comment letter to Ms. Angelita Bullets, Energy & Infrastructure Team of the BLM's Pahrump Field Office, entitled "Proposed Solar Energy Development on Public Lands in Northwest Area of Pahrump Field Office[1]." That letter is herein incorporated by reference, provided in the footnote, and provided as a separate attachment to this letter. Beginning on page 2 with the subheading, "Scoping Comments," and ending on page 18, the Council lists requisite components of future environmental documents, which are applicable to the current project and should be applied to the project-related environmental document.

We appreciate this opportunity to provide comments on this project and trust they will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Desert Tortoise Council wants to be identified as an Affected Interest for this and all other projects funded, authorized, or carried out by the BLM that may affect species of desert tortoises, and that any subsequent environmental documentation for this project is provided to us at the contact information listed above. Additionally, we ask that you respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this project.

[1] https://www.dropbox.com/s/543ibywgme8ck4x/Solar%20Development%20in%20BLM%E2%80%99s%20Pahrump%20Field%20Office%20Area.8-12-2022.pdf?dl=0

Respectfully,



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Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson

Literature Cited

Berry, K.H., L.J. Allison, A.M. McLuckie, M. Vaughn, and R.W. Murphy. 2021. *Gopherus agassizii*. The IUCN Red List of Threatened Species 2021: e.T97246272A3150871. https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T97246272A3150871.en

BLM, 2012. Approved Resource Management Plan Amendments/Record of Decision (ROD) for Solar Energy Development in Six Southwestern States. October 2012. [solareis.anl.gov/documents/docs/Solar_PEIS_ROD.pdf].

Desert Tortoise Council. 2020. A Petition to the State of California Fish and Game Commission to change the status of *Gopherus agassizii* from Threatened to Endangered. Formal petition submitted on 11 March 2020.

[USFWS] U.S. Fish and Wildlife Service. 2009. Desert Tortoise (Mojave Population) Field Manual: (*Gopherus agassizii*). Region 8, Sacramento, California.

Attachment

Desert Tortoise Council. 2022. Proposed Solar Energy Development on Public Lands in Northwest Area of Pahrump Field Office. Formal scoping comment letter submitted to Ms. Angelita Bullets, Energy & Infrastructure Team of the Pahrump office of the BLM on 12 August 2022.