

From: [John Robertson](#)
To: lucernesolar@blm.gov
Subject: 45 MW thin film PV project in Lucerne Valley
Date: 09/23/2009 09:58 AM

Hi,

My name is John Robertson, and I am an equity research analyst with Pacific Crest Securities. I was hoping to speak with Greg Thomsen, the project manager for the Lucerne Valley solar PV project.

Could you please pass along his contact info please, or have him reach out to me either with an e-mail or by phone. My number is 503-790-7768.

Thanks so much.

Best,

John

John Robertson | Pacific Crest Securities | Research Associate | jrobertson@pacific-crest.com | 503.790.7768

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Pacific Crest's Privacy Policy can be seen by clicking [here](#).

From: [Matt McPherson](#)
To: LucerneSolar@blm.gov
Subject: Bidding process
Date: 07/21/2009 09:48 AM

I would like to offer up my companies services for bidding on the Lucerne Valley Solar Project.

Please contact me regarding the bidding process and how HelioPower can be involved.

Please check out our website for some of our recent commercial size installations.

www.heliopower.com

thank you,

Matt McPherson

Energy Consultant
Office: 760-272-0131
Cell: 310-938-0949
Fax: 951-677-9559

<http://www.heliopower.com>



From: [Claudia Sall](#)
To: lucernesolar@blm.gov
Subject: chevron energy solutions
Date: 08/03/2009 01:01 PM

greg

i attended the scoping meeting for the chevron energy solution's project in lucerne valley last week. i would like to continue following this project as well as others in the johnson valley. i was disappointed that the agenda did not include a spot for q&a session. questions were relegated to being casually posed before and after the presentation, and hence did not make it into the record. perhaps a spot should be included before the comment period which would make the comment period more effective. maybe in the past the q&a session has not had a spot on the agenda, but the recent planning and scoping meetings i have attended have not included question and answers on the record.

i have some questions about the chevron that i need answered:

- what is the nature of the cdca amendment?
- what is the present load on the 33kv line?
- since the combined phases will need 45,000 kv of transmission capacity, how will that upgrade be addressed. i heard a lot of probables, but as these projects are not planned in a vacuum, there must be a plan of how this will be accomplished, i.e. if there is a request into sce for upgrading this line, does that mean just re-stringing?
- does the ROW application include transmission upgrade?
- how is the water being provided? does the row include well-drilling? if so, will these wells be metered?

are these projects being processed out of moreno valley rather than barstow?
please advise me who are the project managers and what are their email addresses?

there are two applications for wind projects in the pioneertown area, CACA 48629 & CACA 48689. i am interested in knowing what is happening with these projects and would also like to be on the contact list for those projects and would like to know the office that is processing them and their project managers' names & email addresses.

From: [Cynthia Harty](mailto:Cynthia.Harty@e2managetech.com)
To: lucernesolar@blm.gov
Subject: Chevron Energy Solutions Lucerne Valley
Date: 10/06/2009 03:38 PM
Attachments: [E2_ManageTech SOQ.pdf](#)

Attn: Greg Thomsen

Dear Mr. Thomsen,

I am hoping I can schedule a time to talk with you about the Chevron Energy Solutions Project slated for Lucerne Valley. Although E2 ManageTech (E2) is located in Long Beach, we have staff that live in the High Desert. My particular interest is that I am familiar with the land in question. I lived in Lucerne Valley for over 14 years. I am familiar with the history of the land as well as the neighbors to the north of the proposed site. Jo Richards is a close friend. I would like very much to involve E2 in the energy projects scheduled for this area. I am currently scheduled to do public outreach on another project which the BLM is involved in.

E2 ManageTech, is headquartered in Long Beach, California, with branch offices located in San Diego, Austin, Texas, and Philadelphia, Pennsylvania as well as staff in several other locations throughout the U.S. We have worked with companies in a wide range of industries including local municipalities, State government, pharmaceutical and biotechnology, power generation and public utilities, pipelines, auto manufacturing. Some companies we have worked for include LADWP, LACDPW, AES, NRD, DTSC, as well as the Ports of Los Angeles, and Long Beach.

I am hoping you might be able to chat with me, for just few minutes, regarding this project. If you are not the correct person to speak to regarding this project, please tell me who I can contact. I appreciate your time and assistance. Please feel free to contact me at the telephone number provided or by e-mail if you would rather.

In the mean time, please feel free to visit our web site at www.e2managetech.com.

Thank you so much, and I look forward to talking with you!

Cynthia J. Harty
E2 ManageTech, Inc.
562-740-1071 phone
562-740-1070 fax
Charty@e2managetech.com

Premier management, technology and engineering-based solutions to optimize environmental, redevelopment and health & safety performance.

E2 ManageTech, Inc. (E2) is a certified Small Business Enterprise (SBE) environmental and engineering consulting firm that provides the expertise and experience for superior management, technology and engineering-based approaches to address numerous diverse and challenging environmental, health & safety issues. E2's client base consists of a unique balance of local, state and federal government/municipalities as well as several private sector notables. Offering a total of 18 years of business history, our 50+ employees are located in three major metropolitan areas: throughout Southern California from San Diego to Los Angeles to the Inland Empire: Austin, Texas: and Philadelphia, Pennsylvania. E2 is comprised of three business practices: Site Assessment and Remediation (SAR), Environmental Compliance and Documentation (ECD), and Environmental Management Information Systems (EMIS). E2 offers clients an extensive array of environmental engineering and related science services, program/project management resources and a greater depth of available expertise.

Core service areas include:

- ② Development/Redevelopment
- ② Site Assessment/Investigation
- ② Remediation System Installation and Optimization
- ② Environmental Compliance Documentation
- ② Due Diligence
- ② Multi-Media Compliance
- ② Environmental Management Information Systems

DEVELOPMENT/REDEVELOPMENT (E.G., BROWNFIELDS, SITE SELECTION/EVALUATION)

In order to redevelop properties underutilized due to environmental contamination and city blight, E2 provides development and redevelopment services including Brownfield grant applications, Brownfield area-wide assessments, and Brownfield grant program management. Our grant writing service has won clients over \$350,000 in State and Federal Brownfield grants. E2 has partnered with the USEPA in a Brownfield area-wide assessment to create an inventory of selected sites environmental hazards and develop a plan to remediate and redevelop the neighborhood. As part of our Brownfield grant program management, E2 optimizes grant funding to focus on the best

redevelopment opportunities. E2 has extensive experience with community outreach by involving the local community, business owners, and interested parties of the redevelopment activities.

SITE ASSESSMENT/INVESTIGATION

Concern on the part of lenders, developers, buyers, and/or owners regarding the acquisition, divestiture, or ownership of property that may be contaminated has resulted in the performance of Phase I Environmental Site Assessments (ESAs) as a prerequisite to any major property transaction.



The key to Phase I ESAs, especially multi-site transactions, is the implementation of a streamlined methodical process. E2 approaches ESAs in stages and offers evaluation services that supplement ESAs. The result is cost-effective ESAs that are tailored to each client's environmental situation.

E2 conducts Phase II environmental site investigations (SI) to identify the nature and extent of contamination at a site. The SI could include preparing a remedial action plan, cost estimates, human health risk assessment, soil vapor survey, drilling to assess the extent of soil and groundwater contamination, indoor air modeling, and negotiating with regulatory agencies. E2 addresses the best solution to meet the clients' needs and expectations.

REMEDIATION SYSTEM INSTALLATION AND OPTIMIZATION

E2 has successfully conducted remedial investigations and remedial designs, and has overseen clean-up actions at various sites, including active and abandoned waste sites, landfills, aboveground and underground storage tank sites, and chemical and petroleum processing facilities. E2 has installed remediation systems such as bioremediation, dual phase extraction, groundwater extraction, soil vapor extraction, and vacuum enhanced free product systems. E2 develops cost-effective remediation strategies aimed at closure through reduction of risks to human health and the environment, as well as mitigation of short-term and long-term liabilities.

Every site has unique clean-up goals and budgetary challenges. There are always opportunities to reduce

site operation costs and schedule throughout the remediation process. E2 employs a four-step process called integrated remediation optimization strategy (iROS) creating solutions through automation and information technology (A&IT) that dramatically improve remediation system performance. iROS solutions may include:

- ② Leveraging automation to remotely optimize equipment performance and data collection
- ② Improve workflow through application of Information Technology and business intelligence tools
- ② Development/refinement of site specific tools to provide real time data monitoring to make educated decisions to optimize system performance

ENVIRONMENTAL COMPLIANCE DOCUMENTATION (E.G., CEQA/NEPA, SUSTAINABILITY, ETC.)

E2 prepares environmental compliance documentation including California Environmental Quality Act (CEQA) and National Environmental Policy Act of 1969 (NEPA) documents; cultural and biological resource assessments; habitat migration and monitoring plans; federal and California Endangered Species Act compliance; regulatory permitting; and technical studies necessary for CEQA/NEPA and regulatory compliance. Our environmental documentation demonstrates E2 personnel's professional experience and environmental compliance expertise.

DUE DILIGENCE (E.G., H&S REVIEWS, AUDITS, RISK ANALYSIS, ETC.)

Industrial, commercial, and construction sites typically are required to comply with numerous regulatory programs that have been established by Federal, State, and Local regulatory agencies. These programs include spill pollution prevention and control, emergency preparedness and spill response, and emissions/discharge reporting. Failure to comply with regulatory requirements can lead to fines and possibly civil and criminal penalties, which may result in curtailment of production and revenues.

E2 has an exceptional reputation of always delivering our services within the context of our client's needs and priorities. This dedicated service-oriented business model and complimentary product offerings present unique solutions for existing and future clients.

MULTI-MEDIA COMPLIANCE (E.G., PERMITTING, GHG, SPCCP, SWPPP, ETC.)

E2 brings expertise in helping industry demonstrate compliance with the voluntary and mandatory greenhouse gas (GHG) reporting requirements. As a leader in the planning, design, and deployment of environmental management information systems (EMIS), E2 brings specialized expertise in utilizing EMIS systems to track and report GHG metrics. E2 can expand your existing EMIS system to capture GHG sources, such as energy use by a facility or individual source. EMIS systems facilitate consistent methods for data collection to preserve data integrity and defensible metrics for GHG reporting.

Additionally, E2 prepares regulatory permitting applications such as air emissions permits, Clean Water Act Section 404 permits, and NPDES permits. E2 prepares and provides oversight for storm water pollution prevention plans (SWPPP) and spill prevention, control and countermeasures (SPCC) plans.

ENVIRONMENTAL MANAGEMENT INFORMATION SYSTEMS

E2 integrates information technology innovations to optimize Environmental Health and Safety (EH&S) performance. Our core purpose is to provide innovative solutions and unparalleled service to our clients as they pursue EH&S excellence.

E2's foundation began in the implementation of EH&S management information system (MIS). We have developed an **extensive array of tools, processes and methodologies** to enable EH&S MIS designs and implementations. Additionally, our company is completely software-neutral. We do not develop or sell any proprietary applications, nor financially aligned with any software vendors at any level of our company. We provide an independent analysis of software packages to best meet our clients' specific requirements. E2 has unrivaled experience in leveraging technology to support sustainable EH&S solutions.



From: [Merry Tondro](#)
To: lucernesolar@blm.gov
Subject: Chevron Lucerne Valley project question
Date: 08/29/2009 03:39 PM

Hello,

I was interested in learning more about this project and possibly submitting comments to the BLM. However, I can't seem to locate any application materials online other than the Notice of Intent. Where would I find the initial submission by the applicant so that I can learn more about the project?

Thank you!

Regards,
Merry Tondro

From: [Alice Bond](#)
To: lucernesolar@blm.gov
Cc: [Alex Daue](#)
Subject: Chevron Lucerne Valley Solar Project Comments
Date: 08/21/2009 04:31 PM
Attachments: [TWS Scoping Comments Chevron Lucerne.pdf](#)

Please find the attached scoping comments for the Lucerne Valley Solar Project.

Thank you,

Alice Bond
California/Nevada Regional Office
The Wilderness Society
655 Montgomery St., Ste 1000
San Francisco, CA 94111
Office: 415.398.1111 ext. 103

To protect wilderness and inspire Americans to care for our wild places

August 21, 2009

Delivered via electronic mail (lucernesolar@blm.gov) and U.S. mail.

Greg Thomsen, Project Manager
CA Desert District Office
Bureau of Land Management
22835 Calle San Juan de Los Lagos
Moreno Valley, CA 92553-9046

Re: Scoping comments on the Lucerne Valley Solar Project

Dear Mr. Thomsen,

Please accept and fully consider these comments on the Lucerne Valley Solar Project on behalf of The Wilderness Society.

The mission of The Wilderness Society is to protect wilderness and inspire Americans to care for our wild places. We have worked for more than 70 years to maintain the integrity of America's wilderness and public lands and ensure that land management practices are sustainable and based on sound science to ensure that the ecological integrity of the land is maintained. With more than half a million members and supporters nation-wide, TWS represents a diverse range of citizens.

It is clear that the nation's growing addiction to fossil fuels, coupled with the unprecedented threats brought about by global warming, imperil the integrity of our wildlands as never before. To sustain both our wildlands and our human communities, The Wilderness Society believes the nation must transition away from fossil fuels as quickly as possible. To do this, we must eliminate energy waste, moderate demand through energy efficiency, conservation, and demand-side management practices, and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale.

Our public lands harbor substantial wind, solar, and geothermal resources. Developing some of these resources will be important to creating a sustainable energy economy and combating climate change, and The Wilderness Society supports such responsible development of renewable energy. Renewable resource development is not appropriate everywhere on the public lands, however, and development that does occur on the public lands must take place in a responsible manner.

Continue to Improve the Process

In general, as your agency, the Bureau of Land Management (BLM), processes applications for solar development on public lands, we urge you to continue to improve the process. Among the areas where additional guidance is needed are: incorporating additional Best Management Practices (BMPs), refining the Right of Way (ROW) application process to properly address the differences between solar development and

other uses of ROWs, and incorporating recommendations from ongoing transmission planning. In general, BLM should prioritize and help guide renewable energy development toward land that has already been developed for industrial, agricultural, or other intensive human uses which are close to existing transmission over ecologically-intact public lands.

Our organization supports and is actively engaged in a number of multi-stakeholder processes aimed at identifying environmentally appropriate areas for solar energy development in California and the West, including the California Renewable Energy Transmission Initiative (RETI), the Western Governors' Association's Western Renewable Energy Zone process, and the BLM's plan to develop a Programmatic Environmental Impact Statement on Solar Energy. We urge you to incorporate the work of these processes as you move forward with permitting solar energy projects in the desert.

In addition, our organizations have worked with other members of the environmental community in California to develop criteria for use in identifying appropriate areas for development in the CDCA as well as a vision for both the kind of planning and the kind of plan needed to protect the desert's remarkable resources while addressing the climate challenge effectively. Fundamentally, success in selecting appropriate areas and achieving the over-arching objective which we all share will require an unprecedented degree of state and federal cooperation as well as close collaboration with our community. This Environmental Impact Statement prepared in cooperation with tribal, state and local governments is a key step in the kind of cooperation we envision, but it is not sufficient alone. Given what is at stake, such cooperation is unquestionably warranted and it is our hope that the identification and application of these criteria will contribute to that result.

The criteria, which are attached, are designed to help guide renewable development, principally solar development, to appropriate locations. More specifically, the criteria are intended to inform current and future planning processes and to provide ecosystem level protection to the CDCA (including public, private and military lands) by giving preference for development to disturbed lands, steering development away from lands with high environmental values, and protecting the desert's undeveloped cores. Developed with input from field scientists, land managers and conservation professionals, the criteria in essence seek to steer renewable energy projects to areas with comparatively low potential for conflict and controversy in order to facilitate their timely development. In other words, the "message" the criteria are intended to deliver is that to expedite development, avoid areas that will generate significant controversy.

The environmental community will be employing the criteria in reviewing "fast-track" energy projects such as the Lucerne Valley Solar Project, as well as in reviewing proposed solar energy study areas and we encourage your agencies to do so as well. "Fast-track" projects are those which may be able to qualify for stimulus funding through the American Recovery and Reinvestment Act of 2009 by breaking round by December, 2010. Because of the significant timing challenges facing projects seeking permits under

such a short timeframe, it is especially important that these projects be screened for characteristics conducive to solar development and potentially difficult or controversial issues. Use of the attached criteria, as well as other screens, will allow your agencies to realistically assess the feasibility of getting projects permitted and “shovel ready” by December, 2010. A realistic assessment of “shovel ready” viability will allow for better allocation of limited agency resources to those projects with the highest likelihood for success.

At the same time, however, we believe it is urgent that BLM work together with stakeholders to develop as quickly as possible a comprehensive approach to evaluating future projects that will ensure that the most appropriate sites for development are utilized while more sensitive sites are protected and preserved. Rather than proceed on a project by project basis in the future, we support a more comprehensive approach to the siting of these projects, the identification of areas appropriate for development, and the prioritization of already disturbed areas. We urge that you begin developing this approach as promptly as possible and would be pleased to help in any way we could.

I. RELATIVE SUITABILITY OF PROJECT PROPOSAL SITE

The Lucerne Valley Solar Project proposal site has both elements conducive to the proposed solar development and issues which will need to be addressed in the agencies’ analysis. The sections below outline those characteristics and make recommendations for addressing them.

California Solar Energy Siting Criteria

As indicated above, Lucerne Valley Solar Project has been identified by BLM as a “fast track” project. In reviewing this project, conservation groups will be applying the criteria they developed in addition to considering the issues identified by the agencies and through review of the applicant’s documents. Some groups may submit results of this analysis during scoping; we and others may submit results at later date. The agencies would do well to apply these criteria themselves, as well as incorporating the analyses of the groups when they are made available. This is particularly important considering the tight timetable applicable to this project.

Characteristics Conducive to Utility-Scale Solar Development

Like other environmental and conservation groups and as stated above, we believe that solar (and other renewable) development in the CDCA should be steered away from unique and sensitive areas, from the region’s undeveloped core, and from lands that are not adjacent to transmission and other needed infrastructure.

The site does not contain designated sensitive and protected areas such as Areas of Critical Environmental Concern, nor has been it been proposed by citizens for designation as wilderness.

The site does have high value solar resources and is close to major infrastructure, private land, and other developments, as well as existing transmission and existing roads.

All of these attributes contribute to the possibility that development of a commercial scale solar facility on this site could result in an overall benefit in limiting the negative impacts of climate change on public lands by decreasing the amount of greenhouse gas emissions from electricity production.

Resource Concerns

There are number of resources on the site that require an in-depth analysis of the impacts of the proposed project and development of a comprehensive impacts minimization and mitigation strategy.

The project site is relatively undisturbed and includes a wash coming down from the San Bernardino Mountains. In addition, the area provides opportunities for horseback riding, hiking, wash walking, and wildflower viewing. Development of such a site requires further study to ensure that other values will not be unacceptably impacted, as well as careful consideration of alternative configurations and alternative sites in the forthcoming federal/state environmental review.

Through the permitting process, BLM and Chevron Energy Solutions may be able to develop this project in a way that supports climate change goals while adequately minimizing and mitigating impacts.

A. Biological Resources

“The DEIS should identify all petitioned and listed threatened and endangered species and critical habitat that might occur within the project area. The document should identify and quantify which species or critical habitat might be directly, indirectly, or cumulatively affected by each alternative and mitigate impacts to these species. Emphasis should be placed on the protection and recovery of species due to their status or potential status under the Endangered Species Act (ESA). The DEIS should include a biological assessment, as well as a description of the outcome of consultation with the U.S. Fish and Wildlife Service under Section 7 of the ESA. Analysis of impacts and mitigation on covered species should include:

- Baseline conditions of habitats and populations of the covered species;
- A clear description of how avoidance, mitigation and conservation measures will protect and encourage the recovery of the covered species and their habitats in the project area;
- Monitoring, reporting and adaptive management efforts to ensure species and habitat conservation effectiveness.

The DEIS should indicate what measures will be taken to protect important wildlife habitat areas from potential adverse effects of proposed covered activities. We encourage

habitat conservation alternatives that avoid and protect high value habitat and create or preserve linkages between habitat areas to better conserve the covered species.”¹

Desert Tortoise

The desert tortoise (*Gopherus agassizii*) is protected under federal and state Endangered Species Acts as “threatened” (USFWS 2006). Despite the listing and attention the species receives for recovery and conservation efforts, populations continue to experience decline due to the cumulative impact of human-based stressors.

There are documented occurrences of desert tortoise in the project area. The applicant would be required to relocate any desert tortoise found in the area of potential effect. Identifying relocation habitat can be a complex task, and relocation can impact individual tortoises or entire recovery units. In addition, the applicant would be required to provide mitigation in the form of habitat protection through acquisition and permanent conservation of those lands.

Recommendation: The BLM should prioritize protection of species in the project proposal area by further analyzing potential impacts and developing Best Management Practices and steps to minimize and mitigate any unavoidable impacts.

B. Cultural Resources

The BLM must adequately evaluate the environmental consequences of the proposed project on historic resources. They must address cultural resource issues in the DEIS. The NEPA regulations recognize that impacts to cultural resources such as historic properties and “scientific resources” can comprise a significant impact on the environment. 40 CFR 1508.27(b)(3),(8). Additionally, BLM must analyze the direct, indirect, and cumulative impact of each alternative on areas of importance to local Tribes and areas of high cultural site density.

Additionally, we urge BLM to begin the Section 106 process under the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f, because the project may impact historic properties. The requirements of NHPA are separate from NEPA’s requirements, although the Section 106 regulations encourage federal agencies to coordinate the two processes. See 36 C.F.R. § 800.2(a)(4). Proper coordination of the NHPA and NEPA compliance actions is necessary to ensure that adverse effects to historic properties are adequately considered pursuant to the Section 106 regulations, 36 C.F.R. § 800, *et seq.* Proper coordination with Native American tribes will be a central component of the consultation process.

¹ July 7, 2009 letter from the EPA to the BLM and CEC on the: Notice of Intent to Prepare an Environmental Impact Statement/Staff Assessment and Proposed Land Use Plan Amendment for the Proposed SES Solar One Project, San Bernardino County, California (here in after referred to as “July 7, 2009 letter”). Found at http://www.energy.ca.gov/sitingcases/solarone/documents/others/2009-07-07_Scoping_Comments_from_US_EPA_TN-52483.pdf.

Recommendation: BLM should prioritize protection of the area's cultural resources, including study of the area's resources, development of strategies to minimize and mitigate impacts, and ongoing engagement in consultation with local Native American tribes.

C. Soil Resources

Impacts to soil resources are one of the most challenging issues for solar projects proposed in the desert. As seen in the ongoing permitting process for the proposed Ivanpah Solar Energy Generating System, development of adequate drainage, erosion and sediment control plans is a complicated, time consuming and challenging task. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that both the project applicant and the agency dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Recommendation: Chevron Energy Solutions and BLM should dedicate adequate time and resources early in the process to addressing soil resources issues adequately, including through the preparation of a detailed drainage, erosion and sediment control plan that addresses these potential impacts and provides mitigation measures that will render these hazards to a level less than significant.

D. Water Resources

Water is a limited resource in the desert southwest, and any project proposal should fully analyze the water needs and identify sources to meet those needs. However water use for the project will be much less than for other solar technologies, minimizing its impact to water resources compared to alternative technologies.

Recommendation: BLM should gather additional information to confirm that the water needed for the Lucerne Valley Solar Project will be available as well as that the source of the needed water will conform to all laws, ordinances, regulations and standards (LORS).

E. Visual Resources

There will be visual impacts from the construction of the Lucerne Valley Solar Project. Although the visual impacts for this project will be much less than for other solar technologies, the construction of an industrial development anywhere on public lands will entail some visual impacts. Yet, the benefits which the Lucerne Valley Solar Project will provide may well outweigh the costs of the visual impacts from this development.

However, there are a significant number of projects proposed for the California Desert. Accordingly, we urge the BLM to assess not just the visual impacts from this project, but also the likely cumulative visual impacts from proposed renewable energy and transmission development in the Desert and begin now to develop comprehensive mitigation strategies to address these impacts in connection with future projects.

Recommendation: The BLM and Chevron Energy Solutions should continue to collaborate on a visual analysis conforming to BLM regulations to address concerns identified in during the scoping period.

G. Land Use

The Lucerne Valley Solar Project will require a CDCA Plan Amendment, as will all new solar projects. We assume that the environmental review of the proposal and the necessary plan amendment will occur simultaneously. See 43 CFR § 1601.6-3(b).

In addition, the site is adjacent to private parcels. While the private parcels are not part of the project, resources on these parcels and the county's ability to manage these resources could be impacted by construction and operation of the Lucerne Valley Solar Project.

Recommendation: "The DEIS should discuss how the proposed action would support or conflict with the objectives of federal, state, tribal or local land use plans, policies and controls in the project area. The term "land use plans" includes all types of formally adopted documents for land use planning, conservation, zoning and related regulatory requirements. Proposed plans not yet developed should also be addressed if they have been formally proposed by the appropriate government body in a written form (CEQ's Forty Questions, #23b)."²

The plan amendment must fully analyze the impacts of industrial development on public lands of an undisturbed nature.

II. OTHER ISSUES RAISED BY THE LUCERNE VALLEY PROJECT PROPOSAL

A. Public Benefits (GhG reduction)

Renewable energy development can have multiple public benefits, most importantly combating climate change by reducing greenhouse gas (GhG) emissions from energy production, and including reduced local and regional air and public health impacts, increased energy resource diversity and decreased price volatility. A reduction in GhG emissions from developing renewable energy is based on comparative emissions from fossil fuel-based energy production.

Because a reduction in GhG emissions is a primary public benefit of renewable energy development, it is critical that the agencies quantify this reduction to the extent possible. The agencies' analysis of GhG reductions should also include a comprehensive look at the project's impacts, including GhG emissions during manufacture, construction, operation, decommissioning, and reclamation of the project site.

The results of this analysis should then be compared to similar analyses for fossil-fuel based energy production, including combined-cycle natural gas fired and coal fired power plants.

² July 7, 2009 letter.

Such an analysis will provide the public a clear indication of the costs and benefits of the proposed project and allow stakeholders to make decisions regarding the project based on the best available science and data.

Recommendation: The BLM should comprehensively analyze the Lucerne Valley Solar Project's net reductions to GhG emissions, including GhG emissions during manufacture, construction, operation, decommissioning, and reclamation of the project site. The analysis should consider both the potential for the project to reduce GhG emissions as well as potential for the project to increase GhG emissions, for example, by disturbing undisturbed land currently useful for carbon sequestration. The results of this analysis should then be compared to the same type of analysis for fossil-fuel based energy production, including combined-cycle natural gas fired and coal fired power plants.

C. Bonding

Based on communications with the BLM, we understand bonding will be required of the applicant for the purpose of decommissioning the project. We fully support the effort of the BLM in creating these bonding requirements, and encourage the Bureau to develop a robust set of guidelines for establishing appropriate bonding figures.

Recommendation: The BLM should do a thorough analysis of the anticipated costs of decommissioning and restoring the project site. The BLM should also require bonds be purchased prior to development.

D. Alternative Sites

Consideration of alternative sites is critical to ensuring the Lucerne Valley Solar Project site chosen is the best possible location for the project. This consideration should be based on solar resource, proximity to existing transmission and infrastructure, and conflicts with other resources and values on the project site. BLM's policy requires consideration of alternatives. The National Environmental Policy Act (NEPA) requires that BLM consider a range of management alternatives, and this analysis is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. NEPA requires BLM to "rigorously explore and objectively evaluate" a range of alternatives to proposed federal actions. See *id.* §§ 1502.14(a) and 1508.25(c). "An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action."³ An agency violates NEPA by failing to "rigorously explore and objectively evaluate all reasonable alternatives" to the proposed action.⁴ This evaluation extends to considering more environmentally protective alternatives and mitigation measures.⁵

³ *Northwest Env'tl Defense Center v. Bonneville Power Admin.*, 117 F.3d 1520, 1538 (9th Cir. 1997).

⁴ *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1310 (9th Cir. 1990) (quoting 40 C.F.R. § 1502.14).

⁵ See, e.g., *Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1122-1123 (9th Cir. 2002) (and cases cited therein).

NEPA requires that an actual “range” of alternatives is considered, such that the Act will “preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative (*i.e.* the applicant’s proposed project).”⁶ This requirement prevents the EIS from becoming “a foreordained formality.”⁷ “Note that NEPA requires evaluation of reasonable alternatives, including those that may not be within the jurisdiction of the lead agency (40 CFR Section 1502.14(c)).”⁸

It is the BLM’s responsibility to identify alternative sites to be analyzed and it may be that options rejected previously should be re-evaluated. Without thorough consideration of multiple alternative sites, the BLM will have reduced the EIS to a “foreordained formality” and improperly limited the alternatives under consideration.

“The environmental impacts of the proposal and alternatives should be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14). The potential environmental impacts of each alternative should be quantified to the greatest extent possible (e.g., acres of wetlands impacted, tons per year of emissions produced, etc.).”⁹

As previously expressed in these comments, we strongly encourage the BLM to engage in a broader landscape level assessment of solar development in the desert. While a comprehensive desert plan balancing multiple land uses including solar will be a long term process, in the interim we urge the agencies to compare the Lucerne Valley Solar Project, and all other fast track projects, to each other in order to identify which of these first phase of projects is likely to have the least environmental impacts.

Recommendation: The BLM must thoroughly consider and present the public with a true range of alternative sites. “Reasonable alternatives should include, but are not necessarily limited to, alternative sites, capacities, and technologies as well as alternatives that identify environmentally sensitive areas or areas with potential use conflicts.”¹⁰ We encourage the BLM to analyze an alternative project site on previously disturbed lands.

In addition the agencies should compare the Lucerne Valley Solar Project and its impacts with all other identified “fast-track” projects on BLM land in order to identify the least environmentally harmful projects among the applications that have been selected for expedited permitting.

Thank you for your consideration of these comments.

⁶ *Colorado Environmental Coalition v. Dombeck*, 185 F.3d 1162, 1174 (10th Cir. 1999), citing *Simmons v. United States Corps of Engineers*, 120 F.3d 664, 669 (7th Cir. 1997).

⁷ *City of New York v. Department of Transp.*, 715 F.2d 732, 743 (2nd Cir. 1983). *See also*, *Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002).

⁸ July 7, 2009 letter.

⁹ July 7, 2009 letter.

¹⁰ July 7, 2009 letter.

Sincerely,

The Wilderness Society
Alice Bond, Public Lands Associate
California/Nevada Regional Office
655 Montgomery Street, Suite 1000
San Francisco, CA 94111

The Wilderness Society
Alex Daue, Renewable Energy Coordinator
BLM Action Center
1660 Wynkoop St. Suite 850
Denver, CO 80202

From: [Chuck Bell](#)
To: LucerneSolar@BLM.gov; Rhollenbacher@chevron.com
Subject: Chevron Solar - Lucerne Valley
Date: 08/16/2009 03:37 PM

Greg and Ralph:

Re: Chevron Energy Solutions' PV project in Lucerne Valley::

The scoping session in LV seemed relatively tame. Due to the sheer number of alt. energy proposals confronting us - we can't help but be concerned about global/cumulative issues. But this could be a good location - especially with the adjacent powerline connection.

If you haven't already selected an environmental/land-use consultant - I highly recommend Tom Dodson and Associates. Office in San Bernardino - has handled many desert projects - personally knows all the agency contacts - has biologists on staff - works fast and efficiently - very experienced with NEPA process and documents.

Tom Dodson - 909 882 3612 - tda@tdaenv.com

Let me know if you need any other info.

Will be interesting to see the scoping comments when released.

Chuck Bell 760 964 3118

From: [Gary Hatfield](#)
To: Lucernesolar@blm.gov
Subject: Chevron solar project
Date: 07/26/2009 12:28 AM

Please reply. I need a map of the site location. Or, please tell me where to find one. I need this information before the scoping meeting.

Thanks,
Gary Hatfield

From: TUBESTMC@aol.com
To: lucernesolar@blm.gov
Subject: Cleaning Solar Panels ?
Date: 07/17/2009 06:02 AM

Fox News did an investigation into the cost of upkeep and maintenance of the Solar Collection Panels that are used to collect the Sun's Solar Energy.

In their report they stated that these Panels need to be cleaned on a regular basis in order to operate effectively and that cleaning them requires a large amount of water !

The High Desert is in a very bad drought. We can't afford to use our scarce water to clean your solar panels. There is an abundance of wind flowing across the same area you want to install your solar panels in. Why not install the "Wind Mill" type power converters ?

*Steven Beavers
Barstow, Ca.
255-3814*

A Good Credit Score is 700 or Above. [See yours in just 2 easy steps!](#)

From: [Russell Young](#)
To: LucerneSolar@blm.gov
Subject: current status?
Date: 12/21/2009 10:42 AM

Hello-

I am writing to inquire about the current status of the Lucerne Valley Solar project.

I understand the public comment period has closed. What is the next step? Will it be the acceptance/rejection of the project?

Regards

Russell Young

From: [Gunn, David](#)
To: lucernesolar@blm.gov
Subject: DEIS
Date: 02/04/2010 01:00 PM

Good afternoon. I am writing to see if I might be able, please, to get a copy of the DEIS for Chevron's Lucerne Valley Solar Project sent to me by return e-mail. Failing that, is there a website where this is posted (I have not been able to find it) or might it be available on CDs? Thank you very much for anything you can do.

David Gunn
Librarian
Hunton & Williams LLP
1900 K St., N.W.
Washington, DC 20006
(202) 955-1608

From: [Pugliese, Jim \(JAPU\)](#)
To: LucerneSolar@blm.gov
Subject: distribution list for CES proposed project in Lucerne valley
Date: 07/23/2009 09:00 AM

Kindly include me in your email distribution list for Chevron Energy Solutions proposed project in Lucerne Valley

From: [Dennis Pond](#)
To: LucerneSolar@BLM.gov
Subject: EIS Statement
Date: 08/03/2009 02:49 PM
Attachments: [Lucerne Valley Solar Project.doc](#)

TO: Greg Thomsen
FROM: Dennis Pond

Please add the attached to the Lucerne Valley Solar Project EIS. Thank you.

Sincerely,
Dennis Pond

TO: BLM California Desert District Office
Attn: Greg Thomsen, Program Manager

FROM: Dennis Pond
P.O. Box 1628
Lucerne Valley, CA 92356
Email at: dennispond@gmail.com

The proposed Lucerne Valley Solar Project is probably the best possible system to produce electricity with the least intrusion into the lives of local residents. I have the following questions and concerns about the Lucerne Valley Solar Project proposed by Chevron:

1. What will be done to mitigate the effects of blowing dust and sand when the project site has been disturbed?
2. What protections will be provided against flash-flooding? Thunderstorms are frequent enough in the mountains to the south as well as in the project area itself to assume this will be an issue during the life of the project.
3. How big an issue is geologic stability? The epicenter for the Landers Earthquake is only about 30 miles east of the site.
4. The proposed project is anticipating use of 10,000 gallons of water annually. This doesn't seem realistic to local residents. Where will the water come from?
5. Those of us who have built on private property have had to consider wildlife habitat in our construction. What will be done to protect the desert tortoise, big horn sheep, cougars, desert fox and coyotes? Because the project site is BLM land, and the federal government has a vested interest in its construction, will these concerns be considered, or swept under some rug?
6. There are rumors of multiple energy-producing projects in this area, sponsored and constructed by various private and government agencies. There doesn't seem to be a great deal of concern for the cumulative effects these projects are apt to have on the quality of life for residents living in Lucerne Valley now. Unsightly wind turbines on every ridge, and transmission lines crisscrossing the valley at multiple angles are not aesthetic additions to the natural scenery.
7. Will there be any economic benefit for the residents of Lucerne Valley? Will there be employment opportunities?

The suspicion among residents is that the Department of Energy, through the Bureau of Land Management, is ramming this and other projects slated for Lucerne Valley down our throats. It might be a little more tolerable if there were also new oil drilling rigs going up in the Santa Barbara Channel. To listen to some folks, that channel is sacred territory. To those folks and others, the Mojave Desert is so many million square miles of kitty litter, to be used and abused at the whim of politicians at the federal and state levels of government. Do you get the idea some local residents don't trust the system? If so, good!

From: McPherson.Ann@epamail.epa.gov
To: LucerneSolar@blm.gov
Cc: Greg_Thomsen@blm.gov
Subject: EPA Scoping Comments on the Lucerne Valley Solar Project
Date: 08/04/2009 01:35 PM
Attachments: [EPA Comments_LucerneSolar.pdf](#)

Hi Greg,

I am sending you a copy of EPA's comments on the Notice of Intent (NOI) to prepare an EIS and Amendment to the California Desert Conservation Plan for the Lucerne Valley Solar Project. We will send you a hard copy of the letter via the postal service also.

Thank you for providing us with the opportunity to comment on this project. Please contact us if you have any questions. We look forward to working with you in the future.

Regards,

Ann

Ann McPherson
Environmental Scientist
U.S. EPA Region 9
Environmental Review Office
Communities and Ecosystems Division, CED-2
75 Hawthorne Street
San Francisco, CA 94105

Tel.: (415) 972-3545
Fax: (415) 947-8026
email: mcperson.ann@epa.gov



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

AUG 04 2009

Attn: Mr. Greg Thomsen
Bureau of Land Management
Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

Subject: Notice of Intent to Prepare an Environmental Impact Statement and Amendment to the California Desert Conservation Area Plan for the Lucerne Valley Solar Project, San Bernardino County, CA.

Dear Mr. Thomsen:

The U.S. Environmental Protection Agency (EPA) has reviewed the July 23, 2009 Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) and Amendment to the California Desert Conservation Area Plan for the Lucerne Valley Solar Project in San Bernardino County, CA. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

EPA supports increasing the development of renewable energy resources, as recommended in the National Energy Policy Act of 2005. Using renewable energy resources such as solar power can help the nation meet its energy requirements without generating greenhouse gas emissions. To assist in the scoping process for this project, we have identified several issues for your attention in the preparation of the EIS. We are most concerned about the following issues: impacts to biological resources, habitat, and water resources, as well as the cumulative effects associated with the development of multiple large-scale solar projects.

We appreciate the opportunity to review this NOI and are available to discuss our comments. Please send one hard copy of the Draft EIS and two CD ROM copies to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 972-3545 or at mcperson.ann@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Ann McPherson".

Ann McPherson
Environmental Review Office

Enclosures: EPA's Detailed Comments

US EPA DETAILED COMMENTS ON THE SCOPING NOTICE FOR THE PROPOSED LUCERNE VALLEY SOLAR PROJECT, SAN BERNARDINO COUNTY, CALIFORNIA, AUGUST 4, 2009

Project Description

Chevron Energy Solutions has requested a right-of-way authorization to construct and operate a 45 megawatt (MW) solar photovoltaic (PV) energy generation facility in San Bernardino County, California. The proposed project would be located on 516 acres of public lands and would be constructed in two phases. Phase 1 would consist of up to 180,000 thin-film PV panels with a generating capacity of 20 MW; Phase II would be similarly configured with a generating capacity of 25 MW. The facility would connect to the existing Southern California Edison 33 kilovolt (kV) distribution system adjacent to the proposed site and include a new switchyard, control/maintenance building, and parking area.

Statement of Purpose and Need

The Draft Environmental Impact Statement (DEIS) should clearly identify the underlying purpose and need to which the Bureau of Land Management (BLM) is responding in proposing the alternatives (40 CFR 1502.13). The *purpose* of the proposed action is typically the specific objectives of the activity, while the *need* for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity.

Recommendation:

The purpose and need should be a clear, objective statement of the rationale for the proposed project. The DEIS should discuss the proposed project in the context of the larger energy market that this project would serve; identify potential purchasers of the power produced; and discuss how the project will assist the state in meeting its renewable energy portfolio standards and goals.

Alternatives Analysis

The National Environmental Policy Act (NEPA) requires evaluation of reasonable alternatives, including those that may not be within the jurisdiction of the lead agency (40 CFR Section 1502.14(c)). A robust range of alternatives will include options for avoiding significant environmental impacts. The DEIS should provide a clear discussion of the reasons for the elimination of alternatives which are not evaluated in detail. Reasonable alternatives should include, but are not necessarily limited to, alternative sites, capacities, and technologies as well as alternatives that identify environmentally sensitive areas or areas with potential use conflicts. The alternatives analysis should describe the approach used to identify environmentally sensitive areas and describe the process that was used to designate them in terms of sensitivity (low, medium, and high).

The environmental impacts of the proposal and alternatives should be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14). The potential environmental impacts of each alternative should be quantified to the greatest extent possible (e.g., acres of wetlands impacted, tons per year of emissions produced, etc.).

Recommendations:

The DEIS should describe how each alternative was developed, how it addresses each project objective, and how it will be implemented. The alternatives analysis should include a discussion of alternative sites, capacities, and generating technologies, including different types of solar technologies, and describe the benefits associated with the proposed technology.

The DEIS should describe the current condition of the land selected for the proposed project, discuss whether the land is classified as disturbed, and describe to what extent the land could be used for other purposes.

The DEIS should clearly describe the rationale used to determine whether impacts of an alternative are significant or not. Thresholds of significance should be determined by considering the context and intensity of an action and its effects (40 CFR 1508.27).

The DEIS should expand the alternatives analysis to include consideration of residential and wholesale distributed generation as an alternative. For example, consider an alternative that includes the installation of PV panels in residential and commercial areas near urban load sources.

Water Resources

Water Supply and Water Quality

We understand that PV installations need much less water than solar thermal plants that use water for cooling. We are unclear, however, whether thin-film PV plants use more or less water than traditional PV plants. The DEIS should estimate the quantity of water the project will require and describe the source of this water and potential effects on other water users and natural resources in the project's area of influence. The DEIS should clearly depict reasonably foreseeable direct, indirect, and cumulative impacts to this resource. Specifically, the potentially-affected groundwater basin should be identified and any potential for subsidence and impacts to springs or other open water bodies and biologic resources should be analyzed. The DEIS should include:

- A discussion of the amount of water needed for the proposed solar PV generation facility and where this water will be obtained;
- A discussion of availability of groundwater within the basin and annual recharge rates;

- A description of the water right permitting process and the status of water rights within that basin, including an analysis of whether water rights have been over-allocated;
- A discussion of cumulative impacts to groundwater supply within the hydrographic basin, including impacts from other large-scale solar installations that have also been proposed;
- An analysis of different types of technology that can be used to minimize or recycle water;
- A discussion of whether it would be feasible to use other sources of water, including potable water, wastewater or deep-aquifer water; and
- An analysis of the potential for alternatives to cause adverse aquatic impacts such as impacts to water quality and aquatic habitats.

The DEIS should address the potential effects of project discharges, if any, on surface water quality. Specific discharges should be identified and potential effects of discharges on designated beneficial uses of affected waters should be analyzed. If the facility is a zero discharge facility, the DEIS should disclose the amount of process water that would be disposed of onsite and explain methods of onsite containment.

EPA strongly encourages the BLM to include in the DEIS a description of all water conservation measures that will be implemented to reduce water demands. Project designs should maximize conservation measures such as appropriate use or recycled water for landscaping and industry, xeric landscaping, a water pricing structure that accurately reflects the economic and environmental costs of water use, and water conservation education. Water saving strategies can be found in the EPA's publications *Protecting Water Resources with Smart Growth* at www.epa.gov/piedpage/pdf/waterresources_with_sg.pdf, and *USEPA Water Conservation Guidelines* at www.epa.gov/watersense/docs/app_a508.pdf.

In addition, the DEIS should describe water reliability for the proposed project and clarify how existing and/or proposed sources may be affected by climate change. At a minimum, EPA expects a qualitative discussion of impacts to water supply and the adaptability of the project to these changes.

Clean Water Act Section 404

The project applicant should coordinate with the U.S. Army Corps of Engineers (Corps) to determine if the proposed project requires a Section 404 permit under the Clean Water Act. Section 404 regulates the discharge of dredged or fill material into waters of the United States (WOUS), including wetlands and other *special aquatic sites*. The DEIS should describe all WOUS that could be affected by the project alternatives, and include maps that clearly identify all waters within the project area. The discussion should include acreages and channel lengths, habitat types, values, and functions of these waters. In addition, EPA suggests that the BLM include a jurisdictional delineation for all WOUS, including ephemeral drainages, in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* and the December 2006 *Arid West Region Interim Regional Supplement to the Corps of Engineers Wetland Delineation*

Manual: Arid West Region. A jurisdictional delineation will confirm the presence of WOUS in the project area and help determine impact avoidance or if state and federal permits would be required for activities that affect WOUS.

If a permit is required, EPA will review the project for compliance with *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the CWA (“404(b)(1) Guidelines”). Pursuant to 40 CFR 230, any permitted discharge into WOUS must be the least environmentally damaging practicable alternative (LEDPA) available to achieve the project purpose. The DEIS should include an evaluation of the project alternatives in this context in order to demonstrate the project’s compliance with the 404(b)(1) Guidelines. If, under the proposed project, dredged or fill material would be discharged into WOUS, the DEIS should discuss alternatives to avoid those discharges.

The DEIS should describe the original (natural) drainage patterns in the project locale, as well as the drainage patterns of the area during project operations, and identify whether any components of the proposed project are within a 50 or 100-year floodplain. We also recommend the DEIS include information on the functions and locations of WOUS, as well as ephemeral washes in the project area, because of the important hydrologic and biogeochemical role these washes play in direct relationship to higher-order waters downstream.

Clean Water Act Section 303(d)

The CWA requires States to develop a list of impaired waters that do not meet water quality standards, establish priority rankings, and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality.

Recommendation:

The DEIS should provide information on CWA Section 303(d) impaired waters in the project area, if any, and efforts to develop and revise TMDLs. The DEIS should describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

Biological Resources and Habitat

The DEIS should identify all petitioned and listed threatened and endangered species and critical habitat that might occur within the project area. The document should identify and quantify which species or critical habitat might be directly, indirectly, or cumulatively affected by each alternative and mitigate impacts to these species. Emphasis should be placed on the protection and recovery of species due to their status or potential status under the Endangered Species Act (ESA). We recommend that the BLM consult with the U.S. Fish and Wildlife Service and prepare a Biological Opinion under Section 7 of the ESA if there are threatened or

endangered species present. The DEIS should provide a recent status update of this report if this action has been or will be undertaken. Analysis of impacts and mitigation on covered species should include:

- Baseline conditions of habitats and populations of the covered species;
- A clear description of how avoidance, mitigation and conservation measures will protect and encourage the recovery of the covered species and their habitats in the project area;
- Monitoring, reporting and adaptive management efforts to ensure species and habitat conservation effectiveness.

EPA is also concerned about the potential impact of construction, installation, and maintenance activities (deep trenching, grading, filling, and fencing) on habitat. The DEIS should describe the extent of these activities and the associated impacts on habitat and threatened and endangered species. EPA is also aware that shade from the PV panels could impact vegetation and/or species in the project area. We encourage habitat conservation alternatives that avoid and protect high value habitat and create or preserve linkages between habitat areas to better conserve the covered species.

Recommendations:

The DEIS should indicate what measures will be taken to protect important wildlife habitat areas from potential adverse effects of proposed covered activities.

The DEIS should discuss the impacts associated with an increase of shade in the desert environment on vegetation and/or species.

The DEIS should discuss the impacts associated with constructing fences around the project site(s), and consider whether there are options that could facilitate better protection of covered species.

Invasive Species

Executive Order 13112, *Invasive Species* (February 3, 1999), mandates that federal agencies take actions to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause. Executive Order 13112 also calls for the restoration of native plants and tree species. If the proposed project will entail new landscaping, the DEIS should describe how the project will meet the requirements of Executive Order 13112.

Recommendation:

The DEIS should include an invasive plant management plan to monitor and control noxious weeds.

Indirect and Cumulative Impacts

The cumulative impacts analysis should provide the context for understanding the magnitude of the impacts of the alternatives by analyzing the impacts of other past, present, and reasonably foreseeable projects or actions and then considering those cumulative impacts in their entirety (CEQ's Forty Questions, #18). The DEIS should clearly identify the resources that may be cumulatively impacted, the time over which impacts are going to occur, and the geographic area that will be impacted by the proposed projects. The DEIS should focus on resources of concern – those resources that are “at risk” and/or are significantly impacted by the proposed projects, before mitigation. In the introduction to the *Cumulative Impacts Section*, identify which resources are analyzed, which ones are not, and why. For each resource analyzed, the DEIS should:

- Identify the current condition of the resource as a measure of past impacts. For example, the percentage of species habitat lost to date.
- Identify the trend in the condition of the resource as a measure of present impacts. For example, the health of the resource is improving, declining, or in stasis.
- Identify all on-going, planned, and reasonably foreseeable projects in the study area that may contribute to cumulative impacts.
- Identify the future condition of the resource based on an analysis of impacts from reasonably foreseeable projects or actions added to existing conditions and current trends.
- Assess the cumulative impacts contribution of the proposed alternatives to the long-term health of the resource, and provide a specific measure for the projected impact from the proposed alternatives.
- Disclose the parties that would be responsible for avoiding, minimizing, and mitigating those adverse impacts.
- Identify opportunities to avoid and minimize impacts, including working with other entities.

The BLM has received more than 150 applications for solar projects in the desert southwest. As a result, BLM and the Department of Energy (DOE) are preparing a Programmatic EIS to address how they will process existing and future solar energy development applications on BLM-administered lands in six Western states. EPA is concerned about the cumulative impacts associated with the development of multiple large-scale solar projects within these states.

Recommendation:

The DEIS should consider the cumulative impacts associated with multiple large-scale solar projects proposed in the desert southwest and the potential impacts on various resources including: water supply, endangered species, and habitat.

The DEIS should identify whether the proposed project is located within one of the solar energy study areas, as defined by the BLM and DOE.

As an indirect result of providing additional power, it can be anticipated that these projects will allow for development and population growth to occur in those areas that receive the generated electricity.

Recommendation:

The DEIS should describe the reasonably foreseeable future land use and associated impacts that will result from the additional power supply. The document should provide an estimate of the amount of growth, its likely location, and the biological and environmental resources at risk.

Climate Change

Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. Global warming is caused by emissions of carbon dioxide and other heat-trapping gases. Global warming can affect weather patterns, sea level, ocean acidification, chemical reaction rates, and precipitation rates, resulting in climate change. Reports also indicate that deserts may store as much carbon as temperate forests.

Recommendations:

The DEIS should consider how climate change could potentially influence the proposed projects, specifically within sensitive areas, and assess how the projected impacts could be exacerbated by climate change.

The DEIS should quantify and disclose the anticipated climate change *benefits* of solar energy. We suggest quantifying greenhouse gas emissions from different types of generating facilities including solar, geothermal, natural gas, coal-burning, and nuclear and compiling and comparing these values.

The DEIS should discuss whether any trenching, grading, and filling associated with the construction of these projects and the installation of the solar arrays, will affect the deserts ability to store carbon, and to what degree this may occur.

Air Quality

The DEIS should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS), criteria pollutant nonattainment areas, and potential air quality impacts of the proposed projects (including cumulative and indirect impacts). Such an evaluation is necessary to assure compliance with State and Federal air quality regulations, and to disclose the potential impacts from temporary or cumulative degradation of air quality.

The DEIS should describe and estimate air emissions from potential construction and maintenance activities, as well as proposed mitigation measures to minimize those emissions. EPA recommends an evaluation of the following measures to reduce emissions of criteria air pollutants and hazardous air pollutants (air toxics).

Recommendations:

- *Existing Conditions* – The DEIS should provide a detailed discussion of ambient air conditions, NAAQS, and criteria pollutant nonattainment areas in all areas considered for solar development.
- *Quantify Emissions* – The DEIS should estimate emissions of criteria pollutants from the proposed projects and discuss the timeframe for release of these emissions over the lifespan of the projects. The DEIS should describe and estimate emissions from potential construction activities, as well as proposed mitigation measures to minimize these emissions.
- *Specify Emission Sources* – The DEIS should specify the emission sources by pollutant from mobile sources, stationary sources, and ground disturbance. This source specific information should be used to identify appropriate mitigation measures and areas in need of the greatest attention.
- *Equipment Emissions Mitigation Plan (EEMP)* – The DEIS should identify the need for an EEMP. An EEMP will identify actions to reduce diesel particulate, carbon monoxide, hydrocarbons, and NOx associated with construction activities. We recommend that the EEMP require that all construction-related engines:
 - are tuned to the engine manufacturer's specification in accordance with an appropriate time frame;
 - do not idle for more than five minutes (unless, in the case of certain drilling engines, it is necessary for the operating scope);
 - are not tampered with in order to increase engine horsepower;
 - include particulate traps, oxidation catalysts and other suitable control devices on all construction equipment used at the project sites;
 - use diesel fuel having a sulfur content of 15 parts per million or less, or other suitable alternative diesel fuel, unless such fuel cannot be reasonably procured in the market area; and
 - include control devices to reduce air emissions. The determination of which equipment is suitable for control devices should be made by an independent Licensed Mechanical Engineer. Equipment suitable for control devices may include drilling equipment, generators, compressors, graders, bulldozers, and dump trucks.

- *Fugitive Dust Control Plan* - The DEIS should identify the need for *Fugitive Dust Control Plan*. We recommend that it include these general recommendations:
 - Stabilize open storage piles and by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
 - Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions; and
 - When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

Hazardous Materials/Hazardous Waste/Solid Waste

The DEIS should address potential direct, indirect and cumulative impacts of hazardous waste from construction and operation. The document should identify projected hazardous waste types and volumes, and expected storage, disposal, and management plans. It should address the applicability of state and federal hazardous waste requirements. Appropriate mitigation should be evaluated, including measures to minimize the generation of hazardous waste (i.e., hazardous waste minimization). Alternate industrial processes using less toxic materials should be evaluated as mitigation. This potentially reduces the volume or toxicity of hazardous materials requiring management and disposal as hazardous waste.

PV Production/Recycling

PV production can address the full product life cycle, from raw material sourcing through end of life collection and reuse or recycling. PV companies can minimize their environmental impacts during raw material extraction and minimize the amount of rare materials used in the product. PV manufacturing facilities exist that are zero waste and have no air or water emissions. PV companies can facilitate future material recovery for reuse or recycling. Several solar companies have developed approaches to recycling solar modules that enable treatment and processing of PV module components into new modules or other projects. Solar companies can facilitate collection and recycling through buy-back programs or collection and recycling guarantees. Several companies provide recycling programs that pay all packaging, transportation, and recycling costs.

Recommendation:

EPA recommends that the proponent strive to address the full product life cycle by sourcing PV components from a company that: 1) minimizes environmental impacts during raw material extraction; 2) manufactures PV panels in a zero waste facility; and 3) provides future PV disassembly for material recovery for reuse and recycling.

Coordination with Tribal Governments

Executive Order 13175

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Indian tribes.

Recommendation:

The DEIS should describe the process and outcome of government-to-government consultation between the BLM and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed in the selection of the proposed alternative.

National Historic Preservation Act and Executive Order 13007

Consultation for tribal cultural resources is required under Section 106 of the National Historic Preservation Act (NHPA). Historic properties under the National Historic Preservation Act (NHPA) are properties that are included in the National Register of Historic Places (NRHP) or that meet the criteria for the National Register. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, consult with the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO). Under NEPA, any impacts to tribal, cultural, or other treaty resources must be discussed and mitigated. Section 106 of the NHPA requires that Federal agencies consider the effects of their actions on cultural resources, following regulation in 36 CFR 800.

Executive Order 13007, *Indian Sacred Sites* (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian Religious practitioners, and to avoid adversely affecting the physical integrity of such sacred sites. It is important to note that a sacred site may not meet the National Register criteria for a historic property and that, conversely, a historic property may not meet the criteria for a sacred site.

Recommendation:

The DEIS should address the existence of Indian sacred sites in the project areas. It should address Executive Order 13007, distinguish it from Section 106 of the NHPA, and discuss how the BLM will avoid adversely affecting the physical integrity of sacred sites, if they exist. The DEIS should provide a summary of all coordination with Tribes and with the SHPO/THPO, including identification of NRHP eligible sites, and development of a Cultural Resource Management Plan.

Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), directs federal agencies to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations, allowing those populations a meaningful opportunity to participate in the decision-making process. Guidance¹ by CEQ clarifies the terms low-income and minority population (which includes American Indians) and describes the factors to consider when evaluating disproportionately high and adverse human health effects.

Recommendation:

The DEIS should include an evaluation of environmental justice populations within the geographic scope of the projects. If such populations exist, the DEIS should address the potential for disproportionate adverse impacts to minority and low-income populations, and the approaches used to foster public participation by these populations. Assessment of the projects' impact on minority and low-income populations should reflect coordination with those affected populations.

Coordination with Land Use Planning Activities

The DEIS should discuss how the proposed action would support or conflict with the objectives of federal, state, tribal or local land use plans, policies and controls in the project areas. The term "land use plans" includes all types of formally adopted documents for land use planning, conservation, zoning and related regulatory requirements. Proposed plans not yet developed should also be addressed if they have been formally proposed by the appropriate government body in a written form (CEQ's Forty Questions, #23b).

¹Environmental Justice Guidance under the National Environmental Policy Act, Appendix A (Guidance for Federal Agencies on Key Terms in Executive Order 12898), CEQ, December 10, 1997.

From: Jhngloria@aol.com
To: lucernesolar@blm.gov
Subject: Hooray for solar
Date: 08/15/2009 11:02 AM

I'm all for solar anywhere it can be installed. We have plenty of sun so the desert is the perfect place. It will help us get off our reliance on foreign oil.

Gloria Williams
Johnson Valley

From: [Richard Rohr](#)
To: lucernesolar@blm.gov
Subject: I Support the Lucerne Valley Solar Project
Date: 08/13/2009 01:44 PM

Hello,

I just wanted you to know I live in Johnson Valley and have had family owned property for 56 years and I support the Chevron Lucerne Valley project. Please continue to allow growth and investment in public lands. This is an excellent resource for generations to come. Rich Rohr 50577 Joshua Tree Road Johnson Valley Ca 92285-2822 760-403-0496.

From: [Morrison, Dennis W. CTR USA FORSCOM](#)
To: LucerneSolar@blm.gov
Subject: Location of PV Project
Date: 07/16/2009 12:22 PM

Is there a map available on the location of the PV project? The BLM site links do not work well.

Dennis Morrison
Assistant Production Supervisor
Heavy Wheel Shop
Northrop Grumman
Fort Irwin, CA.
760-380-5432
dennis.w.morrison@us.army.mil

From: [Emily Capello](#)
To: LucerneSolar@blm.gov
Subject: Lucerne Solar Draft EIS
Date: 02/09/2010 11:49 AM

Hello -

I was hoping to get a copy of the Lucerne Solar Draft EIS. I saw that there was a link to the DEIS Vol I and II on the BLM website (http://www.blm.gov/ca/st/en/fo/barstow/chevron_energy_solutions.html) but when I tried to follow the link, it was broken. I was wondering if the DEIS would be available on the website to download or if not, if it would be possible to get a CD with this DEIS mailed to the address below.

Thank you -

Emily Capello
Aspen Environmental Group

235 Montgomery St. Suite 935
San Francisco, CA 94104

From: [Dale Marriott](#)
To: LucerneSolar@blm.gov
Subject: Lucerne Solar Project
Date: 07/22/2009 10:02 AM

Hello,

My name is Dale Marriott and I am the President of Fencecorp Inc. We are a fence company specializing in commercial fencing. We have fenced several solar plants and would definitely be interested in providing fencing for this project. Can you please provide me with any information available as far as contacts so that I might be able to get in touch with the appropriate people.

Thank You,



FenceCorp Inc.
882 main street
Riverside, Ca 92501

Dale Marriott
Ph# 951-686-3170
Fax# 951-788-7759
Cell# 951-830-6200
Email: d.marriott@fencecorp.us
Web: www.fencecorp.us

From: [Edward Wood](#)
To: lucernesolar@blm.gov
Subject: Lucerne Solar Project
Date: 02/13/2010 10:30 AM

I sincerely hope that, if this project is approved, there will be some mechanism , such as a bond, to absolutely ensure that, when this unit reaches the end of its useful life, the area will be completely cleaned up and returned to its original condition.

I feel that all BLM leases should include such a provision so that our descendants don't have to face the clean-ups that are now a problem with abandoned mines. It must be made impossible for such messes to be left for public clean-up in the future

Ed Wood
PO Box 302
Goldendale WA 98620

From: [Ron Sissem](#)
To: LucerneSolar@blm.gov
Subject: Lucerne Valley Solar EIR
Date: 11/25/2009 01:21 PM

Please add me to your email mailing list for updates.

Thanks

Ron Sissem
Principal Planner
EMC Planning Group Inc.
301 Lighthouse Ave., Suite C
Monterey, CA 93940
(831) 649-1799 ext. 207

From: [Jordan Demmien](mailto:Jordan.Demmien@powersubs.com)
To: LucerneSolar@blm.gov
Subject: Lucerne Valley Solar Project
Date: 07/20/2009 09:03 AM

To whom it may concern,

I work for a Substation packager (Power Substations, Inc.) and am interested in being added to the bidders list for the Lucerne Valley Solar Project. We have the means to provide our own contracting as well as work with any approved contractors you may already have in place. I understand that this project is in its early stages, but would like to request that we be added to the approved list and/or be sent the plans and specs as they become available. I greatly appreciate any assistance on this matter.

Sincerely,



Jordan T. Demmien
Project Manager/Designer
Power Substations, Inc.
8834 Mayfield Rd. Suite C
Chesterland, Ohio 44026
Phone: (440) 729-8300 x-109
Fax: (440) 729-8400
www.trivisinc.com
www.powersubs.com

From: [BETTY MUNSON](#)
To: lucernesolar@blm.gov
Subject: LUCERNE VALLEY SOLAR PROJECT EIS
Date: 08/22/2009 11:02 AM

From
Betty Munson
4880 Bonanza Rd.
Johnson Valley, CA 92285
760-364-2646

To
Greg Thomsen, BLM Program Manager
Mickey Quillman, BLM
Ralph Hollenbacher, Chevron Energy Solutions
Dave Plumpton, E&E

Dear Sirs,

I am writing as a private citizen, not as a representative of any organizations to which I belong. Please feel free to contact me about any questions you may have about these statements. Please add me to your mailing list on this project.

OLD WOMAN SPRINGS RD. (SR 247) is a County Scenic Route.
"Scenic Routes play an important role in the preservation and protection of environmental assets. Scenic Route designations recognize the value of protecting scenic resources for future generations and place restrictions on adjacent development including specific sign standards regarding sign placement and dimensions, utility placement, architectural design, grading, landscaping characteristics and vegetation removal." –County of San Bernardino General Plan

The process is under way to have SR247, from Yucca Valley through Lucerne Valley and up to Barstow, designated as a California Scenic Highway.

The Homestead Valley Community Council and the Lucerne Valley Economic Development Association support the research now in progress to have Old Woman Springs Road declared an Historic Road.

The fact that this proposed solar project may not be visible in its entirety from Old Woman Spring Rd. (SR247) does not negate the fact that it is just the first solar proposal to get to the Public Scoping stage.

Industrial-scale installations on public lands are a questionable use of multi-use lands. The study **must** address the uglification effect of this first installation: the effect on the values of surrounding private lands; causing the easily foreseeable sale of private lands and permitting of other public lands for other renewable energy installations; and the negative impact that this proliferation and inevitable transmission lines will have on the scenic/historic route from which they will be visible.

Visual impact counts! The rural communities and the open spaces surrounding them

are the goal of many who leave the urban sprawl behind for recreation in the desert. The rural communities depend in large measure on the tourist dollar, as does the county, as does the state.

Frederick Law Olmstead said it far better than I can, in his *Report of State Park Survey of California, 1929*.

"Certain desert areas have a distinct and subtle charm, in part dependent on spaciousness, solitude, and escape from the evidence of human control and manipulation of the earth, a charm of constantly growing value as the rest of the earth becomes more completely dominated by man's activities. This quality is a very vulnerable one....Nowhere else are casual thoughtless human changes in the landscape so irreparable, and nowhere else is it so important to control and completely protect wide areas."

Everybody knows this by now. Even multinational energy companies. What everybody may not realize is that protecting the rural desert communities and the public open spaces that surround them is just as important as protecting wilderness and wildlife habitat.

Chevron Energy Solutions already know how to install solar panels on roof tops. I ask that they continue to do so and leave the desert alone.

Betty Munson

From: [Sandra Fairchild](#)
To: LucerneSolar@blm.gov
Subject: Mailing List
Date: 08/03/2009 01:05 PM

Please add me to the Project Mailing List. When available, please send me an electronic copy of the Draft EIS. Thanks.

Sandra Fairchild
Senior Project Manager

EPG, Inc.
2950 Sunridge Heights Parkway, Ste. 130
Henderson, Nevada 89052

(702) 263-6553 Office
(702) 263-3234 Fax
(602) 810-2765 Mobile
<http://www.epgaz.com>

From: [Ross CIV Joseph V](#)
To: LucerneSolar@blm.gov
Subject: map
Date: 07/17/2009 08:10 AM

Hello BLMers,

Would you pls send a copy of the map for the proposed Lucerne Valley Solar Project in San Bernardino County?

I understand that Chevron Energy Solutions has applied to the BLM for a right-of-way (ROW) on public lands to construct the solar photovoltaic power plant on approximately 516 acres about eight miles east of the community of Lucerne Valley.

Thanks very much.

Regards,
Joe Ross

Joseph V. Ross
MAGTFTC, MCAGCC G-4
Bldg. 1554 (HQ), Room 130
P.O. Box 788104
Twentynine Palms, CA. 92278-8104
Comm:760.830.7683 DSN:230.7683 Fax:760.830.5939
Email: joseph.ross@usmc.mil

From: [Gary Hatfield](#)
To: Lucernesolar@blm.gov
Subject: Map download
Date: 07/28/2009 01:46 PM

Map not downloading, . . . or it takes forever. I have super-fast FIOS. Shouldn't take this long (15 min already).

Please advise.

Gary

From: [Meg Grossglass](#)
To: LucerneSolar@blm.gov
Subject: Map - Lucerne Valley Solar Project
Date: 07/15/2009 06:33 PM

Hello,

Can you please send me a map of the project area?

Thank you!

Meg Grossglass

Media Relations and Land Use

ORBA - the Off-Road Business Association
951-926-1953 - office
951-415-1869 - Cell
661-323-1464 - Corporate Office

From: [Jim Porter](#)
To: LucerneSolar@blm.gov
Subject: Maps/legal descriptions
Date: 07/16/2009 09:54 AM

Can you provide maps that delineation the boundaries of the project and the list of legal descriptions for the parcels included in it?

Jim Porter
Public Land Management Specialist
California State Lands Commission
100 Howe Ave., Suite 100-South
Sacramento, CA 95825
Tel: (916) 574-1865
Fax: (916) 574-1925

From: [Cynthia Anderson](#)
To: lucernesolar@blm.gov
Subject: no solar fields
Date: 08/08/2009 12:44 PM

Solar fields are not the answer to America's energy needs.

Energy generated by rooftop solar systems will be more reliable, less vulnerable, more quickly installed, and cheaper.

Problems created by solar fields such as dust, wildlife impacts, and flooding stand to destroy the desert environment.

The energy companies have vested interests in "solutions" such as solar fields that will make them the most money. The BLM and the U.S. government need to pay attention to what ordinary people are saying. Ordinary people have had enough of the lies of energy companies.

Cynthia Anderson
5524 Grand Ave.
Yucca Valley, CA 92284
760-228-9062
www.andersonwritingservices.com
www.rainbear.com

From: [Paul Friesema](#)
To: LucerneSolar@blm.gov
Subject:
Date: 02/05/2010 12:13 PM

Dear Greg: Please send me a paper copy of the DEIS for the Proposed Chevron Energy Solutions Lucerne Valley Solar Project. Please send this to:

Professor Paul Friesema

Environmental Policy and Culture
Program

304 Scott Hall, Northwestern University

Evanston, IL. 60208-1006

Thanks a lot! Paul

Oh, and please keep me on the mailing list for the FEIS and ROD.

Federal Register: February 5, 2010 (Volume 75, Number 24)]

[Notices]

[Page 6057-6058]

From the Federal Register Online via GPO Access

[wais.access.gpo.gov]

[DOCID:fr05fe10-114]

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[CACA 49561, LLCAD08000L5101
ER0000LVRWB09B3220]

Notice of Availability of the Draft Environmental Impact
Statement for the Proposed Chevron Energy Solutions
Lucerne Valley
Solar Project, San Bernardino County, CA, and the Draft
California
Desert Conservation Area Plan Amendment

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of Availability.

SUMMARY: In accordance with the National Environmental
Policy Act of
1969, as amended, and the Federal Land Policy and
Management Act of
1976, as amended, the Bureau of Land Management (BLM)
has prepared a
Draft California Desert Conservation Area (CDCA) Plan

Amendment and a
Draft Environmental Impact Statement (EIS) for the proposed
Chevron
Energy Solutions Lucerne Valley Solar Project and by this
notice is
announcing the opening of the comment period.

DATES: To ensure that comments will be considered, the
BLM must receive
written comments on the CDCA Plan Amendment and Draft
EIS within 90
days following the date the Environmental Protection Agency
publishes
this Notice of Availability in the Federal Register. The BLM
will
announce future meetings or hearings and any other public
involvement
activities at least 15 days in advance through public notices,
media
releases, or mailings.

ADDRESSES: You may submit comments related to the
proposed Chevron
Energy Solutions Lucerne Valley Solar Project by any of the
following
methods:

Web site: <http://www.blm.gov/ca/st/en/fo/barstow.html>.

E-mail: LucerneSolar@blm.gov.

Fax: (951) 697-5299.

Mail or other delivery service: Greg Thomsen, BLM
California Desert District Office, 22835 Calle San Juan de Los

Lagos,
Moreno Valley, California 92553.

From: [John Hill](#)
To: lucernesolar@blm.gov
Subject: Peace
Date: 09/03/2009 11:51 AM

Good blessings.

I am an artist living in Apple Valley and learnt about the proposed solar power plant being proposed by Chevron. I think this is astounding.

Is there a link I can pull up to learn about the proposal?

With thanks,

John Patrick Hill
Earth Artist
24046 Hwy. 18, sp. 7
Apple Valley, CA 92307
(760) 240-5373

From: [Russell Young](#)
To: LucerneSolar@blm.gov
Subject: please add to mailing list
Date: 11/06/2009 12:54 PM

Hi –
Can I be added to the Lucerne solar mailing list?

Thanks
Russell

From: larry_mayer
To: lucernesolar@blm.gov
Subject: Project
Date: 08/01/2009 04:57 PM



I attended the presentation at Lucerne Valley in late July. There seemed to be a few people (not of the community) who had concerns about aspects of the project. I found some to be laughable. For example, one person brought up earthquake seismic reports. For goodness sakes, the solar panels are only 6 feet high. If they should fall over in an earthquake no one would be hurt, the only damage would be to the cells themselves.

Another was concerned about road grading, and or paving. The county currently grades our roads around once every 6 weeks. I'm sure he would complain if the county didn't grade his road.

There was mentioned a concern about wild mountain sheep. I have lived here continuously for the last 28 years and have never seen a sheep. Besides the project is not in the mountains.

We have been way to long depending on foreign oil for our energy. It is time to utilize all alternative energy, solar, wind, bio diesel, and anything else that comes along

I support the project 100 percent.

Larry Mayer

From: [Gary Hatfield](#)
To: Lucernesolar@blm.gov
Subject: Proposed project site location
Date: 07/22/2009 10:45 PM

Can you send me a map of the proposed solar project site? I want to attend a scoping meeting, but I need to know where, exactly, "eight miles east of the town of Lucerne Valley" this thing is to be built.

Thanks,
Gary Hatfield

From: [kim bauer](#)
To: lucernesolar@blm.gov
Subject: public comment
Date: 08/17/2009 12:48 PM

my comment on the negative effects of lucerne solar.

the proposed solar project at lucerne valley should be denied permits,etc. and not allowed to be built and regulated against because of the excessive amount of damage that would be caused by all the activity and destruction of habitat in this region.the fragility of this desert region is extremely hard to ever repair if at all and fragmenting it is really destructive. if a solar plant was built in the city proper it would revitalize distressed regions that need rebuilt anyway,provide work for locals,cost less to rebuild power lines in the city that probably need upgraded anyway to smart grid as well.



EMAILING FOR THE GREATER GOOD

[Join me](#)

From: [Caroline Alain Rodman](#)
To: lucernesolar@blm.gov
Subject: Public Information Request
Date: 09/22/2009 04:33 PM

Dear Mr. Thomsen,

I would like to receive copies of public comments presented during the Lucerne Solar public scoping period from July 23rd to August 22nd, including a list of responsible agencies consulted (on that will be invited to participate in the process) on this project.

Thank you so much for your consideration.

Regards,

Caroline

Caroline Alain Rodman
Rodman Consulting, LLC
Public Affairs Strategies
280 Fell Street, Suite 402
San Francisco, CA 94102

Mobile: (415) 218-1618

Website: www.rodmanconsulting.com

Email: caroline@rodmanconsulting.com

From: [Hollenbacher, Ralph Harold](#)
To: [Chuck Bell](#); LucerneSolar@BLM.gov
Cc: [Don, Juliet C](#)
Subject: RE: Chevron Solar - Lucerne Valley
Date: 08/18/2009 09:03 AM

Thanks Chuck. We realize the sensitivity to cumulative issues. Although we believe that a project such as we are proposing will have minimal impacts on the environment and the community, we can neither ignore nor control the impacts posed by larger energy projects proposed for the area. As you point out, these impact will all need to be assessed systematically in the environmental review processes for the proposed projects.

Unfortunately, we have already selected Ecology and Environment as the contractor for preparing the Environmental Impact Statement and Chambers Group for doing the cultural and biological survey work for the Lucerne project.

Regards,

Ralph Hollenbacher

Senior Manager - Technical Services
Large Scale Renewables

Chevron Energy Solutions

345 California Street, 18th Flr.
San Francisco, CA 94104
Tel: 415 733 4910
Fax: 415 733 4639
Mobile: 415 250-2672

From: Chuck Bell [mailto:chuckb@sisp.net]
Sent: Sunday, August 16, 2009 3:37 PM
To: LucerneSolar@BLM.gov; Hollenbacher, Ralph Harold
Subject: Chevron Solar - Lucerne Valley

Greg and Ralph:

Re: Chevron Energy Solutions' PV project in Lucerne Valley::

The scoping session in LV seemed relatively tame. Due to the sheer number of alt. energy proposals confronting us - we can't help but be concerned about global/cumulative issues. But this could be a good location - especially with the adjacent powerline connection.

If you haven't already selected an environmental/land-use consultant - I highly recommend Tom Dodson and Associates. Office in San Bernardino - has handled many desert projects - personally knows all the agency contacts - has biologists on staff - works fast and efficiently - very experienced with NEPA process and documents.

Tom Dodson - 909 882 3612 - tda@tdaenv.com

Let me know if you need any other info.

Will be interesting to see the scoping comments when released.

Chuck Bell 760 964 3118

From: [Brendan Hughes](#)
To: lucernesolar@blm.gov
Subject: Scoping Comments on Proposed 45 MW Lucerne Solar Project
Date: 07/25/2009 01:18 PM

To whom it may concern:

My name is Brendan Hughes and I would like to comment on the proposed 45 MW Lucerne Solar Project. This thin-film photovoltaic project would require more than 500 acres of land that would be completely graded and recontoured. I believe that it is unnecessary for this project to be located on undeveloped BLM land. The Lucerne Valley area has thousands of acres of abandoned farmland that are already disturbed and degraded. Chevron should use some of this private land to build its project. Much of this abandoned farmland is already serviced by utility lines. Also, Chevron should consider installing these 45 MW of solar panels onto the rooftops of homes and businesses in the greater Victorville area. Both of these options would fit the ultimate purpose and need of the project. The need is for renewable power for the uses of people. The purpose of the project is to provide that power. Therefore both of these options should be presented and considered as reasonable alternatives to the proposed action. Indeed, BLM should determine one of these to be the preferred alternative to the action.

Aside from the issues above, the Draft EIS should consider impacts to wildlife, including the desert tortoise, along with the impacts to the scenic visual landscape between Lucerne Valley and Yucca Valley, including the Johnson Valley OHV area. Also, the greenhouse gases produced by building a solar project at a remote site, as opposed to rooftop solar or closer to population centers, should be considered in the analysis of the project.

Thank you for your consideration.

Brendan Hughes
61093 Prescott Trail
Joshua Tree, CA 92252
jesusthedude@hotmail.com

Windows Live™ SkyDrive™: Store, access, and share your photos. [See how.](#)

From: surfdaddy08@aol.com
Reply To: surfdaddy08@aol.com
To: LucerneSolar@blm.gov
Subject: Solar project
Date: 12/16/2009 02:42 PM

Is this project still on schedule to begin late 2010? Thanks Mike Hall
Sent on the Sprint® Now Network from my BlackBerry®

From: [David Briery](#)
To: lucernesolar@blm.gov
Cc: [Stephen Razo](#)
Subject: public comment
Date: 07/16/2009 08:34 AM

I presume this is for Lucerne Valley.

David C. Briery,
External Affairs
BLM California Desert District
22835 Calle San Juan de Los Lagos
Moreno Valley, CA 92553
951.697.5220
dbriery@ca.blm.gov

----- Forwarded by David Briery/CASO/CA/BLM/DOI on 07/16/2009 08:29 AM -----
edward Wood <frd750@gmail.com>

07/15/2009 04:23 PM

To srazo@ca.blm.gov
cc dbriery@ca.blm.gov
Subject Solar projects

I sincerely hope and pray that any licenses granted for solar electric projects contain iron-clad rules for site maintenance during the useful life of the project and site remediation and clean-up when the project reaches the end of its useful life.

I would hate to think that we have made mistakes that we have done and are still doing with mining facilities. Leaving a desert site filled with abandoned junk should be unthinkable. Lets not let the rush for renewable energy be the cause of destruction of our natural beauty
Edward Wood
frd750@gmail.com
12 S Bailey Loop Drive
Goldendale
WA 98620

From: [Drew Feldmann](#)
To: lucernesolar@blm.gov
Subject: Status of Project
Date: 10/25/2009 10:01 PM

I'm conservation chair of the San Bernardino Valley Audubon Society, which in spite of its name, includes most of the Mojave Desert in San Bernardino County.

I would like to know the status of the Lunerve Valley Solar Project. Has the DEIS been issued, and if so, can we get a copy?

Thank you.

Drew Feldmann

From: [Chuck Bell](#)
To: LucerneSolar@BLM.gov; Rhollenbacher@chevron.com
Cc: Larry_LaPre@ca.blm.gov
Subject: Emailing: Chevron Scoping
Date: 08/05/2009 10:20 PM
Attachments: [Chevron Scoping.doc](#)

Attached are Lucerne Valley Econ. Dev. Assoc.'s scoping comments re: Chevron Solar project. Signed copies to follow in mail.

Chuck Bell 769 964 3118

The message is ready to be sent with the following file or link attachments:
Chevron Scoping

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

LUCERNE VALLEY ECONOMIC DEVELOPMENT ASSOCIATION (LVEDA)

To: Greg Thomsen – BLM (LucerneSolar@BLM.gov)
Ralph Hollenbacher – Chevron (Rhollenbacher@chevron.com)

Re: Scoping - Chevron Energy Solutions – Lucerne Valley Solar Project.

From: Chuck Bell, Sec.
P. O. Box 193
Lucerne Valley, CA 92356 760 964 3118

Date: 8/3/09

LVEDA's Mission Statement:

Provide a forum for discussion and action on important community issues – promote infrastructure improvements – work with County and developers to promote development that is both “economic” and compatible with our rural lifestyle, environment and resource availability.

Appreciate the scoping session - hopefully productive for BLM and Chevron. Although this PV project is a relatively small “utility scale” proposal – and adjacent to a transmission line that can apparently accommodate the voltage - we will not take a position until the environmental process is complete.

GENERAL COMMENTS:

In order not to get the “cart before the horse” - this project should be assessed via BLM's Programmatic process which will identify the limited areas available and suitable for solar plants - quantifying the amount of acreage/sq. miles and alignments dedicated to all the land-uses that we already provide s. Calif. - to fully understand why we need a "Solar Energy Siting Element" to our current BLM and County Plans

Lucerne Valley could well be surrounded by the following projects: LADWP's GPN transmission line – Granite Mt. Wind – Fry Mt. Wind – the proposed Cannon Solar PV – SCE's solar PV – Chevron's project - etc. etc.

Granted, we have wind and sun which should be shared with our countrymen. But we also have the Mojave Desert which is a treasure unto itself - which cannot be consumed for the benefit of the urban coastal basin. Lucerne Valley provides that megalopolis with limestone, cement, aggregate (with its incessant truck traffic and no sales tax revenue for us since these raw materials are “wholesale” – providing sales tax only for other jurisdictions when converted to final products), recreation (particularly the resource-consumptive and largest OHV open areas in the nation), power line/pipeline corridors, tremendous amounts of acreage designated for expanding military bases, public open space, immense areas set-aside for habitat protection, etc. etc.

As alternatives to large-scale renewable facilities on public land, this project's analysis should include a quantitative assessment of the megawatts of solar power that could potentially be generated within the urban areas of demand (ie: roof top and parking lot systems) prior to any further commitment of public land resources to subsidize urban areas.

Use of BLM land should not displace private sector opportunities – with the cheaper use of gov. land competing w/solar plant options on private land (ie: tremendous amounts of fallowed agricultural and disturbed parcels in s. Cal. counties that cannot otherwise be developed due to water and other restrictions) - allowing landowners to make the best use of their properties – in turn providing local jurisdictions with more property tax revenue.

We also have to deal with the dilemma; "where and how do we mitigate the impacts of all these proposed projects?"

Utilities, PUC and the renewable industry need to devise means to reward communities that will bear the burden of all these solar/wind plants – and in turn provide incentives for acceptance (ie reduced elec. rates, etc). Minimal local employment, minor amounts of property taxes and the occasional donation to some community organization do not provide adequate compensation. Even a program ensuring the County receives any sales tax revenue does not substantially benefit the affected community.

SPECIFIC COMMENTS

The EIS needs to assess and mitigate the following:

If even two of these proposed projects start construction at the same time – related traffic through town will become a major impact that must be mitigated.

De-brushing/grading will create a long-term dust source, adversely affecting the facility and down-wind receptors. Minimal grading, vegetation mowing and placement of decomposed granite or small gravel will help to stabilize the site and reduce weed infestations – as well as enhancing native re-vegetation if and when facilities are removed.

Santa Fe Fire Rd. should be paved or at least graveled – benefit to local residents and eliminating a dust source.

A right-turn lane on Hwy 247 would provide safer egress in this area of high-speed traffic – especially for the construction phase.

Project's effect on surrounding private land values.

Include the total project's phases in the analysis – not just Phase 1.

The cost/benefit of power produced vs. from all other sources.

The existing transmission line's available capacity – ultimate requirement for upgrading.

Net transmission loss through said line.

Impact on Mojave Water Agency's Morongo Pipeline.

Effect on a possible future "historic/scenic" designation for Hwy 247 (Old Woman Springs Rd.)

Bonding requirements for site reclamation/restoration.

Cumulative impacts (environmental, socio-economic, traffic, visual, etc.) from this and all other proposed projects proposed for the Lucerne Valley/Johnson Valley region – (ie: LADWP's GPN transmission line, Granite Mt. Wind, Fry Mt. Wind, Edison Solar, Cannon Solar, 29 Palms Marine Base expansion, etc.).

From: [Varieras, Raphael](#)
To: LucerneSolar@blm.gov
Cc: [Gregory Thomsen@ca.blm.gov](mailto:Gregory_Thomsen@ca.blm.gov); [Ambatipudi, Ram](#); [Veale, Timothy \(TVEALE\)](#); [Sean Kiernan](#); [Samantha Smith](#)
Subject: CES Comment Letter
Date: 05/19/2010 05:59 PM
Attachments: [CES Comment Letter.pdf](#)

To whom it may concern,

Please find comments to the draft environmental impact statement for the proposed Lucerne Valley solar project attached to this email.

Sincerely,

Raphael Varieras
Project Development Manager
Utility Scale Projects

Chevron Energy Solutions
345 California Street, 18th Flr.
San Francisco, CA 94104
Tel 415 733 4735
Fax 415 733 4950
raphael.varieras@chevron.com

 Please, think green before printing this email

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Raphael Varieras
Project Development Manager

Chevron Energy Solutions
345 California Street, 18th Flr.
San Francisco, CA 94104
Tel (415) 733-4735
Fax (415) 733-4950
raphael.varieras@chevron.com

May 18, 2011

Mr. Greg Thomsen
Bureau of Land Management
California Desert District Office
22835 calle San Juan de los Lagos
Moreno Valley, CA 92553

Draft Environmental Impact Statement and California Desert Conservation Area Plan Amendment for the Proposed Chevron Energy Solutions Lucerne Valley Solar Project

Mr. Thomsen,

Upon review of the above referenced document (distributed January 2010), as applicant we offer the following comments for your consideration and inclusion:

1. Our revised site phasing plan (Figure 2.1) and site layout plans (Figures 2.2a & 2.2b) will be sent out to you on a CD for overnight delivery. The phasing has been revised during detailed engineering to defer construction of the eastern portion of the site until Phase 2. This defers the design and construction costs in the area susceptible to the greatest surface water flows, as well as the potential impacts and mitigation associated with grading and development of this area. Additionally, should the transmission line capacity not be upgraded by SCE, this portion of the site would not be developed, avoiding the potential impacts all together. The revised site layout plans have been revised to reflect both fixed tilt and single axis tracker systems.
2. During detailed engineering, we have concluded that cutting vegetation at 4-inches above the ground would not be practical for construction. In all likelihood, the vegetation would be removed and 420 acres of the site would be rough graded. The DEIS states that the vegetation on the site would be cut to 4-inches above the ground. Since this area would then be shaded by solar panels after construction is complete, this would essential result in the loss of all vegetation on the developed portion of the site (as acknowledged in Section 4.6.2.2 of the EIS). Consequently, the change to rough grading this area would not result in new or different impacts as compared to what has been evaluated in the EIS.
3. We disagree with the conclusion in the water resources section that states: "Therefore, it is not possible at this time to estimate what the potential flood risk is at the site and the possible effects." The project would maintain existing flow patterns and velocity for surface water run-off from the site, and the potential for flooding would not change as a result of the project. The effects related to flooding would most likely be limited to damage to Project equipment placed in areas where high-velocity flooding would occur. A finalized hydrology study will also be included on the CD.

May 19, 2010
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Please accept this as a formal request to revise the above referenced document to reflect these changes. Thank you in advance for your review and consideration. Please contact us with any questions or comments.

Respectfully,

Raphael Varieras



Energy Solutions

May 20th, 2010

Raphael Varieras
Project Development Manager

Chevron Energy Solutions
345 California Street, 18th Flr.
San Francisco, CA 94104
Tel (415) 733-4735
Fax (415) 733-4950
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**Draft Environmental Impact Statement and California Desert Conservation Area Plan Amendment
for the Proposed Chevron Energy Solutions Lucerne Valley Solar Project**

Mr. Thomsen,

This letter is to clarify the comments made to the above documents in our previous letter dated May 18, 2010. Where it reads "the site would be rough graded", as applicant, we would like to explain the intent embodied in the terms "rough graded": through the grubbing and scarifying process, it is expected that the contours of the site will be modified while the general slope and undulations of the site will be preserved.

Thank you in advance for your review and consideration. Please contact us with any questions or comments.

Respectfully,

Raphael Varieras

**WEED CONTROL PLAN
THE LUCERNE SOLAR
SAN BERNARDINO COUNTY,
CALIFORNIA**

Revision 1 dated January 14, 2010

Chevron Energy Solutions
345 California Street, 18th Floor
San Francisco, CA 94104

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List of Acronyms and Abbreviations

°F	degrees Fahrenheit
BLM	Bureau of Land Management
BMP	Best Management Practices
Cal-IPC	California Invasive Plant Council
CDCA	California Desert Conservation Area
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
DPR	Department of Pesticide Regulation
EPA	U.S. Environmental Protection Agency
FLPMA	Federal Land and Policy Management Act
GIS	geographic information system
MOU	Memorandum of Understanding
mph	mile(s) per hour
MW	Megawatt
MWMA	Mojave Weed Management Area
NPPA	Native Plant Protection Act
PAR	pesticide application record
PEIS	Vegetation Treatments Using Herbicides on Bureau of Land
PPA	Plant Protection Act of 2000
Project	Lucerne Solar Project
PUP	pesticide use proposal
U.S.C.	U.S. Code
USDA	U. S. Department of Agriculture

SECTION 1 INTRODUCTION

1.1 PLAN PURPOSE

This weed control plan is intended to provide: (1) monitoring, preventative, and management strategies for weed control during construction activities at the Lucerne Solar Project (Project); (2) control and management of weeds in areas temporarily disturbed during construction where native seed will aid in site revegetation; and (3), a long-term strategy for weed control and management during the operation of the project.

1.2 WEED DEFINITION

The term “noxious weed” is defined in the federal Plant Protection Act (*7 U.S. Code [U.S.C.] 7701 et seq.*) as any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products); livestock, poultry, or other interests of agriculture; irrigation; navigation; the natural resources of the U.S.; the public health; or the environment. Weeds are typically characterized by non-native plants that aggressively colonize new areas and can grow to dominate native plant communities if uncontrolled. Weeds could alter physical or chemical soil conditions, out-compete native vegetation, and dominate the landscape to the detriment of native plants and wildlife. Weeds could also preempt ground and surface water resources, compromise agricultural operations, conflict with recreational values, create fire hazards, and compromise aesthetic values of native or urban landscapes. Weeds are often quick to colonize disturbed areas, including construction sites, roadsides, irrigated sites, or any other area with altered hydrology, soil structure, or soil chemistry.

1.3 OBJECTIVES

This plan lists and assesses weeds that do or could potentially occur in the project vicinity. It also provides a target list of weeds that will be controlled; survey methods for weed presence during construction and operation; weed control methods; and reporting requirements. The appropriate objectives for controlling potential weed infestations at the project site will be defined on a case-by-case basis.

Weed management objectives for the project include the following:

- **Prevention:** This objective is aimed at preventing infestation expansion and spread, and may be conducted with or without attempts to reduce infestation density. Prevention focuses on halting spread until suppression or eradication can be implemented, and is practical only to the extent that the spread of seeds or vegetative propagates can be prevented.
- **Eradication:** This control objective is aimed at the elimination of individuals of a particular species within a specified area. This will be the goal for most weed species at the project, and is appropriate where the weed is of considerable economic and environmental concern and the population size is manageable.
- **Suppression:** This objective is aimed at reducing current infestation density, but not necessarily directed at reducing the total area or boundary of the infestation. This applies to many widely distributed, high-density weeds where eradication is not feasible.

1.4 MANAGEMENT ROLES

Lucerne Solar is responsible for implementing this plan. It is anticipated that Lucerne Solar’s contractors and other designees responsible for implementing components of this plan will include the following:

- Contractor(s) – Contractual language will be included in construction documents and ongoing maintenance contracts to ensure that contractors, subcontractors, vendors, maintenance personnel and other parties, performing either construction or ongoing maintenance or repairs at the project site, abide by and implement the provisions of this plan. Implementing the construction provisions of this plan will be a part of construction contracts. Restoration contractors, landscape contractors, and other specialists will implement specific provisions of this plan either as subcontractors to the general construction contractor, or through independent contracts with Lucerne Solar.
- Construction Manager – The construction manager will have ultimate oversight of the construction contractor to ensure compliance with the provisions of this plan.
- Environmental Compliance Adviser – Lucerne Solar will designate an environmental compliance adviser to provide oversight of construction and maintenance practices and ensure compliance with the provisions of this plan. The environmental compliance advisor will be contracted directly by Lucerne Solar and will coordinate with the construction manager to ensure contractor compliance with environmental requirements for construction and with the power plant operator to ensure compliance during ongoing maintenance activities.
- Bureau of Land Management – As the administering land management agency, the Bureau of Land Management (BLM) will provide ultimate approval of the contents of this plan, and compliance oversight of its provisions. BLM will provide timely review of work products including this plan, modifications or amendments to this plan, and subsequent reports as required in this plan.

SECTION 2 APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

SECTION 2 APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

2.1 FEDERAL LAWS AND REGULATIONS

2.1.1 Federal Noxious Weed Act Of 1974

The Federal Noxious Weed Act of 1974 (7 U.S.C. §§ 2801-2814, January 3, 1975, as amended 1988 and 1994) provides for the control and management of non-indigenous weeds that injure, or have the potential to injure, the interests of agriculture and commerce, wildlife resources, or the public health. It gives the Secretary of Agriculture broad powers in regulating transactions in and movement of noxious weeds. The act states that no person may import or move any noxious weed identified by regulations of the Secretary of Agriculture into or through the U.S., except in compliance with the regulations, which may require that permits be obtained. The act also requires each federal agency to develop a management program to control undesirable plants on federal lands under the agency's jurisdiction, and establish and adequately fund the program. Some of the provisions of this act were repealed by the Plant Protection Act of 2000 (PPA), including U.S.C. 2802 through 2813. However, Section 1 (findings and policy) and Section 15 (requirements of federal land management agencies to develop management plans) were not repealed (7 U.S.C. 2801 note; 7 U.S.C. 2814).

2.1.2 Plant Protection Act of 2000

The Plant Protection Act of 2000, as amended (7 U.S.C. 7701-7786) states that the detection, control, eradication, suppression, prevention, or retardation of the spread of plant pests or noxious weeds is necessary for the protection of the agriculture, environment, and economy of the U.S. This act defines the term "noxious weed" (7 U.S.C. 7702 § 403) to mean any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the U.S., the public health, or the environment. This act specifies that the Secretary of Agriculture may prohibit or restrict the importation, entry, exportation, or movement in interstate commerce of any noxious weed if it is determined "that the prohibition or restriction is necessary to prevent the introduction into the [U.S.] or the dissemination of a plant pest or noxious weed within the [U.S.]," and authorizes the issuance of implementing regulations. Subsequent regulations implemented by the Noxious Weed Control and Eradication Act of 2004 amended the PPA.

2.1.3 Noxious Weed Control and Eradication Act of 2004

The Noxious Weed Control and Eradication Act of 2004 (P.L. 108-412) amended the PPA by adding a new subtitle, "Subtitle E--Noxious Weed Control and Eradication" (7 U.S.C. 7781- 7786), which authorizes the Secretary of Agriculture to establish a program to provide financial and technical assistance to public and private landowners for the control or eradication of noxious weeds. This act defines noxious weeds and removes references to statutes that were repealed upon enactment of the PPA. This act prohibits the movement of a federally designated noxious weed into or through the U.S. unless a permit is obtained for such movement and the movement is consistent with the specific conditions contained in

SECTION 2 APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

the permit. This act specifies that such movement, under conditions specified in the permit, may not involve a danger of dissemination of the noxious weed in the U.S.; otherwise such a permit will not be issued.

2.2 STATE AND LOCAL LAWS AND REGULATIONS

2.2.1 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of the 1977 Fish and Game Code (Sections 1900 through 1913) directed the California Department of Fish and Game (CDFG) to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA gave the CDFG Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take.

2.2.2 California Food and Agricultural Code

Various portions of this code pertain to weed management. Specifically, Food and Agricultural Code Section 403 states that the Department of Food and Agriculture should prevent the introduction and spread of injurious insect or animal pests, plant diseases, and weeds. Under Sections 7270 through 7224, the California Commissioner of Agriculture is granted the authority to investigate and control weeds, and specifically to provide funding, research, and assistance to weed management entities, including eligible weed management areas or county Agricultural Commissioners, for the control and abatement of weeds according to an approved integrated weed management plan.

California Food and Agriculture Code Section 5101 and 5205 provides for the certification of weed-free forage, hay, straw, and mulch. This portion of the code recognizes that many weeds are spread through hay, straw, and mulch, used for both forage and ground covers. The code allows for in-field inspection and certification of crops to ensure that live roots, rhizomes, stolons, seeds, or other propagative plant parts of weeds are not present in the crop to be harvested. Certified weed-free forage, hay, straw, and mulch are required on BLM land. Mulch and/or hay bale materials used for erosion control at the project will be required to meet this certification.

2.2.3 San Bernardino County General Plan

San Bernardino County has a General Plan that is the fundamental policy document for the unincorporated, privately-owned lands of San Bernardino County. It is adopted by the Board of Supervisors, and contains the goals, policies, and implementing actions for a variety of issues including natural and man-made hazards and natural and man-made resources. The purpose of the General Plan is to set the framework for decision-making regarding the County's long-term development and utilization of resources, and provides the rules by which land can be developed. The General Plan includes goals and policies to preserve rare and endangered species and protect areas of special habitat value; and to establish plans for long term preservation and conservation of biological resources (San Bernardino County Plan at II-C1-4). Proposed development projects must be compatible with policies set forth in the Biotic Resources and Resources Conservation overlays which identify special management for the protection of habitat that supports important flora and fauna in the unincorporated areas of the County.

SECTION 2 APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

2.3 STANDARDS

This section contains discussion of the conservation and management plans that are relevant to weed control at the project. These plans were created in response to either regulatory mandates, or internal agency guidance. This section contains a summary of these plans.

2.3.1 Conservation and Management Plans

Bureau of Land Management

The BLM has prepared a Programmatic Environmental Impact Statement (PEIS) for 17 Western States that describes vegetation treatments using herbicides for weed control. This document is the result of extensive public involvement and outlines the specific decisions, standard operating procedures, and mitigation measures for the use of herbicides on BLM lands. The selected alternative of the PEIS identifies the active herbicidal ingredients approved for use on BLM land, and the herbicidal ingredients that are no longer approved for use. The Record of Decision for the PEIS defers to approved land use plans the determination of areas to be treated through BLM's integrated pest management program, and makes no land use or resource allocations in this regard.

Appendix B, Herbicide Treatment Standard Operating Procedures, of the PEIS (Appendix A of this plan), specifies management of weeds and application of pesticides on BLM land. Table B-1, Prevention Measures, specifies avoidance measures to limit weed infestation, and Table B-2, Standard Operating Procedures for Applying Herbicides, provides details on herbicide application. The procedures listed in these appendix and tables are incorporated as requirements of this plan.

California Desert Conservation Area Plan

The California Desert Conservation Area (CDCA) comprises one of two national conservation areas established by Congress at the time of the passage of the Federal Land and Policy Management Act (FLPMA). The FLPMA outlines how BLM will manage public lands. Congress specifically provided guidance for the management of the CDCA and directed the development of the 1980 CDCA Plan (BLM 1980). The document provides no specifics about weed management, but specifies management strategies for broad areas of the plan boundary.

Mojave Weed Management Area MOU

The Mojave Weed Management Area (MWMA) was established in a Memorandum of Understanding (MOU) in ~~1996~~ 2002 as a coordinated approach among Federal, State and local agencies to improve the effectiveness of weed management efforts in the Mojave Desert. The focus of the MOU is on the exclusion, detection, eradication, and suppression of weeds, with a priority placed on the species listed as weeds by the California Department of Food and Agriculture and other species of local significance as they are identified. The signatory agencies and organizations will cooperate in developing coordinated work plans and seeking funds to support the activities of the MWMA. In addition, public education on weed identification, prevention, and control will be a primary goal of the MWMA. The geographic scope of the MWMA includes the portion of San Bernardino County in the Mojave Desert Resource

SECTION 2 APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

Conservation District, the portion of Inyo County east of Death Valley National Park, all of Death Valley National Park, and all of Joshua Tree National Park. As part of the MOU, the MWMA partners pledge to educate the public about ~~As part of this MOU, the MWMA partners pledge to educate the public about~~ weeds, their identification, prevention, and methods of control, and promote the control and prevention of weeds on both private and public land.

SECTION 3

NOXIOUS WEED ASSESSMENT

SECTION 3 WEED ASSESSMENT

3.1 WEED SPECIES

Weeds are defined for this document as species of non-native plants that are included on the weed lists of the California Department of Food and Agriculture (CDFA 2007), the California Invasive Plant Council (Cal-IPC 2006), the *MWMA*, or those weeds of special concern identified by BLM. A list of all invasive species that do or could potentially occur in the project vicinity is provided in Table 1.

3.2 FIELD SURVEYS

Weeds were searched for during the biological field surveys. During protocol surveys, surveyors made lists of all plant species encountered in the field, taking special note of the distribution and abundance of non-native species that are classified as weeds on the site. The same procedure was used in surveys of the 1-mile buffer.

3.3 KNOWN AND POTENTIAL WEED OCCURRENCES

Several weeds are known to occur in the project vicinity. The weed of highest concern in the general area is Sahara mustard (*Brassica tournefortii*) because of the potential of this species to spread and impact native plant communities. Other weeds of concern are also present. Red brome (*Bromus madritensis ssp. rubens*) and russian thistle or tumbleweed (*Salsola tragus*). Table 1 lists potentially occurring invasive species, and identifies which species were observed during site surveys. Each invasive species has a rating based on the California Invasive Species Council rating system, and the CDFA.

SECTION 4

WEED MANAGEMENT AREAS

SECTION 4 WEED MANAGEMENT AREAS

Weed management will occur site-wide; however, specific areas will require unique management considerations depending on a range of factors described in this section.

4.1 TEMPORARY DISTURBANCE AREAS

The Project will be designed to minimize ground disturbances and resulting environmental impacts wherever practicable. Santa Fe Fire Trail will be the main roadway used for site access. The number of service roads within the site for access and maintenance will be kept to a minimum and specifically located to provide main routes for quick access to the site for construction, maintenance, and operations. Culverts will be installed in a limited number of locations, as necessary, for crossing of natural washes. Site layout for the Project will be based on avoiding major washes and minimizing surface disturbing activities in order to preserve intact soil crusts on site.

Weed management issues at temporary construction areas include the fact that soil disturbance during construction and temporary use will create habitat well suited to disturbance-adapted invasive species and, therefore, measures to minimize the potential for weed introduction by personnel and equipment will be needed. ~~Any areas temporarily disturbed will be revegetated, using a native seed mix. Chevron will submit a revegetation plan for BLM's review and approval. Revegetation areas will continue to be prone to weed invasion and establishment, and ongoing monitoring and management will be required.~~

Potential areas meeting these criteria are described below. Other temporary disturbance areas created during construction will follow a similar weed management strategy as those areas outlined below. Weed management measures for these areas, including monitoring frequency, target weed species, and control methods, are included in this plan.

4.2 PERMANENTLY DEVELOPED AREAS

The areas describe in this section would be permanently developed, but could support weedy species along peripheral disturbed areas and function as seed reservoirs to adjacent natural habitats if not managed.

Project construction will occur in two phases beginning in the northeastern corner of the site and moving south and west. Phase I development includes the northeastern section of the Project area down to the Zircon Road, the portion of the site bordered on the north by Zircon road and on the east by Santa Fe Fire Trail and the first phase development area West of Sante Fire Trail. Phase II includes the expansion of the Project to portions of land located both southwest and west of Phase I in the area West of Santa Fe Fire Trail. Due to the modularity of solar photovoltaic farms, construction for both phases will occur in incremental steps with sections of the solar field becoming operational before significant construction work on other sections of the field. It is expected that site construction will begin during the fourth quarter of 2010

Soil disturbance during construction will create habitat well suited to disturbance-adapted invasive species, and continual movement within the area of personnel and heavy equipment will potentially

SECTION 4

WEED MANAGEMENT AREAS

introduce weed propagules. The area will require ongoing weed monitoring and maintenance during construction, and equipment will require cleaning at wash stations as specified below. During operations, equipment and personnel will continue to access the area for maintenance of the inverters and solar arrays. Precipitation and wash water runoff from the cleaning of photovoltaic panels will provide a water source that could support weed establishment and growth. These areas will require continual weed management and control.

Landscaped Areas

Landscaped areas will be present near the buffer zone where the Joshua trees are transplanted. Ongoing weed control in these areas is anticipated due to the soil disturbance and application of irrigation water.

Roads

Roadsides and the medians of unpaved service tracks are vulnerable to weed invasion. Roads often alter local hydrology; are subject to initial and ongoing disturbance during construction, maintenance, and use; provide topographic variation that could capture wind or waterborne seed; and may be subject to seed distribution from passing vehicles. Ongoing weed management will target roadside weeds.

Other Permanent Facilities

Peripheral areas throughout the facility are anticipated where conditions are suitable for weed establishment. This may include soils that have been cleared, compacted, or otherwise disturbed; areas where hydrology is altered, such as from increased drainage from developed areas; or areas where continued vehicle or foot traffic persist. Ongoing weed management will survey and target these areas for management to avoid creation of weed seed reservoir areas, which could affect adjacent undisturbed habitats.

SECTION 5

MONITORING AND SURVEY METHODS

SECTION 5 MONITORING AND SURVEY METHODS

5.1 WEED IDENTIFICATION

Monitoring and removal of weeds requires skill and training in plant identification. Training in plant identification and field manuals with photographs of native desert plants and of common weeds will be provided to field staff including biological monitors, weed abatement contractors, plant operators and staff, and construction workers. Online resources that are available including the following:

- The University of California digital library at <http://www.calflora.org/> contains species information and an extensive photo collection.
- The California Invasive Plant Council website is at <http://www.cal-ipc.org>. This website contains an invasive plant database, plant profiles, and extensive other information on invasive plants and control.
- The U.S. Department of Agriculture (USDA) National Invasive Species Information Center is at <http://www.invasivespeciesinfo.gov/>. This website has information on invasive species and links to the extensive USDA PLANTS database (<http://plants.usda.gov/>), with species profiles and photographs.
- The MWMA has weed management goals to protect and enhance biodiversity, water resources, reduce fire hazards, and protect agricultural interests. The website is at <http://www.mojavewma.org/>, and has information on the common problem weeds in the area.
- The California Native Plant Society maintains information including a database on California vegetation including rare, threatened, and endangered plants (<http://www.cnps.org/>).
- BLM also maintains a website with useful information on noxious weeds, including management strategies for weeds in California (<http://www.blm.gov/weeds/>).
- The Center for Invasive Plant Management maintains a website with useful information and resources, including plant profiles, and can be accessed at <http://www.weedcenter.org/>.
- *Weeds of California and other Western States* by Joseph M. DiTomaso and Evelyn A. Healy, 2006, University of California Department of Agriculture and Natural Resources, is a valuable resource and available at many online book suppliers.

5.2 SURVEYS AND MONITORING

5.2.1 Monitoring Methods

Surveys and monitoring will ensure timely detection and prompt eradication of weed infestations, which are essential to a long-term strategy for weed management.

Construction Areas

The environmental compliance advisor will oversee biological monitors who will be present during site clearing and construction activities. Biological monitors will be responsible for inspecting construction

SECTION 5

MONITORING AND SURVEY METHODS

areas, identifying the presence of weeds, and inspecting equipment cleaning facilities for weed seed removal. The environmental compliance advisor will be responsible for prescribing management activities consistent with this plan when weeds become established. Monitoring of construction areas and access routes will be conducted as necessary to insure proper weed control.

General Operations Monitoring

General site monitoring of the operating facility will be conducted by operations personnel on an ongoing basis. Weed control will be conducted, as needed, by operations personnel, ~~at a minimum of every other week during the growing season (March through August), and once a month during the remainder of the year. Operations personnel will be~~ trained to identify weedy and native species.

Known Infestation Areas

Where weed infestation occurs, and treatment is implemented, the area will be targeted for ongoing monitoring to ensure that treatments are effective and that complete eradication has been achieved. Visits to known infestation areas will continue until weeds in the area are controlled.

5.2.2 Database and Mapping

Locations of weed occurrences, with data on species, detection date, growth stage, infestation extent, treatments implemented, results of treatment, and current status will be maintained during the construction and operation phases. This will not be a requirement for the previously designated ubiquitous invasives. A geographic information system (GIS) will be used to map and store data. The priority of infestation areas will be established based on species, vulnerability of the site to invasion, growth stage, and effectiveness of treatment. Also included will be areas mapped as vulnerable to weed invasions. Vulnerability will be assessed on the following: (1) availability of weed propagule sources, such as along roadsides, (2) areas disturbed, such as through land clearing and earthwork; or (3) nearby areas with known prior or treated weed infestations or existing infestations that are out of the managed area.

SECTION 6

WEED MANAGEMENT

SECTION 6 WEED MANAGEMENT

6.1 SPECIES DESCRIPTIONS AND MANAGEMENT STRATEGY

Descriptions of the more common or troublesome weeds occurring or potentially occurring at the project are provided in this section, along with the basic weed management strategy applicable to each. Table 1 provides a complete list of the weed species of concern in this area, and Table 2 provides additional information on management strategy and control methods for observed and potentially occurring weed species. Management strategies must encompass not only eradication, but also identify the means of eradication and the plant species to be eradicated.

Not all invasive plant species can or should be eradicated. Certain ubiquitous exotic species (*e.g.*, *Bromus madritensis ssp. rubens*, *Schismus spp.*, *Erodium cicutarium*, *Avena spp.*) will initially be monitored only because control of these aggressive colonizers is impractical, and it would also likely slow site rehabilitation by slowing the rate of secondary succession and surface stabilization. In addition, these species can play a beneficial role in accelerating surface stabilization and, therefore, reduce soil erosion caused by sheet flow or high winds. Complete eradication of large areas where infestations are already established would likely adversely affect other pioneer species, and is likely to be impractical because the area is likely to be re-invaded from adjacent lands in the absence of physical barriers that isolate the area.

The following list provides brief descriptions of the weed species of particular concern at the project. Additional weed species are listed in Table 1.

- **Wild oats** (*Avena spp.*) Cal-IPC has determined that this plant has a moderate invasiveness rating in California (Cal-IPC 2006). BLM and other agencies recognize that because of the widespread distribution of wild oats, this species is not considered feasible to control; therefore, weed abatement efforts for wild oats will not be required.
- **Sahara mustard** or **African mustard** (*Brassica tournefortii*) was observed on the project site. Cal-IPC has declared this plant highly invasive (Cal-IPC 2006). This species will be eradicated whenever encountered.
- **Red brome** (*Bromus madritensis ssp. rubens*) was observed on the project site. This species is an introduced Eurasian grass adapted to warmer habitats that can be frequently found at the base of desert shrubs. It is widespread in the Mojave Desert and has been found in the project area. Seeds from this species can disperse readily and across large distances. Cal-IPC has declared this plant highly invasive (Cal-IPC 2006). Stands of red brome have played an important role in accelerating wildfires in desert scrub communities (Brooks 1999); a deleterious effect partly because warm-desert plant communities are ill-adapted to fire (Brown and Minich 1986). Because of its widespread distribution, red brome is not considered feasible for general control and weed abatement measures for this species will not be required.
- **Cheat grass** (*Bromus tectorum*) is among the most widely distributed invasive plant species in the western U.S. Closely related to red brome, it is adapted to colder steppe and woodland habitats. It is known to occur in the vicinity, but has not been observed on the project site. Cal-IPC has declared this plant highly invasive (Cal-IPC 2006). Because of its widespread

SECTION 6

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distribution, cheat grass is not considered feasible for general control and weed abatement measures will not be required.

- **Red-stemmed filaree or storksbill** (*Erodium cicutarium*), a widespread annual species common in disturbed habitats, was not observed on the project site. It can form dense, transient populations when conditions are suitable. It has a limited overall rating by Cal-IPC, generally because the ecological impacts of the species are considered minor. Because of its widespread distribution, red-stemmed filaree is not considered feasible for general control and weed abatement measures will not be required onsite.
- **Mediterranean grass** (*Schismus* spp.) was not observed on the site. Cal-IPC has determined that this plant has a limited invasiveness rating in California (Cal-IPC 2006). BLM and other agencies recognize that because of the widespread distribution of Mediterranean grass, this species is not considered feasible to control; therefore, weed abatement efforts for Mediterranean grass will not be required.
- **Russian thistle or tumbleweed** (*Salsola tragus*) is particularly adapted to recently disturbed habitat, and tends to be restricted to roadway shoulders and to sites where the soil has been recently disturbed. This species was observed at the project site. It was widespread, but with a patchy distribution on the project site. Cal-IPC has determined that this plant has a limited invasiveness rating in California (Cal-IPC 2006). New occurrences should be eradicated along newly disturbed sites to the extent feasible. However, since this species is already established on the site complete eradication may be impossible and weed abatement efforts should focus on containment to areas where tumbleweed was already established prior to project commencement.
- **London rocket** (*Sisymbrium irio*) is widespread throughout the warm deserts of North America. This species was not observed at the project site, but is a common invader on disturbed sites. Cal-IPC has declared this plant moderately invasive (Cal-IPC 2006). London rocket will be eradicated at the project site wherever it is observed.

New Weeds

Weeds not identified in the descriptions above could also potentially colonize or invade the site, both during construction as well during operation. During construction, the environmental compliance advisor will be required to regularly update the list of potential weeds, and identify new potential threats. This will include developing a management strategy and management methods appropriate to the plant species and nature of the potential invasion. Similarly, the facility plant manager or appropriate designee during operations will be required to continually update the potential weed list and provide monitoring and management appropriate to new species.

6.2 PREVENTATIVE MEASURES

The prevention of invasive plants from colonizing new areas is far more cost-effective than eradication and control (Davies and Sheley, 2007). Therefore, preventative measures taken to curb the spread of weed propagules and inhibit their germination should include the all measures listed in Appendix A, Table B-1, "Preventative Measures" or the BLM Field Office's best management practices for weed control.

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6.2.1 Construction

Worker Environmental Training

Mandatory site environmental training for contractors or related personnel entering the site during construction will include weed management awareness training. Personnel affected will include contractors, subcontractors, inspection personnel, construction managers, construction personnel, and individuals bringing vehicles or equipment onto the site. Training will include weed identification and training on the impacts of weeds on agriculture, livestock, wildlife, and fire hazard. Impacts of weeds on native vegetation, wildlife, and fire activity will be discussed including an explanation of how invasive grasses provide a fine fuel understory which can spread fire from shrub to shrub and how this has historically been absent in the native desert ecosystem. Proposed measures to prevent the spread of weeds in areas currently not infested, and controls on their proliferation when already present, will also be explained.

Wash Stations

With the underlying principal of prevention being the most cost-effective way to deal with invasive plant species early, wash stations will be set up to remove mud and dirt from construction vehicles. This will prevent the spread of weed seeds into new habitats as trucks with mud and dirt containing seeds is one of the most common ways weed seeds are spread to new environments. Vehicles entering from offsite locations will be required to stop for cleaning. Heavy equipment entering the site on trailers will also require cleaning. The contractor will ensure that vehicles and equipment are free of soil and debris capable of transporting weed seeds, roots, or rhizomes before the vehicles and equipment are allowed to use access roads. Vehicles will be reasonably dry before leaving the wash station. Some weeds, such as Sahara mustard, require water for germination and therefore, vehicles leaving the station wet could promote recruitment of Sahara mustard along access roads.

Wash stations will be located to avoid sensitive biological resources, and will be constructed with either a concrete wash pad or a gravel pad. Silt fencing, weed-free certified hay bales, or other means of trapping wash water sediment and seeds will be installed around the perimeter of wash stations.

Using high-pressure water equipment, vehicles will be washed before entering the construction site. The wash down will concentrate on tracks, feet, or tires and on the undercarriage, with special emphasis on axles, frame, cross members, motor mounts, and on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicles or heavy equipment will be required to remove caked on mud and debris before entering site. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Sediment accumulated from the washing will be shoveled out daily and placed in a sealed container for disposal in an approved landfill. If removal requirements exceed the capability of the wash stations, equipment will be washed elsewhere before being allowed on the site.

Project workers will also inspect, remove, and dispose of weed seed and plant parts found on their clothing and personal equipment. These items will be bagged and disposed of in a dumpster for deposit in an approved landfill.

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When vehicles and equipment are washed, a log will be kept stating the location, date and time, serial number and type of equipment, and methods used. The crewmember that washed the vehicle will sign the log. Written logs will be included in the monitoring reports.

Infestation Containment and Control

During construction, areas of concern will be identified and flagged in the field by biological monitors. The flagging will alert construction personnel that weeds are present and will prevent access into these areas until weed management control measures have been implemented. Contractors will avoid or minimize travel through these marked off weed-infested areas. Control measures will be implemented immediately as described in the sections below. The contractor will begin project operations in weed-free areas whenever feasible before operating in weed-infested areas, until the ECM has verified completion of weed treatments within weed-infested areas.

Site Soil Management

The contractor will limit the size of ground disturbance to the absolute minimum necessary to perform the activity safely and as designed. The contractor will also avoid creating soil conditions that promote weed germination and establishment to the greatest extent practicable. Soil conditions that promote weed germination and establishment include soil excavation/disturbance, vegetation removal, soil compaction, loss or removal of topsoil and introduction of chemical compounds, including fertilizer, and soil stockpiling.

During grading or excavation activities, the contractor will minimize transporting soil within the site to limit the potential spread of weed seeds onsite. In areas where weed infestations are identified, the contractor will stockpile cleared vegetation and salvaged topsoil adjacent to the area from which they are stripped to eliminate the transport of soil-borne weed seeds, roots, or rhizomes.

Weed-free Products

Straw or hay bales used for sediment barrier installations, gravel mulch, and soil may carry weed seeds. The contractor will ensure that straw or hay bales used for sediment barrier installations are obtained from certified sources that are free of weed seeds. Additional products such as gravel, mulch, and soil, may also carry weed seeds. Such products should be obtained from suppliers who can provide weed-free certified materials. To the greatest extent feasible, mulch will be generated from native vegetation cleared from the site itself. At no time will soil be imported onto the site.

Weed-free Seed

Seed purchased from commercial vendors for site revegetation will be labeled in compliance with the relevant provisions of the California Agriculture Code. In addition to having the correct label, the seed should be required to be free of weeds and the label should so state.

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Site Reclamation

Currently there are no plans for site closure and reclamation. Should the Lucerne Solar project site ever be closed, a reclamation and revegetation plan with the goal of reducing the extent of weeds that persist on the site following closure would be drafted and submitted to the BLM for review and approval.

6.2.2 Operations

Facility Staff Training

Mandatory site training for maintenance personnel will include weed management. Training will include weed identification and the impacts on agriculture, livestock, wildlife, and fire frequencies. Also explained will be the importance of preventing the spread of weeds in areas currently not infested, and controlling the proliferation of weeds already present.

Infestation Containment and Control

Areas of concern which contain concentrations or new occurrences of weeds will be identified and flagged by groundskeepers. The flagging will alert personnel of weed are presence and will prevent access into these areas until weed management control measures have been implemented. Immediate control measures will be implemented as described below.

6.2.3 Site Closure

Site decommissioning and closure should include drafting and implementation of a site revegetation and rehabilitation Plan. This plan will include measures to avoid weed establishment throughout the site, and to implement long-term site rehabilitation and revegetation of decommissioned facilities. Control of weed establishment should be a central goal of long-term site rehabilitation, the long-term success of which will be enhanced by revegetation measures promoting surface stability and soil development.

6.3 ERADICATION AND CONTROL METHODS

6.3.1 Unacceptable Weed Removal Methods

Tilling

Tilling is a weed-control practice used on agricultural lands that is inappropriate in this area for weed control purposes. Tilling is ineffective in desert landscapes and tilled weeds are likely to set seed, even after burial. In addition, tilling is likely to disturb native cover stock, and will also disrupt the natural structure and chemistry of the soil, allowing weed seeds to proliferate from soil disturbance. Fragmenting weeds resulting from tilling will also lead to more widespread growth of non-native plants.

Mowing

Mowing is sometimes used to reduce weed cover late in the growing season, typically after annuals have matured. This method merely cuts back the thatch that develops during the growing season and does not

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remove weeds. It is sometimes used as a fire control method, but will result in an aggravation of weed infestation problems rather than the removal/control of weeds. Mowing is problematic for the following reasons: (1) Mowing would severely damage existing native plants, including small individuals that may or may not be visible at the time of mowing, but could be pushing their way through the canopy as they mature; (2) Mowing, which is typically done late in the spring or early summer, would result in maturation of weed seed from existing weeds after they are cut and left to desiccate, increasing weed seed in the seed bank and ensuring a robust crop of weeds in subsequent years; and (3) Native ground and shrub nesting birds could potentially use the site as a breeding ground between February and August. The federal Migratory Bird Treaty Act (16 U.S.C. 703-712; 50 Code of Federal Regulations 10) prohibits the “take” of migratory birds, and protects eggs, nests, and feathers, unless permitted. Take is defined in part as “pursue, hunt, take, capture, kill, or attempt to take, capture, or kill any migratory bird, any part, nest, or eggs of any such bird.” Hence, mowing activity during the breeding season would potentially violate this federal law.

6.3.2 Physical Removal of Weeds

The type of physical control method employed will depend upon the size and extent of weed species targeted for removal as well as the root structures of these plants. Physical control methods range from manual hand pulling of weeds to the use of hand tools to provide enough leverage to pull out the entire plant and associated root systems. Hand or power tools can also be employed to uproot, girdle, or cut plants. The Root Talon and Weed Wrench are handheld tools designed to grip the plant stems and provide enough leverage to remove roots, they may be used to pull out woody shrubs such as tamarisk or Russian olive. This effort should be focused on weed species that have a single-root mass, facilitating easy removal. Hand removal by pulling is appropriate when the plants are large enough that they will not break and leave the roots structures behind to re-sprout. For localized weed control, this is the most effective method. Hand-pulling is less effective in large areas and with weed species that spread through an underground root system (*e.g.*, Bermuda grass).

In small areas, hoeing and weed whipping can be employed to control weeds. However, care must be employed when using these methods adjacent to native plants to prevent damage to native plants. Hoeing or weed whipping must only be employed prior to a plant setting seed, otherwise this disturbance would only serve to further disperse and promote the establishment of the weed species. Pertinent considerations for hoeing and weed whipping include the following:

- Hoeing works best on patches of small weeds and with weeds that have a single-root mass. It is less effective on larger weeds that can regenerate from cut roots. It should not be used on weeds approaching maturity, as seeds can mature and be released on cut plants. Hoed plant material should be bagged and removed offsite.
- Weed whipping can be used for weed removal in limited upland areas with herbaceous plant covers; however, it should not be used on weeds approaching maturity, as seeds can mature and be released on cut plants, and care must be employed when weed whipping adjacent to native plants. Cut plant material should be bagged and removed offsite.

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6.3.3 Chemical Methods for Weed Removal

Herbicide application is a widely employed, effective control method for removing invasive weed species. One consideration is the possible inadvertent application of herbicide to adjacent native plants. Herbicide application can become a challenge when weeds are interspersed with native cover.

Permitting and Regulatory Requirements

Prior to application of herbicide, contractors will be required to obtain required permits from state and local authorities. Permits may contain additional terms and conditions that go beyond the scope of this plan. Only a State of California and federally certified contractor, who is also approved by BLM, will be permitted to perform herbicide applications. Herbicides will be applied in accordance with applicable laws, regulations, and permit stipulations. Only herbicides and adjuvants approved by the State of California and federal agency for use on public lands will be used within or adjacent to the project site. A list of approved herbicides and adjuvants is available in Appendix B.

The *Final Programmatic EIS on Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States* lists 18 herbicides acceptable for use on BLM lands (USDI 2007). Guidelines for the use of chemical control of vegetation on BLM lands are presented in the *Chemical Pest Control Manual* (BLM, n.d.). These guidelines require submittal of a pesticide use proposal (PUP) and pesticide application records (PAR) for the use of herbicides on BLM lands. Only herbicides and adjuvants approved by BLM and California Department of Pesticide Regulation for use on public land shall be used. A sample form required for the submittal of a PUP is included in Appendix C.

Lucerne Solar will submit PARs for each use of herbicides on BLM lands within 24 hours of application to the BLM Barstow Field Office. The BLM, in turn, will provide the San Bernardino County DPR with pesticide use reports. A sample form required for submittal of PARs is included in Appendix D. The occurrence of weeds within the project footprint, or where the weeds occur, will be reported to the BLM Barstow field office. The appropriate weed control procedures, including target species, timing of control, and method of control, will be determined in consultation with BLM personnel. Lucerne Solar will be responsible for providing the necessary trained personnel or hiring a contractor to implement the required weed control procedures.

Types of Herbicides

Herbicides are characterized by the way in which they inhibit plant growth. Herbicides are characterized as pre-emergent, post-emergent, selective and nonselective. A pre-emergent herbicide controls ungerminated seeds by inhibiting germination while a post-emergent herbicide is lethal to emerged plants. Some herbicides have both pre- and post-emergent activity. A selective herbicide will be active on some species of plants and not others, usually distinguishing between grasses (monocots) and broadleaf plants (dicots). A non-selective herbicide is one that is lethal to any plant species to which it is applied.

Herbicides kill plants through either contact or systemic action. Contact herbicides are most effective against annual weeds and kill only the plant parts on which the chemical is deposited. Systemic herbicides are absorbed either by roots or foliar parts of a plant and are then translocated within the plant system to

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tissues that might be remote from the point of application. Although systemic herbicides can be effective against annual and perennial weeds, they are particularly effective against established perennial weeds.

Pre-emergent herbicides inhibit germination of annuals from seed, but generally do not control perennial plants that germinate from bulbs, corms, rhizomes, stolens, or other vegetative structures. Common pre-emergent herbicide classes include the following:

- **Dinitroaniline Type:** Examples of this class are pendimethalin (Weedgrass™), trifluralin (Treflan™), benefin (Balan™), and combinations of these. These herbicides provide for pre-emergence control of annual grasses and other annuals. They are mitotic (cell division) inhibitors and are primarily effective in inhibiting root growth of germinating seeds. Selectivity is physiological or chemical in nature. Some of these herbicides could be lost by volatilization, and should not be applied in temperatures above 90 degrees Fahrenheit (°F). These herbicides need to be watered into the soil for proper activation. Some can persist for several months.
- **Dithiopyr (Dimension™)** belongs to a new class of herbicide known as pyridines. It is a selective herbicide primarily used for pre-emergence annual grass control in established turfgrass. However, it can be used for post-emergence control of young grass seedlings. It inhibits cell division and cell growth of meristematic regions (growing points of roots and shoots). Dithiopyr is lost from soil by chemical and microbial degradation.

The most commonly used post-emergent, non-selective herbicides contain a family of chemicals called glyphosates (N-[phosphonomethyl] glycine). Glyphosate is a non-selective, systemic herbicide that is effective on many annual and perennial plants. It works by blocking an enzyme pathway that is important for plant protein synthesis, which is most effective if full coverage over the plants leaf is accomplished. However, because of systemic action, even partial coverage can result in plant mortality. The herbicide is typically used in conjunction with linseed oil or another surfactant, which aids in spreading an even layer across the surface of the leaves. Because glyphosate can also be lost to volatilization, they should not be applied when the temperature exceeds 90°F.

The United States Environmental Protection Agency (EPA 1993) has deemed glyphosate to have a relatively low degree of oral and dermal acute toxicity. It is considered to be immobile in soil and readily degraded by soil microbes to the metabolite aminomethyl phosphonic acid and then to carbon dioxide. EPA states that it is minimally toxic to birds, fish, aquatic invertebrates, and honeybees (EPA 1993).

Application and Handling

Herbicide application will be based on information gathered from the BLM. Before application of herbicide, Lucerne Solar's Contractors will obtain any required permits from the local authorities. Permits may contain additional terms and conditions that go beyond the scope of this management plan. Only A State and Federally certified contractor, approved by the BLM, will perform herbicide applications. All herbicide application will be applied in accordance with applicable laws and regulations and permit stipulations. Only herbicides and adjuvants approved by California and for use on public lands will be used within or adjacent to the project site. The following general precautions will be implemented for pesticide application:

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Limitations

All herbicide applications must follow United States Environmental Protection Agency label instructions. Application of herbicides will be suspended when any of the following conditions exists:

- Wind velocity exceeds 6 miles per hour (mph) during application of liquids or 15 mph during application of granular herbicides.
- Snow or ice covers the foliage of weeds.
- Precipitation is occurring or is imminent.
- Air temperatures exceed 90°F.

Due to concerns by the FWS on potential adverse effects of herbicide applications on the desert tortoise, only herbicides with empirically proven low toxicity to test animals in the PUP process will be used. This includes post-emergent herbicide formulations with the active ingredient glyphosate, and pre-emergent herbicide formulations with the active ingredients bromacil and/or diuron.

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Transport and Mixing

During the construction phase, herbicides will be transported to the project site daily with the following provisions:

- Only the needed quantity for that day's work will be transported.
- Concentrate will be transported in approved containers only and in a manner that will prevent tipping or spilling, and in a location that is isolated from the vehicle's driving compartment, food, clothing, and safety equipment.
- Mixing will be done offsite, over a drip-catching device, and at a distance greater than 200 feet from open or flowing water, wetlands, or other sensitive resources. No herbicides will be applied at these areas unless authorized by appropriate regulatory agencies.
- Herbicide equipment and containers will be inspected for leaks daily. Disposal of spent containers will be in accordance with the herbicide label.
- During the operations phase of the project, herbicides will be stored only in cabinets of approved design and will be under lock and key.

Worker Safety

The use of small quantities of chemical herbicides will be required at the project site. Site workers have the potential to come into contact with herbicides during application and during inverter servicing and solar array inspections in areas where herbicides have been used to control weeds.

The following Best Management Practices (BMP) will be followed to ensure worker safety at the project site:

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- The project site will follow all appropriate California Department of Pesticide Regulation (DPR) requirements regarding the use of herbicides.
- Pesticide safety training for all workers including training on how to use application equipment and specific safety precautions for each herbicide being applied.
- Personal protective equipment will be supplied for every worker.
- Decontamination supplies will be available to all workers who face exposure to herbicides including showers, soap, towels and a change of clothing.
- Emergency information posted including the location of the nearest medical facility and instructions on what to do in the event of an emergency.
- Emergency transportation in the event of accidental exposure.
- Project site communication during and following herbicide application so that herbicides do not contact anyone through drift.
- Required application equipment checks.
- Observance of the recommended time before entering an area where herbicides have been applied so that trucks and workers inspecting solar arrays and inverters are not exposed to herbicides.

Herbicide Spills and Cleanup

Reasonable precautions will be taken to avoid herbicide spills. In the event of a spill, immediate cleanup will be initiated. Contractors will keep spill kits in their vehicles and in herbicide storage areas to allow for quick and effective response to spills.

The following items are to be included in the spill kit:

- protective clothing and gloves,
- absorptive clay, “kitty litter,” or other commercial adsorbent,
- plastic bags and bucket,
- shovel,
- fiber brush and screw-in handle,
- dust pan,
- caution tape,
- highway flares (use on established roads only), and
- detergent.

Response to herbicide spills will vary with the size and location of the spill, but general procedures include the following:

- BLM notification,

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- traffic control,
- dressing the cleanup team in protective clothing,
- stopping the leaks,
- containing the spilled material,
- cleaning up and removing the spilled herbicide or contaminated adsorptive material and soil, and
- transporting the spilled pesticide and contaminated material to an authorized disposal site.

Spray Methods

Vehicle-mounted sprayers (*e.g.*, handgun, boom, and injector) will be used mainly in open areas that are readily accessible by vehicle. Hand application methods (*e.g.*, backpack spraying) that target individual plants will be used to treat small or scattered weed populations in rough terrain. Calibration checks of equipment will be conducted at the beginning of spraying and periodically throughout treatment to ensure that proper application rates are achieved.

Controlling Post-emergent Herbaceous and Woody Vegetation

Suggested managing strategies and control methods for observed and potentially occurring weeds at the Lucerne Solar project site are provided in Table 2.

Controlling Pre-emergent Vegetation

The use of a pre-emergent herbicide can be a very valuable control method. All the weed species identified except salt cedar are annual plants. Most annuals propagate by seed and management of the seedbank is important in weed management involving annuals.

The PV solar array fields be managed for bare ground: the portion of the project identified for the array fields need to be cleared of vegetation before covering the bare ground with a soil binder, erecting the frames for the arrays of panels, and applying a pre-emergent herbicide prior to germination (winter). The latter will be re-applied every winter to control germination of annual weed species. This would effectively control annual weed populations over the vast majority of the project area.

All herbicide application should end by mid-May and not resume until the following December with a pre-emergent.

Generally, it is anticipated that there are few areas where pre-emergent vegetation control would be required. Pre-emergent herbicides work only on vegetation reproducing from seed, and are not effective on other types of propagules, such as resprouts from root crowns which have been cut, rhizomes, or other material. The following situations may require use of pre-emergent herbicides:

- Areas that have repeated weed problems with annual plants, with evidence of a robust weed seed crop in the seed bank, will be sprayed with pre-emergent herbicides during appropriate pre-germination periods.

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- ~~Areas beneath the southern edges of the solar arrays, because these areas will receive any drainage of wash water and precipitation, can be particularly vulnerable to weed infestations.~~
- ~~Areas surrounding the developed plant facilities, where vegetation is not planted, could benefit from pre-emergent treatments if weed problems are persistent.~~

~~Generally, pre-emergent herbicides would not be appropriate for revegetation areas or other native habitats because they are likely to inhibit the germination and growth of desirable native plant seed being used for restoration.~~

6.3.4 Competitive Vegetation

The use of native plants to out-compete invasive weed species is an effective, long-term weed control strategy incorporated for this project site. Following BMP measures laid out for Lucerne Solar, a seed mix of native plant species will be distributed within temporary disturbance areas and in other disturbed areas following completion of the project. Establishment of these species has the potential to exclude weed invasion, and over time, weed control will require less effort.

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SECTION 7

REPORTING REQUIREMENTS

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7.1 REPORT CONTENT

Implementation of the noxious weed management plan will include the following data collection and reporting guidelines.

7.1.1 Construction Reports

During the project construction phases, ongoing reporting on weed management will be included in construction weed monitoring reports. Construction weed monitoring reports will include the following information:

- Survey findings on location, type, extent, and density of weeds. These data will include mapping and photographs, as appropriate, as well as textual and tabular data content to fully describe conditions on the project site.
- Management efforts, including date, location, type of treatment implemented, and results. Ongoing evaluation of success of treatment will be included.
- Information on implementation and success of preventative measures, including status of equipment wash facilities and summary data of use; data on the worker environmental training program, including participants.
- Summary description of revegetation efforts undertaken, and their current status.

7.1.2 Long term Monitoring Reports

~~After implementation of site revegetation using native seed mixes, long term monitoring reports will be focused on success of revegetation sites. Weed management measures will be included in these reports, and will include the following relevant information:~~

- ~~• Survey findings on location, type, extent, and density of weeds. These data will include mapping and photographs, as appropriate, as well as textual and tabular data content to fully describe conditions on the project site.~~
- ~~• Management efforts, including date of efforts, location, types of treatment implemented, and results. Ongoing evaluation of success of treatment will be included.~~
- ~~• The reports will also include a complete description of restoration efforts and status at meeting performance criteria.~~

7.2 REPORTING PERIODS

All reporting concerning weed management and re-vegetation shall be submitted to the BLM Barstow Field Office.

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7.2.1 Construction Period

It is anticipated that monthly records will be kept by the environmental compliance advisor and the monitoring team.

A single post-construction report will be produced after each phase of construction is completed at Lucerne Solar, with a section summarizing the overall results of weed management, and weed status at the site. Pesticide application records (PAR) will be provided to the BLM Barstow field office on a monthly basis.

7.2.2 Long-term Monitoring Reports

~~Pesticide application records (PAR) will be provided to the BLM Barstow field office on a monthly basis. Annual monitoring reports will be produced for the duration of the monitoring period. The site surveys conducted to support this are described as follows:~~

- ~~• Monthly surveys of following native seed mix application will be conducted for the first year after installation. The data and results of these surveys will be compiled into the first year annual report, which include information on weed management activities during that year.~~
- ~~• Quarterly visits will be implemented in year two. Results of quarterly visits will be summarized and reported in the second year annual report.~~
- ~~• Thereafter, semi-annual site visits will be conducted, summarized, and reported in an annual report through the completion of the monitoring period.~~
- ~~• At the end of the monitoring period, or if success criteria are met before that, a final monitoring report will be produced to describe the outcome to date of proposed restoration, including status of weed management on the project site.~~

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Tables

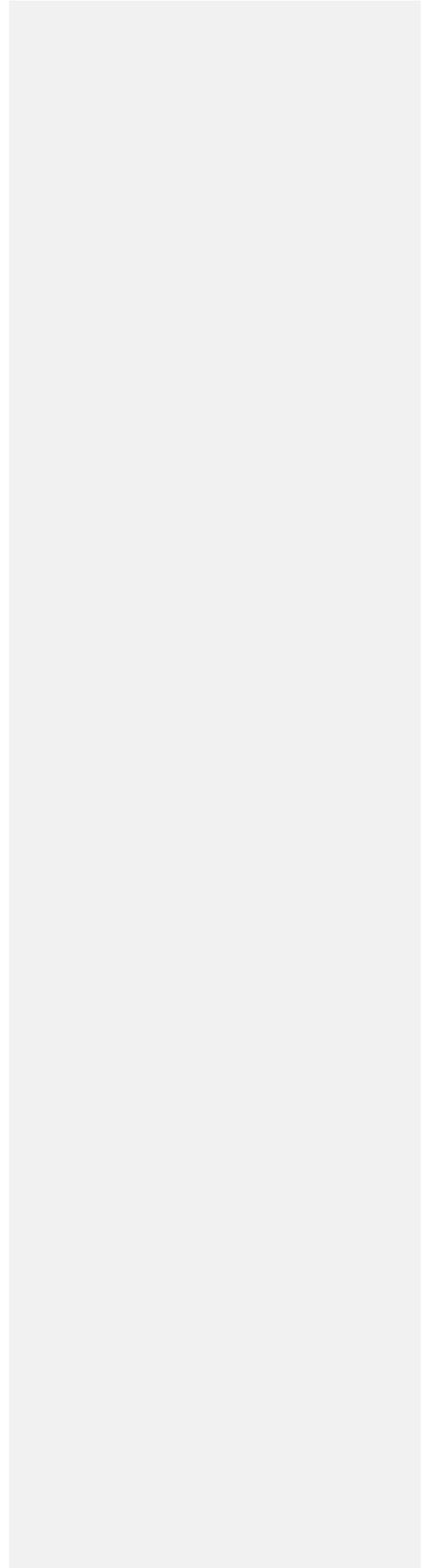


Table 1
Observed and Potentially Occurring Invasive/Noxious Weeds at Lucerne Solar Project Site

Scientific Name	Common Name	Habitats of Concern and Comments	Observed During Surveys and Anticipated Distribution in Project Area	CDFA Rank	Noxious Weed (Yes or No)
<i>Ailanthus altissima</i>	tree of heaven	Riparian areas, grasslands, oak woodland. Impacts highest in riparian areas.	Not observed.	C	Yes
<i>Alhagi camelorum</i>	camel thorn	Grassland, meadows, riparian and desert scrub, Sonoran thorn woodland. Very invasive in southwestern states. Limited distribution in California.	Not observed.	A	Yes
<i>Avena barbata</i> ; <i>A. fatua</i>	slender wild oats; wild oats	Coastal scrub, grasslands, oak woodland, forest. Very widespread, but impacts more severe in desert regions.	Not observed.	Not Listed	Yes No
<i>Brassica tournefortii</i>	Sahara mustard	Desert dunes, desert and coastal scrub.	Observed; but with a patchy distribution.	Not Listed	Yes No
<i>Bromus diandrus</i>	ripgut brome	Dunes, scrub, grassland, woodland, forest. Very widespread, but monotypic stands uncommon.	Not observed.	Not Listed	Yes No
<i>Bromus madritensis</i> ssp. <i>madritensis</i>	compact brome	Scrub, grassland, desert washes, woodlands.	Observed throughout the project area.	Not Listed	No

Table 1
Observed and Potentially Occurring Invasive/Noxious Weeds at Lucerne Solar
(Continued)

Scientific Name	Common Name	Habitats of Concern and Comments	Observed During Surveys and Anticipated Distribution in Project Area	CDFA Rank	Noxious Weed (Yes or No)
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome	Scrub, grassland, desert washes, woodlands.	Not observed.	Not Listed	Yes No
<i>Bromus tectorum</i>	downy brome, cheatgrass	Interior scrub, woodlands, grasslands, pinon/Joshua tree woodland, chaparral.	Observed throughout the project area.	Not Listed	Yes No
<i>Cynodon dactylon</i>	Bermuda grass	Riparian scrub in southern California. Common landscape weed, but can be very invasive in desert washes.	Not observed.	C	Yes No
<i>Descurainia sophia</i>	flixweed, tansy mustard	Scrub, grassland, woodland. Impacts appear to be minor, but locally more invasive in northeast California.	Not observed.	Not Listed	Yes No
<i>Elaeagnus angustifolia</i>	Russian olive	Interior riparian. Impacts more severe in other western states. Current distribution limited in California.	Not observed.	Not Listed	Yes No
<i>Erodium cicutarium</i>	red-stemmed filaree	Many habitats. Widespread. Impacts minor in wildlands. High-density populations transient.	Observed throughout the project area.	Not Listed	Yes No

Table 1
Observed and Potentially Occurring Invasive/Noxious Weeds at Lucerne Solar
(Continued)

Scientific Name	Common Name	Habitats of Concern and Comments	Observed During Surveys and Anticipated Distribution in Project Area	CDFA Rank	Noxious Weed (Yes or No)
<i>Halogeton glomeratus</i>	halogeton	Scrub, grasslands, pinyon-juniper woodland. Larger problem in Nevada. Monotypic stands are rare.	Not observed.	A	Yes
<i>Lactuca serriola</i>	prickly lettuce	Primarily an agricultural and roadside weed.	Not observed.	Not Listed	No
<i>Malva parviflora</i>	cheeseweed	Common in disturbed places throughout California. More widespread in desert regions.	Not observed.	Not Listed	No
<i>Mesembryanthemum crystallinum</i>	crystalline iceplant	Coastal bluffs, dunes, scrubs, grasslands. Limited distribution. Locally problematic, especially in southern California.	Not observed.	Not Listed	Yes No
<i>Phalaris minor</i>	Mediterranean canary grass	Common in disturbed areas especially near washes. Widespread in low elevation California deserts.	Not observed.	Not Listed	No

Table 1
Observed and Potentially Occurring Invasive/Noxious Weeds at Lucerne Solar
(Continued)

Scientific Name	Common Name	Habitats of Concern and Comments	Observed During Surveys and Anticipated Distribution in Project Area	CDFA Rank	Noxious Weed (Yes or No)
<i>Salsola paulsenii</i>	barbed-wire Russian thistle	Desert and Great Basin scrub. Limited distribution. Impacts in desert appear to be minor.	Not observed; widespread but typically uncommon except in recently disturbed habitats.	C	Yes
<i>Salsola tragus</i> ; <i>S. kali</i> ; <i>S. pestifer</i>	Russian thistle; tumble weed	Desert dunes and scrub, alkali playa. Widespread. Impacts minor in wildlands.	Observed; but with a patchy distribution.	C	Yes No
<i>Schismus arabicus</i> , <i>Schismus barbatus</i>	Mediterranean-grass	Scrub, thorn woodland. Widespread in deserts. Impacts can be more important locally.	Observed throughout the project area.	Not Listed	Yes No
<i>Sisymbrium irio</i>	London rocket	Scrub, grasslands. Widespread. Primarily in disturbed sites. Impacts vary locally.	Observed throughout the project area; but with a patchy distribution.	Not Listed	Yes No
<i>Solanum elaeagnifolium</i>	white horenettle	Primarily agricultural weed, but escaping to wild lands in other countries. May be expanding range.	Not observed.	B	No Yes

Table 1
Observed and Potentially Occurring Invasive/Noxious Weeds at Lucerne Solar
(Continued)

Scientific Name	Common Name	Habitats of Concern and Comments	Observed During Surveys and Anticipated Distribution in Project Area	CDFA Rank	Noxious Weed (Yes or No)
<i>Sonchus oleraceus</i>	common sow thistle	Primarily an agricultural weed.	Not observed.	Not Listed	No
<i>Tribulus terrestris</i>	puncture vine	Many habitats. Common in disturbed areas. A pernicious weed, can be controlled by introduced weevils.	Not observed.	C	No Yes

Table 2
Managing Strategies and Control Methods for Observed and Potentially Occurring Weeds at the Lucerne Solar Project Site

Scientific Name	Common Name	Management Strategy	Control Method
<i>Ailanthus altissima</i>	tree of heaven	Monitor for occurrence, and eradicate if found.	Mature Trees: Cut trees and apply 100 percent herbicide to cut stem; spray new shoots - See Section 6.3.3, Chemical Methods for Weed Removal
			Saplings: Pull out entire plant and root - See Section 6.3.2, Physical Removal of Weeds
<i>Alhagi camelorum</i>	camel thorn	Monitor for occurrence, and eradicate if found.	Individual Plants: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
<i>Avena barbata</i> ; <i>Avena fatua</i>	Slender wild oaks; wild oats	No Action; allow colonization as pioneer species in revegetation areas.	N/A
<i>Brassica tournefortii</i>	Sahara mustard	Monitor for occurrence in December-January prior to seed set, and eradicate if found; continue to monitor occurrence sites to ensure complete eradication.	Individual Plants: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
<i>Bromus diandrus</i>	Ripgut Brome	Monitor for occurrence and eradicate if found.	Stands: Spray with post-emergent, systemic, selective (monocot) herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome	No Action; allow colonization as pioneer species in revegetation areas.	N/A
<i>Bromus tectorum</i>	downy brome, cheatgrass	No Action; allow colonization as pioneer species in revegetation areas.	N/A

Table 2
Managing Strategies and Control Methods for Observed and Potentially Occurring Noxious Weeds at Lucerne Solar Project Site
(Continued)

Scientific Name	Common Name	Management Strategy	Control Method
<i>Cynodon dactylon</i>	Bermuda grass	Monitor for and eradicate if found.	Select Occurrences: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			Stands: Spray with post-emergent, systemic, selective (monocot) herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Descurainia sophia</i>	flixweed, tansy mustard	Monitor for occurrence, and eradicate if found.	Individual Plants: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
<i>Elaeagnus angustifolia</i>	Russian olive	Monitor for occurrence and eradicate if found.	Mature Trees/Shrubs: Cut trees and apply 100 percent herbicide to cut stem; spray new shoots - See Section 6.3.3, Chemical Methods for Weed Removal
			Saplings: Pull out entire plant and root - See Section 6.3.2, Physical Removal of Weeds
<i>Erodium cicutarium</i>	red-stemmed filaree	No Action; allow colonization as pioneer species in revegetation areas.	<i>N/A</i>
<i>Halogeton glomeratus</i>	halogeton	Monitor for occurrence, and eradicate if found.	Select Occurrences: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			Monotypic Stands: Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Lactuca serriola</i>	Prickly lettuce	Monitor for occurrence, and eradicate if found.	Individual Plants: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling

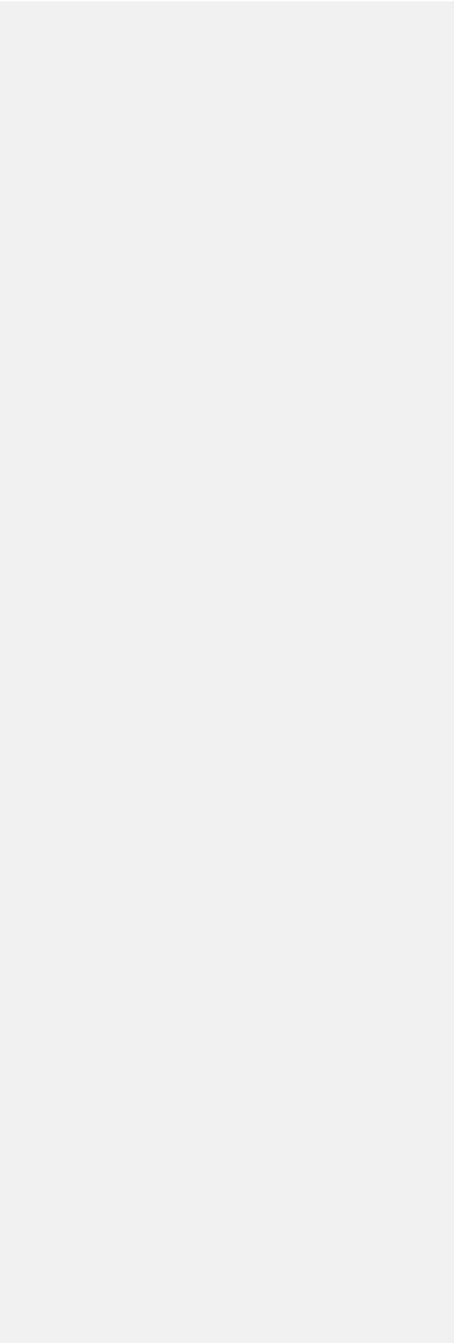
Table 2
Managing Strategies and Control Methods for Observed and Potentially Occurring Noxious Weeds at Lucerne Solar Project Site
(Continued)

Scientific Name	Common Name	Management Strategy	Control Method
<i>Malva parviflora</i>	cheeseweed	Monitor for occurrence and eradicate if found.	Select Occurrences: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			Monotypic Stands: Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Mesembryanthemum crystallinum</i>	Crystalline iceplant	Monitor for occurrence, and eradicate if found.	Select Occurrences: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			Monotypic Stands: Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Phalaris minor</i>	Mediterranean canary grass	Monitor for occurrence and eradicate if found.	Select Occurrences: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			Monotypic Stands: Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Salsola paulsenii</i>	barbed-wire Russian thistle	Monitor for occurrence, and eradicate if found.	Select Occurrences: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			Monotypic Stands: Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal

Table 2
Managing Strategies and Control Methods for Observed and Potentially Occurring Noxious Weeds at Lucerne Solar Project Site
(Continued)

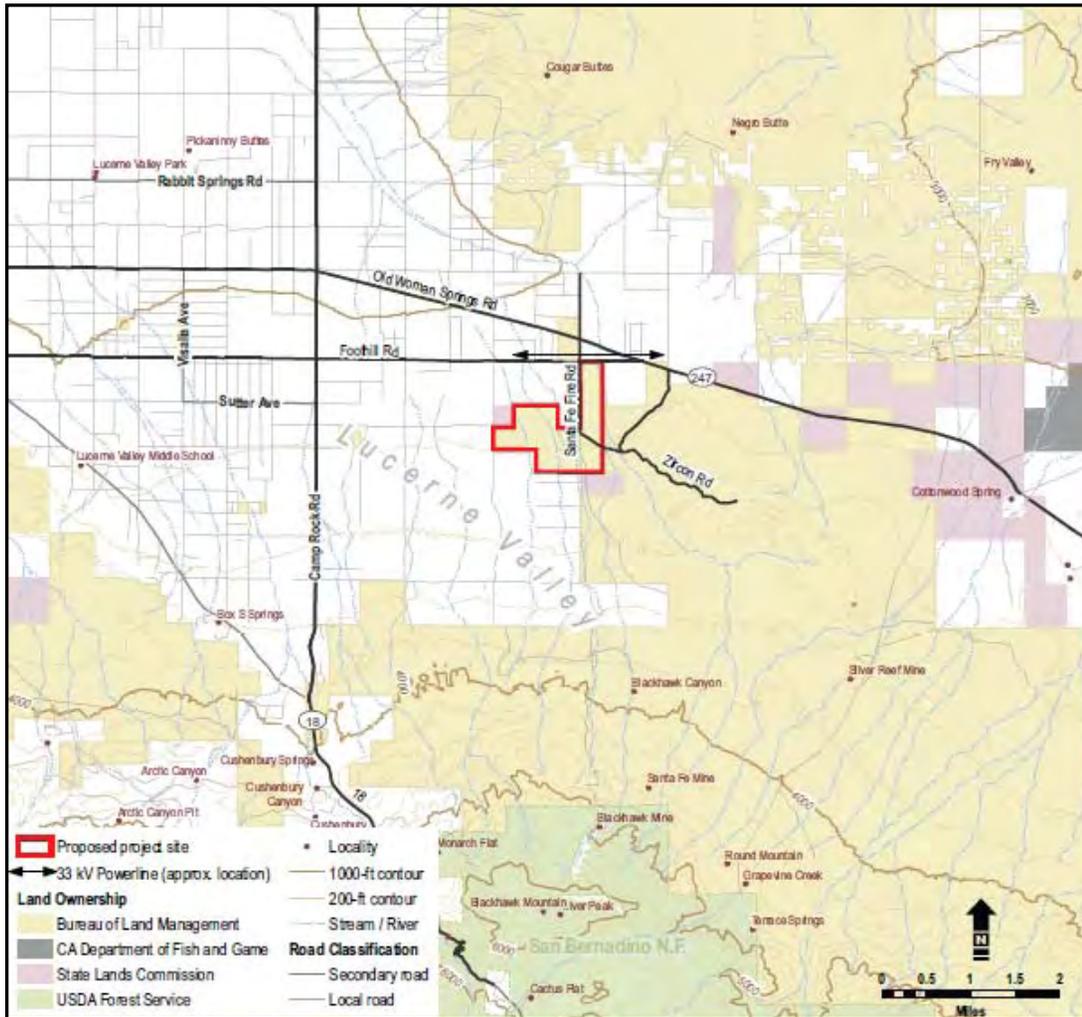
Scientific Name	Common Name	Management Strategy	Control Method
<i>Salsola tragus</i> ; <i>S. kali</i> ; <i>S. pestifer</i>	Russian thistle; tumble weed	Monitor for occurrence and eradicate if found.	Select Occurrences: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			Monotypic Stands: Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Schismus arabicus</i> , <i>Schismus barbatus</i>	Mediterranean-grass	No Action: allow colonization as pioneer species in revegetation areas.	N/A
<i>Sisymbrium irio</i>	London rocket	Monitor for occurrence and eradicate if found.	Select Occurrences: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			Monotypic Stands: Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Solanum elaeagnifolium</i>	white horsenettle	Monitor for occurrence and eradicate if found.	Select Occurrences: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			Monotypic Stands: Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Tamarix ramosissima</i> ; <i>Taxarix sp.</i>	saltcedar	Monitor for occurrence and eradicate if found.	Mature Trees: Cut trees and apply 100 percent herbicide to cut stem; spray new shoots - See Section 6.3.3, Chemical Methods for Weed Removal
			Saplings: Pull out entire plant and root - See Section 6.3.2, Physical Removal of Weeds

Figures



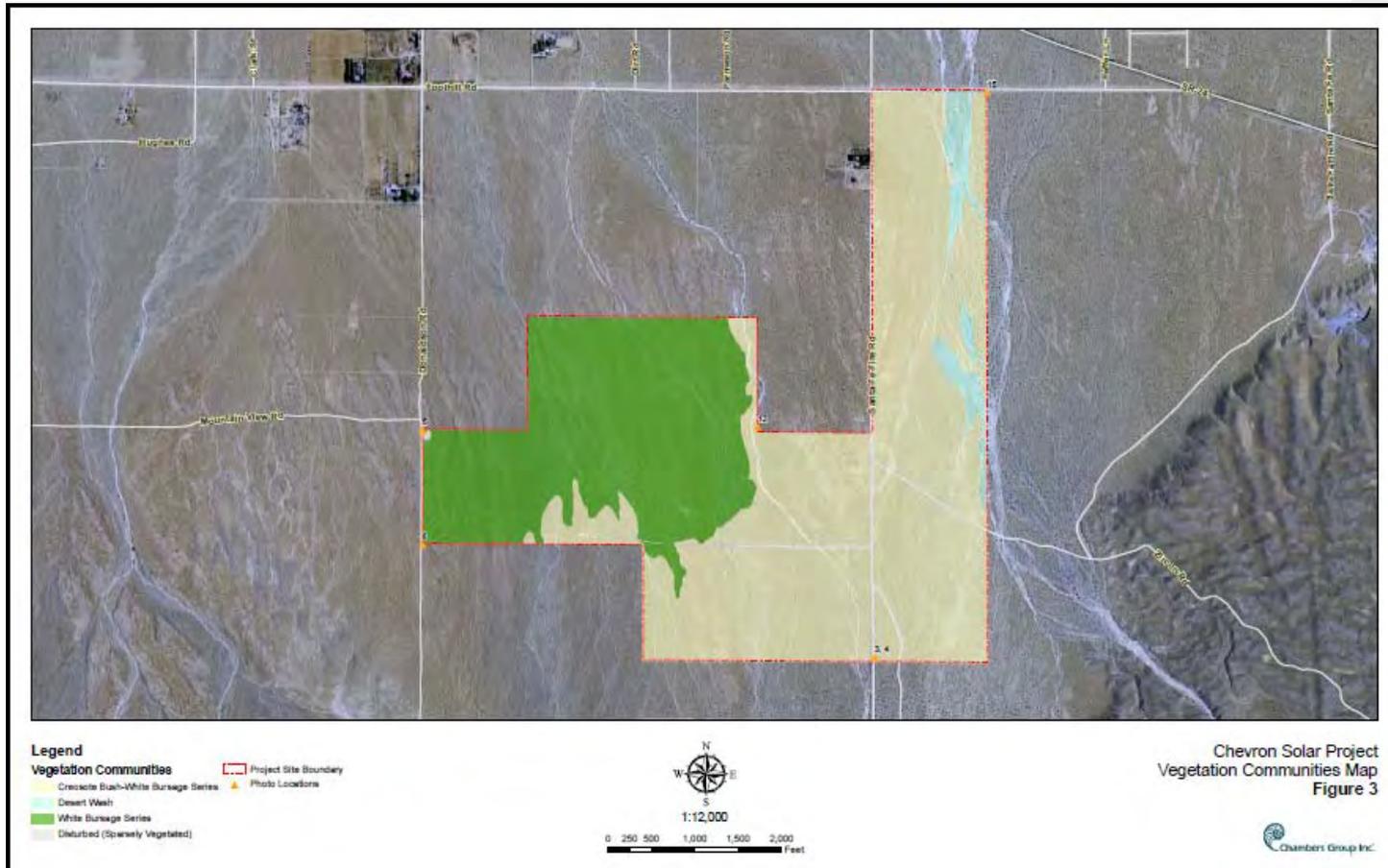
Figures

Figure 1: Lucerne Solar Vicinity Map



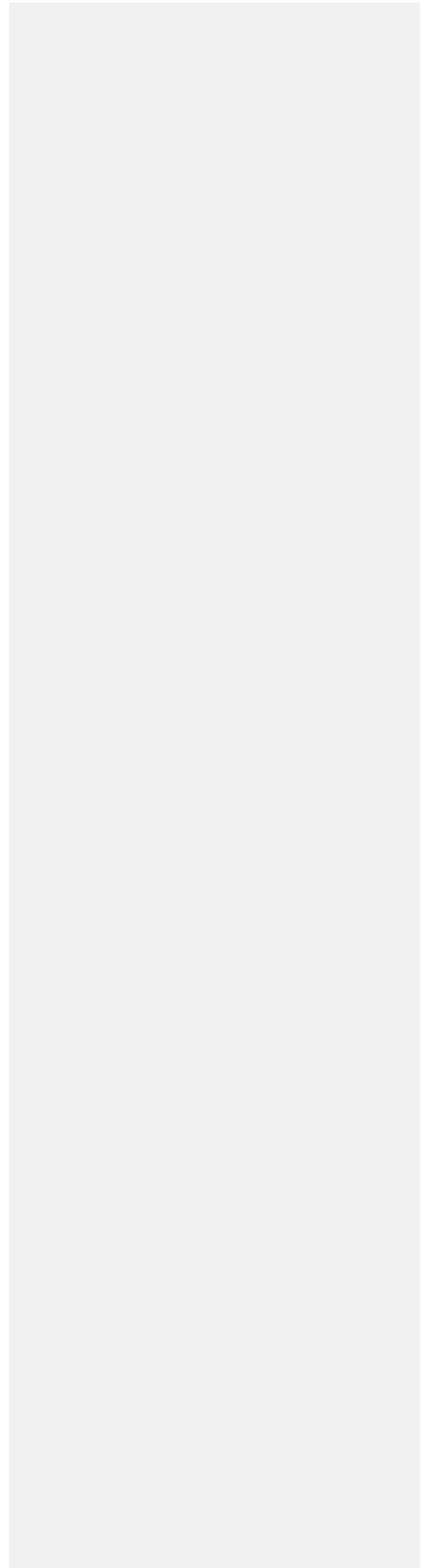
Figures

Figure 2: Lucerne Solar Vegetation Communities Map



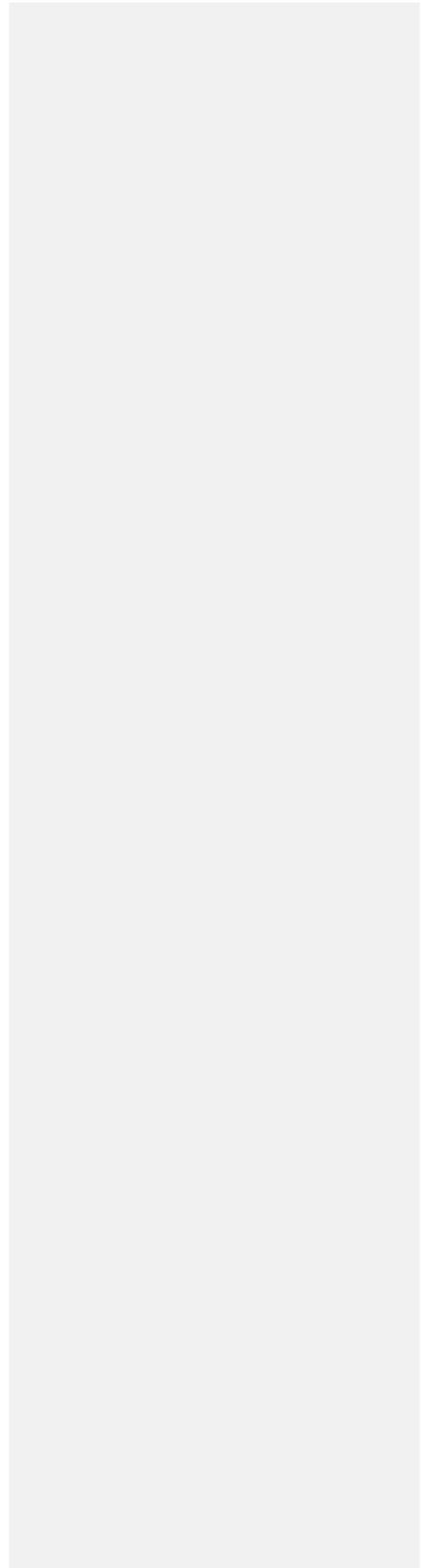
APPENDIX A

HERBICIDE TREATMENT STANDARD
OPERATING PROCEDURES



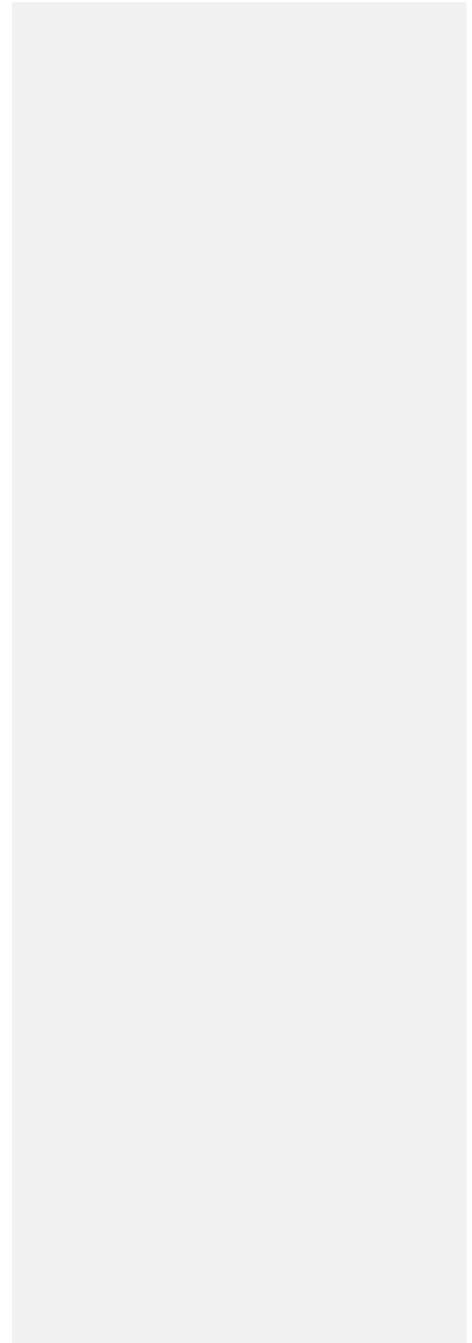
APPENDIX A

HERBICIDE TREATMENT STANDARD
OPERATING PROCEDURES



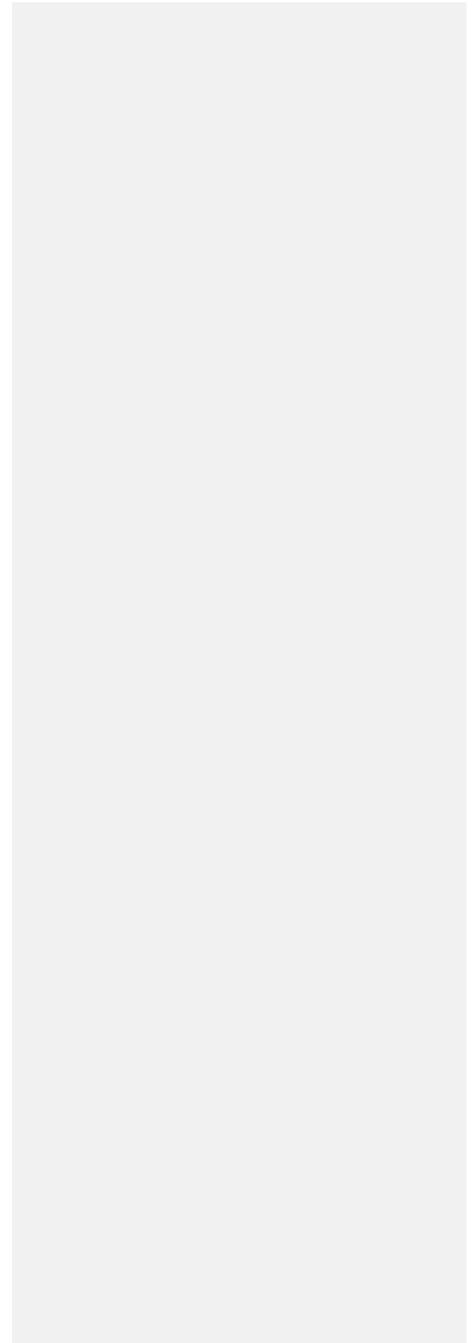
APPENDIX B

HERBICIDES APPROVED FOR USE ON PUBLIC LANDS IN
CALIFORNIA



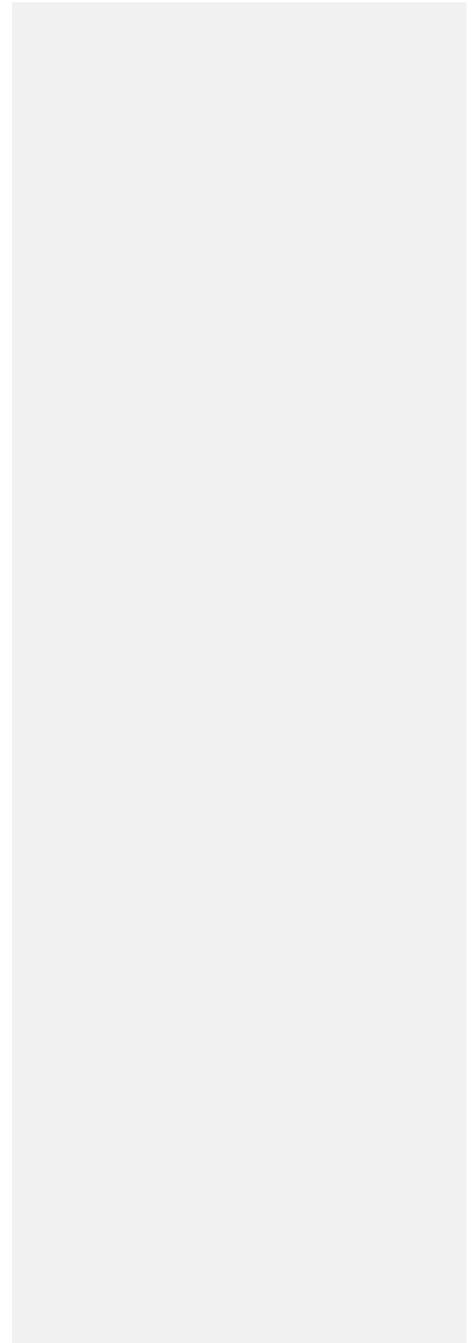
APPENDIX B

HERBICIDES APPROVED FOR USE ON PUBLIC LANDS IN
CALIFORNIA



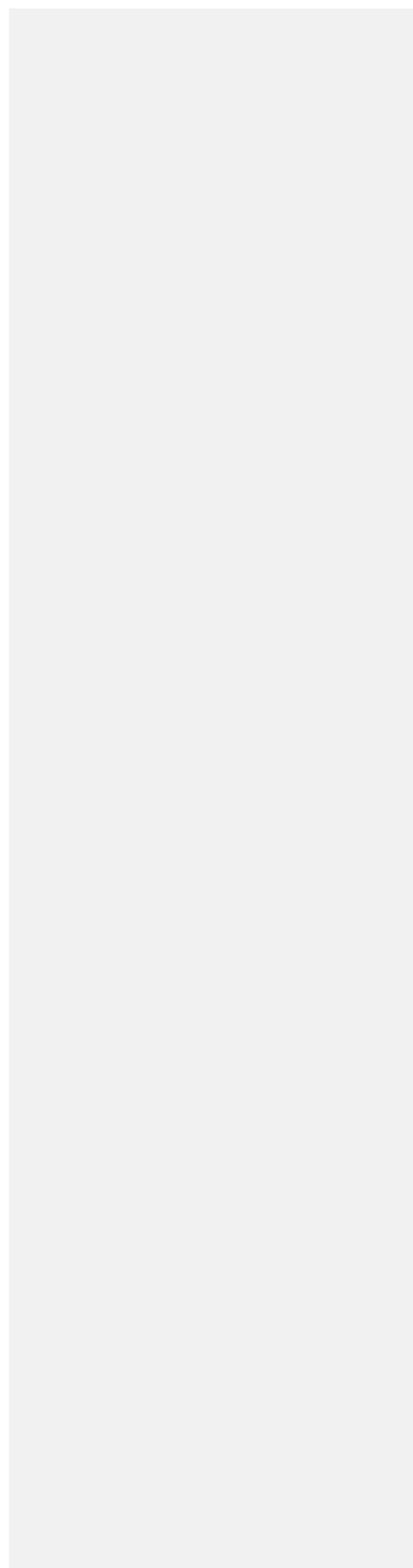
APPENDIX B

HERBICIDES APPROVED FOR USE ON PUBLIC LANDS IN
CALIFORNIA



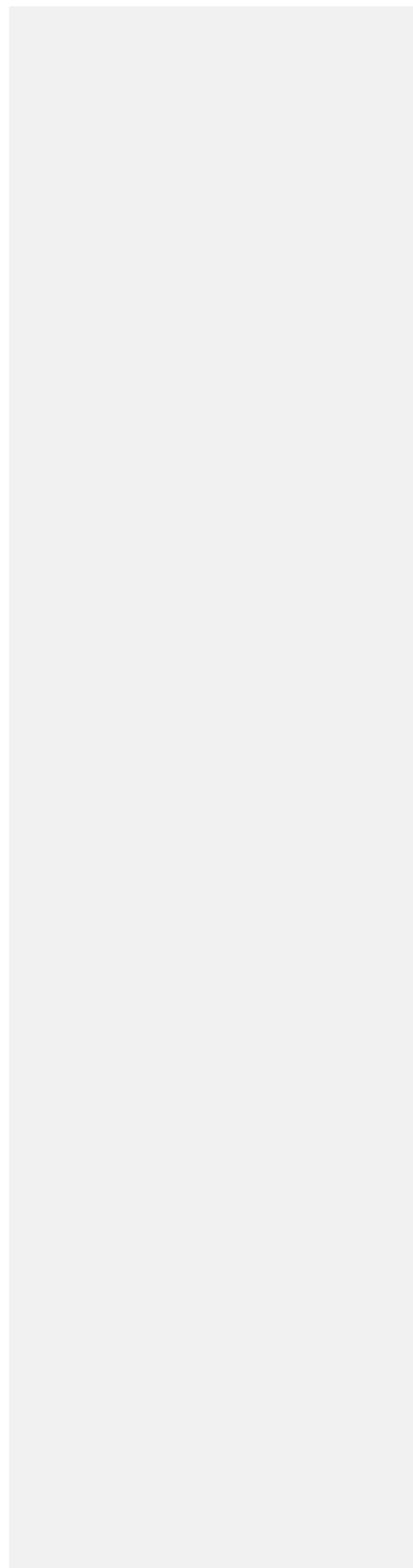
APPENDIX C

EXAMPLE CALIFORNIA BLM
PESTICIDE USE PROPOSAL



APPENDIX D

EXAMPLE CALIFORNIA BLM PESTICIDE
APPLICATION RECORDS FORM



From: [Chuck Bell](#)
To: lucernesolar@blm.gov
Subject: Re: Chevron Comments
Date: 05/28/2010 09:57 AM
Attachments: [DEIS - Chevron.doc](#)

Greg:

Attached is a better copy of LVEDA's comments - bigger print - AND w/o the notes at the very end of the one I sent yesterday.

Sorry - and thanks. I was too much in a hurry.

Chuck Bell

----- Original Message -----

From: [Chuck Bell](#)
To: lucernesolar@blm.gov
Sent: Thursday, May 27, 2010 4:15 PM
Subject: Chevron Comments

Greg:

Attached are LVEDA's comments on the Chevron DEIS.

How's that for cutting it close.

I can send a signed hard copy if necessary.

Chuck Bell 760 964 3118

LUCERNE VALLEY ECONOMIC DEVELOPMENT ASSOCIATION (LVEDA)

To: Greg Thomsen – BLM (lucernesolar@blm.gov)

Re: **Comments – DEIS - Chevron Energy Solutions – Lucerne Valley Solar**

From: Chuck Bell, Pres. (chuckb@sisp.net)
P. O. Box 193
Lucerne Valley, CA 92356 760 964 3118

Date: 5/27/10

(Please also incorporate by reference our previous scoping comments)

GENERAL

LVEDA provides an “open forum” dealing with major projects and issues affecting/benefiting Lucerne Valley – therefore is not taking a direct “pro or con” position on this project. However we are in general opposition to utility-scale solar projects – especially on public land – preferring the use of pre-disturbed/fallowed private land – but as a first priority – solar panels on rooftops/parking lots/etc. throughout s. Calif. (which the DEIS failed to analyze as a viable alternative to the further commitment of public land resources to subsidize urban areas).

We question the intent of a large corporation or its affiliates going through all the time, expense, permitting, paperwork, mitigation, etc. for a (relatively minor) 45 MW project. If it's a “feel good – we're doing something ‘green’ endeavor” – we prefer that the applicant partner with SCE and spread out its “good will” on rooftops and parking lots – a bigger public relations benefit.

For whatever reason – to the best of our knowledge - Chevron Energy Solutions reps. have not participated in community meetings – unlike the reps. of every other local solar/wind project currently in the permitting process. Its absence has been noticed.

Before the final decision is made, this project should be assessed via BLM's Programmatic process which will identify the limited areas available and suitable for solar plants – along with an understanding of all the land-uses that Lucerne Valley already provide s. Calif. - to fully understand current conflicts and why we need an "Energy Element" in our current BLM and County Plans.

The DEIS is well written and understandable, however it devotes a lot of pages to extraneous litigation-avoidance stuff – leaving some real, critical issues unresolved.

SPECIFIC COMMENTS/POSITIONS

(Due to time constraints – apologize, but DEIS pages are generally not cited):

Alt 4 – Modified Site Layout – a viable option - would allow a buffer and on-site location and maintenance of transplanted yuccas/joshua trees – more reliable than “availability off-site to the public” – which would likely result in 50% mortality at best.

The “private land” alternative was basically ignored with inadequate rationale. First Solar and Next-Era found large, fallowed parcels in Lucerne Valley – with a lot more existing all the way to Palmdale.

Rated generating capacity vs. actual production is a major issue with desert solar projects. The net benefit is likely marginal. Energy/CO2 emissions/etc. required for making panels, structures, construction, etc. – plus the consumption of 516 acres of public land (@11 ½ acres/MW) – plus the additional loss of “multiple use” on the mitigation/compensation land ----compared to other energy sources – need to be assessed from a more global perspective.

De-brushing/grading will create a long-term dust source, adversely affecting the facility and down-wind receptors. Minimal grading, vegetation mowing and placement of decomposed granite or small gravel will help to stabilize the site and reduce weed infestations – as well as enhancing native re-vegetation if and when facilities are removed. The proposed “mowing” is certainly worth pursuing. However, the perennially-shaded ground will become devoid of vegetation and root structure – and the partially shaded area will likely generate more weeds than natives – thus a hindrance to operations and the need for regular weed abatement. (Note: Mojave rattlesnakes will love the shade on the project's periphery). The “Weed Control Plan” seems to have realistic and effective measures. (The Mojave Desert Resource Conservation District and its affiliated Mohave Weed Management Area group can offer advice if requested).

Construction water might be obtainable from the Mojave Water Agency's “Morongo Pipeline” – generally following Foothill Rd. immediately north of the project site – the use of untreated state water vs. good quality groundwater. Contact: MWA (760 946 7000) for info.and location of connections.

The long-term effectiveness of tortoise relocations to adjacent areas didn't seem adequately addressed.

3.11-3: The statement: “Hunting is not an allowable use on the Proposed Action site” is very likely incorrect. It certainly won’t be when construction starts – but currently – the only regulation we know of is “shotgun only”.

To fully assess the consequence of the project’s effect on biological resources – the DEIS needs a description of the most likely location for the 1:1 ratio mitigation/compensation – the location and ultimate loss of “multiple uses” on said parcel that might be purchased – or to what resource any “in-lieu” fee might be directed. Off-site mitigation/compensation requirements ARE a direct result of this project and need to be fully explained.

Assuming the applicant fully intends to develop both phases, approval of Phase 1 alone is premature w/o knowing the transmission requirements of both phases together (upgrading existing line or a new one). Needs discussion!

New transmission lines or upgrades should include “raven proof” devices to the extent feasible – ravens being the biggest threat to juvenile tortoises.

The “heat sink” and albedo “change” effects need to be assessed, especially for the larger projects and those close to residential uses.

Project decommissioning and recycling of facilities were described – however specific measures for reclamation were sketchy. Bonding or some other means to assure ultimate clean-up and reclamation in case of project abandonment need to be included in the permit.

The “level of service” (LOS) assessments for regional highways/roads don’t adequately quantify the actual “on the road” impacts – especially on Hwy 18 through Lucerne Valley’s commercial area and 4 way stop. CHP escorting will likely be necessary. The proposed “off-peak” construction travel may not fully suffice in and by itself.

Unless we missed it – there was no mention of a right-turn lane onto Santa Fe Fire Rd. Quote from our scoping letter: “A right-turn lane on Hwy 247 would provide safer egress in this area of high-speed traffic – especially for the construction phase”.

The analysis re: the project’s future effect on BLM’s CDCA Plan’s “Contingent Corridor S” is probably correct – but this “corridor” needs to be removed from the Plan in order to preclude another “Green Path North” attempt.

4.6-5: Question: The project description seems to indicate that the panels would be “fixed” in place – thus w/o tracking ability. If so – is this statement correct?: “During precipitation events, solar panels would be placed in the flat horizontal position”.

Table 1-1: The statement: “The site chosen is within a ‘development corridor’” is NOT consistent with the LV Community Plan’s locations for “industrial” development and thus misleading. The entire table includes very weak rationale.

The Big Bear hospital is cited as close and available in case of injury, emergency, etc. It might be, but the responding County Fire paramedics – and likely the back-up ambulance service from Victor Valley – normally transport patients to Apple Valley or Victorville hospitals – not Big Bear.

Figure 3.18-1: The Cumulative Projects Map shows a “Cumulative Effects Study Area” (CESA) boundary within a 6 mile “buffer” radius from the project site. However it shows other proposed project locations outside said “buffer”. A complete and adequate cumulative impact analysis needs to show and assess all the proposed projects within the larger Lucerne Valley area that is affected. Some of the renewable projects listed may no longer be considered. The ones not shown – all with applications currently being processed by the County and/or BLM – are 2 “First Solar” PV’s west on Hwy 18 and another adjacent to Barstow Rd. – Granite Wind west of Barstow Rd. (with DEIR/EIS issued) – Next-Era’s PV in n. Lucerne Valley – plus the proposed 29 Palms Marine Base expansion into a major portion of Lucerne/Johnson Valleys northeast of the Chevron site. All these projects will have significant cumulative effects on our community.

Following are responses to various “Social and Economic” statements and issues:

3.15-6: The statement re: LVEDA is correct and appreciated.

4.15-3: The statement: With the project, “the social well-being of LVEDA (and its reps.) would be enhanced because compatible sustainable infrastructure development would be implemented within the Lucerne Valley” is a bit esoteric and certainly not fully consistent with our mission. Some of the residents close to the project site remain opposed and thus seem to be “adversely affected” by the project.

Need more emphasis on “local hiring”. Talent and equipment are locally available for a substantial portion of the construction and maintenance work required. It certainly won’t look good to import a lot of outside workers – union or not – when a local workforce is available. Would be just another imposition on our community. Cement/concrete/aggregate are locally available and we certainly expect that they be utilized if the project is built.

The project’s effect on surrounding private land values is summarily dismissed. At the very least, it could hinder area sales. Empirical data is insufficient to determine “no substantial effect”.

These projects aren't necessarily "beneficial" to local communities. We need ways to make them more "friendly and welcomed". Chevron could be the lead in devising a method to "arrange" the purchase of materials in San Bernardino County – with sales tax benefiting the county – and ideally – the ½ cent Measure I (road tax) portion dedicated to Lucerne Valley roads that get hammered by all the truck traffic associated with these projects.

We invite the applicant to a LVEDA meeting to better explain the project's tax revenue benefit – specifically the annual taxes from its "leasehold interest". Property taxes are not generated from public lands. How do these projects' tax incentives affect property tax revenue normally based on the assessed values of the facilities? Would the annual "leasehold interest" revenue be deducted from what the county receives from BLM as "payment in lieu of taxes" (PILT)?

WE REQUEST A MEETING WITH THE APPLICANT AND BLM PRIOR TO FINALIZATION OF THE EIS AND A DECISION ON THE PERMIT.

Cc:

Jim Abbott, Acting State Director
Shannon Pankratz, US Army Corps of Engineers
Brian Croft, United States Fish and Wildlife Service
Becky Jones, California Department of Fish and Game

From: Jessop.Carter@epamail.epa.gov
To: lucernesolar@blm.gov
Subject: Review of the Chevron Energy Solutions Lucerne Valley Solar Project DEIS
Date: 05/20/2010 06:44 PM
Attachments: [EPA_LucerneValleySolarDEISLtr.pdf](#)

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) and California Desert Conservation Area Plan Amendment for the Proposed Chevron Energy Solutions Lucerne Valley Solar Project. Our review and comments are provided pursuant to the National Environmental Policy Act, the Council on Environmental Quality Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

Our comment letter is attached below and a hard copy will be mailed to the address indicated in the DEIS cover letter.

Carter W. Jessop
U.S. EPA, Region 9
Environmental Review Office (CED-2)
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3815
jessop.carter@epa.gov



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

**75 Hawthorne Street
San Francisco, CA 94105-3901**

MAY 20 2010

Mr. Greg Thomsen
Bureau of Land Management
California Desert District Office
22835 Calle San Juan de los Largos
Moreno Valley, CA 92553

Subject: Draft Environmental Impact Statement and California Desert Conservation Area Plan Amendment for the Proposed Chevron Energy Solutions Lucerne Valley Solar Project, San Bernardino County, California [CEQ# 20100033]

Dear Mr. Thomsen,

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) and California Desert Conservation Area Plan Amendment (CDCAPA) for the Proposed Chevron Energy Solutions Lucerne Valley Solar Project (Project). Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act (CAA).

EPA supports increasing the development of renewable energy resources in an expeditious and well planned manner. Using renewable energy resources such as solar power can help the nation meet its energy requirements while minimizing the generation of greenhouse gas emissions. While renewable energy facilities offer many environmental benefits, they are not without impacts. Appropriate siting and design of such facilities is of paramount importance if the nation is to make optimum use of its renewable energy resources without unnecessarily depleting or degrading its water resources, wildlife habitats, recreational opportunities, and scenic vistas.

The Bureau of Land Management (BLM) has identified thirty-four proposed renewable energy projects as "fast track" projects that are expected to complete the environmental review process and be ready to break ground by December 2010 in order to be eligible for funding under the American Recovery and Reinvestment Act. Twenty-eight of these are located in our Region, approximately half of which are in California. We are aware that many more projects that have not been designated "fast-track" are also being considered by BLM. Many, if not all, of these projects, fast track or otherwise, are proposed for previously undeveloped sites on public lands. In making its decisions regarding whether or not to grant rights-of-way for such projects, we recommend that BLM consider a full range of reasonable alternatives to minimize the adverse environmental impacts. Such alternatives could include alternative technologies or altered

project footprints at the proposed location, as well as alternate sites, such as inactive mining or other disturbed sites that may offer advantages in terms of availability of infrastructure and less vulnerable habitats. Given the large number of renewable energy project applications currently under consideration, particularly in the Desert Southwest, we encourage BLM to apply its land management authorities in a manner that will promote a long-term sustainable balance between available energy supplies, energy demand, and protection of ecosystems and human health.

On August 4, 2009, EPA provided extensive formal scoping comments for the Lucerne Valley Solar Project, which included a variety of detailed recommendations regarding purpose and need, range of alternatives, and resource areas of concern. Based on our review of the Lucerne Valley Solar DEIS, we have rated the document as *Environmental Concerns – Insufficient Information* (EC-2). Please see the enclosed “Summary of EPA Rating Definitions.” An “EC” signifies that EPA’s review of the DEIS has identified environmental impacts that should be avoided in order to provide adequate protection for the environment. A “2” rating signifies that the DEIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment.

In the enclosed detailed comments, we provide specific recommendations regarding analyses and documentation needed to assist in assessing potential significant impacts from the proposed Project. Specifically, EPA is concerned with the: 1) lack of sufficient hydrological analysis and impacts to water resources; 2) impacts to biological resources and special status species; 3) scope of cumulative impacts analysis and the potential impacts from reasonably foreseeable future actions; 4) current justification for the Project purpose, need, and independent utility; 5) range of alternatives; and 6) discussion of climate change.

EPA appreciates the opportunity to provide input on this Project and the multitude of DEISs under preparation for renewable energy projects in our Region. We are available to further discuss all recommendations provided. When the Final EIS is released for public review, please send two hard copies and two CDs to the address above (Mail Code: CED-2). If you have any questions, please contact me at 415-972-3521, or contact Carter Jessop, the lead reviewer for this Project. Carter can be reached at 415-972-3815 or jessop.carter@epa.gov.

Sincerely,



Kathleen M. Goforth, Manager
Environmental Review Office (CED-2)

Enclosures: Summary of EPA Rating Definitions
Detailed Comments

US EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT AND CALIFORNIA DESERT CONSERVATION AREA PLAN AMENDMENT FOR THE PROPOSED CHEVERON ENERGY SOLUTIONS LUCERNE VALLEY SOLAR PROJECT, SAN BERNARDINO COUNTY, CALIFORNIA, MAY 20, 2010

Project Description

Chevron Energy Solutions (CES) has submitted an application to the Bureau of Land Management (BLM) to construct a 45-megawatt (MW) solar photovoltaic (PV) plant and associated facilities on 516 acres of federal land approximately eight miles east of Lucerne Valley in San Bernardino County. The proposal includes an interconnection to an existing Southern California Edison (SCE) distribution line to the north of the site as well as an amendment to the California Desert Conservation Area (CDCA) Plan designating the site as suitable for renewable energy generation. While EPA is pleased with certain aspects of this Project, including the close proximity to existing infrastructure and maintenance of existing site topography, we recommend that the Final EIS (FEIS) provide additional analyses (including any necessary supporting documentation) and identify specific minimization or mitigation measures, as discussed below.

Hydrology and Water Resources

Ephemeral Washes

Natural washes perform a diversity of hydrologic and biogeochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging, and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and adapted to their unique conditions. The potential damage that could result from disturbance of flat-bottomed washes includes alterations to the hydrological functions that natural channels provide in arid ecosystems, such as adequate capacity for flood control, energy dissipation, and sediment movement, as well as impacts to valuable habitat for desert species. EPA is concerned about the potential impacts to the ephemeral water segments located within the project area. The DEIS provides basic hydrologic information on the location of washes in the project area, but does not include a detailed map nor analysis of the origin and termini of these ephemeral waters.

Recommendations:

- Include a more detailed discussion and map of the water resources and hydrographic basins surrounding the proposed project.
- Include information on the functions and locations of ephemeral washes in the project area.

Flooding and Drainage

The DEIS states that the project site is prone to intense flooding events, including flash flooding (p. 3.5-5), however no floodplain studies nor mapping exercises have been conducted to assess flood hazards. In addition, the document states that “No hydrologic modeling has been done at this stage.” (p. 2-16). Considering the lack of information regarding site hydrology and flood danger, it is impossible to properly assess the risks that the proposed project poses to local and regional hydrology, water quality, and human health.

Recommendations:

- Demonstrate that downstream flows will not be disrupted due to proposed site development.
- Include a functional assessment of the waters on the proposed project site and describe the changes to the function of those waters that would result from the proposed project.

The DEIS does not provide information about fencing (pg. 2-16) nor the effects of fencing on drainage systems. As previously discussed, storms in this region can be sudden and severe, resulting in flash flooding. Fence design must address hydrologic criteria, as well as security performance criteria. The National Park Service recently published an article¹ on the effects of the international boundary pedestrian fence on drainage systems and infrastructure. We recommend that BLM review this article to ensure that such issues are adequately addressed with this project.

Recommendation:

- Provide more detailed information about fencing and potential effects of fencing on drainage systems within the FEIS. Ensure that the fencing proposed for this project will meet appropriate hydrologic performance standards.

The DEIS includes a Modified Site Layout Alternative (Alternative 4). This alternative would redirect drainage on the site to a vegetated screen designed to screen views of the project for nearby residents and drivers on Santa Fe Fire Road (p. 2-24). This alternative is chosen as the BLM “Preferred Alternative” (p. 2-36). By rerouting drainage, this alternative would alter site hydrology, potentially impacting water quality, groundwater recharge, soil erosion, vegetation, and wildlife. The potential for such consequences is not addressed, however. In addition, insufficient information is provided on specifically how and where drainage would be rerouted.

Recommendation:

- Provide details on where and how drainage would be rerouted across the site under Alternative 4: Modified Site Layout.
- Analyze the potential impacts of Alternative 4 in greater detail, in particular considering impacts to hydrology, water quality, groundwater, soil, vegetation and wildlife.

Waters of the United States

¹ National Park Service, August 2008, Effects of the International Boundary Pedestrian Fence in the Vicinity of Lukeville, Arizona, on Drainage Systems and Infrastructure, Organ Pipe Cactus National Monument, Arizona,

We are concerned with possible impacts on waters of the U.S. (WUS). We understand the project proponent is re-evaluating whether or not any of the washes flowing through the proposed site may qualify as WUS. We encourage BLM to consult with the Army Corps of Engineers regardless of the outcome of that analysis. A jurisdictional determination of waters of the United States must be completed in order to determine whether waters of the US will be impacted by the proposed project. In addition, we understand from our correspondence with BLM that the washes that flow through the site terminate before reaching any known waters of the US; however, this is not discussed in detail in the document and this information should be provided in the interest of public disclosure.

Recommendation:

- Consult with the Army Corp or Engineers regarding a jurisdictional determination for the proposed project site, and include the results of that determination in the FEIS.

Biological Resources and Special Status Species

Desert Wash Communities

According to the DEIS, construction of the proposed Project is expected to result in direct loss of 18 acres of land characterized as desert wash communities (p. 3.6-7). In addition, the proposed Project will degrade the functions of waters throughout the site through the placement of road crossings, fencing, and photovoltaic cell posts. As noted above (see Hydrology and Water Resources, Ephemeral Washes) natural washes perform a diversity of hydrologic and biogeochemical functions that directly affect the integrity and functional condition of higher-order waters downstream, and ephemeral washes support unique plant populations and provide habitat for breeding, shelter, foraging, and movement of wildlife. Desert wash ecosystems are highly sensitive to disruption, and impacts to their natural state may be impossible to remediate

Recommendations:

- Avoid and minimize direct and indirect impacts to desert washes to the maximum extent practicable. Impacts to be accounted for and minimized include erosion, migration of channels, and local scour.
- Minimize the number of road crossings over washes in order to minimize erosion, migration of channels, and scour. Road crossings should be designed to provide adequate flow through during large storm events.
- Commit to the use of natural washes, in their present location and natural form and including adequate natural buffers, for flood control to the maximum extent practicable.
- Demonstrate that downstream flows will not be disrupted due to proposed changes to any natural washes.

Special Status Species

The proposed project and any of the BLM action alternatives would result in direct impacts to vegetation and wildlife, including a number of special status species. EPA

recommends that the FEIS and ROD contain specific and binding commitments to the mitigation measures put forth in the Biological Assessment (BA) and DEIS. Furthermore, additional details regarding the mitigation measures to be employed would assist in the assessment of impacts to biological resources. For instance, mitigation measure MM BIO-12 (p. 4.6-15) would offset impacts to desert tortoises by preserving off-site desert tortoise habitat. Further details regarding the location and nature of this off-site compensatory mitigation should be provided, as available. In addition, we recommend that the BLM consider applying compensatory mitigation at a ratio higher than the 1:1 ratio put forth in the DEIS. As stated in the DEIS, the impacts to desert tortoise would likely extend beyond the project boundaries due to sensitivity to noise, vibrations, invasive species introduction, and collision with vehicles traveling to and from the site. We therefore recommend that compensatory mitigation be expanded to account for these additional impacts. Lastly, in the interest of full public disclosure, EPA recommends that the FEIS include the most up to date information available regarding the status of consultation with U.S. Fish and Wildlife Service and California Department of Fish and Game.

Recommendation:

- The FEIS and ROD should include specific and binding commitments to mitigation measures put forth in the BA and DEIS.
- Consider the implementation of compensatory mitigation under MM BIO-12 that exceeds the 1:1 ratio discussed in the DEIS.
- The FEIS should include the most up to date information available regarding the status of consultation with the US FWS and CDFG.

The DEIS contains a brief discussion of biological soil crusts or cryptobiotic crusts (p. 3.4-2). The analysis dismisses these crusts as not serving a critical role in dust suppression on the proposed project site, however no further details are provided. EPA recommends that this discussion be expanded to include details regarding the extent of biological soil crusts on the site, the role they play on the site, and any impacts the proposed project may have on these crusts.

Recommendation:

- Expand the discussion of biological soil crusts to include details regarding their extent on the proposed project site, the role they play on the proposed project site, and possible impact resulting from BLM action alternatives.

Cumulative Impacts Analysis

The BLM has received more than 220 ROW applications for utility-scale solar energy projects in California, Nevada, Arizona, New Mexico, Utah, and Colorado. We understand that BLM and the Department of Energy are jointly preparing a Solar Programmatic Environmental Impact Statement (PEIS); however, the DEIS does not include a discussion of the PEIS. The 24 solar energy study areas identified in conjunction with the Solar PEIS encompass 670,000 acres, and that area could be used to generate nearly 100,000 MW of solar electricity.

The DEIS lists 3 solar projects in close proximity to the proposed project, but limits the scope of the cumulative impact analysis to only those projects occurring within 6 miles of the proposed project site. The reasoning for limiting the scope of the cumulative impact analysis to

that radius is not provided. Without further information about projects in the region, it is difficult to conduct a thorough cumulative impacts analysis. The FEIS should include a more extensive analysis that defines the parameters of the analysis and the reasons for the establishment of those parameters.

Recommendations:

- Update the list of reasonably foreseeable projects to include all projects that may have impacts that may cumulatively affect the Lucerne Valley. In particular, the analysis should include discussions of the cumulative impacts on transmission capacity, water resources, and biological resources.
- Evaluate site conditions at locations with existing ROW applications. Determine and disclose whether the ROW applications are active and viable.

As an indirect result of providing additional power, it can be anticipated that this project will allow for development and population growth to occur in those areas that receive the generated electricity.

Recommendation:

- The DEIS should describe the reasonably foreseeable future land use and associated impacts that will result from the additional power supply. The document should provide an estimate of the amount of growth, likely location, and the biological and environmental resources at risk.

Project Purpose, Need and Independent Utility

Project Purpose and Need

EPA believes the discussion in the DEIS regarding the purpose and need for the CES Project should be expanded. As we indicated in our scoping comments, the *purpose* of the proposed action is typically the specific objectives of the activity, while the *need* for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity.

Building upon the comment above, the Purpose and Need for a project should be stated broadly enough to spur identification of the full range of reasonable range of alternatives, regardless of what the future findings of an alternatives analysis may be. The Purpose and Need should focus on the underlying problems to address (e.g., lack of capacity to serve an increasing demand for energy, or the need to develop sufficient renewable energy to meet State renewable portfolio standards). A solar power plant may be an integral component of the potential solution to the problems identified in a Purpose and Need discussion; however, the Purpose and Need statement should allow for the analysis of a full scope of alternatives, including off-site locations, environmentally preferable on-site alternatives or other modes of renewable energy generation.

The DEIS eliminates all off-site and alternative technology alternatives from consideration. In addition, the analysis of potential on-site alternatives was limited to the

proposed action, a single reduced project alternative and a single modified site layout alternative. This somewhat narrow range of alternatives is, in part, influenced by the Bureau of Land Management's (BLM) narrowly defined Purpose. According to the DEIS, BLM's purpose for the CES proposed action is "to approve, approve with modifications, or deny issuance of a Right-of-Way (ROW) grant to CES for the proposed solar project." (at p. 1-2). While this may be the immediate federal purpose of the project, we recommend that the FEIS use a combined BLM and Project Proponent Purpose and Need statement as the foundation upon which later sections, such as the alternatives analysis, are based. It would also be helpful to include a discussion of the types of modifications that BLM could require, the circumstances under which BLM is authorized to deny a ROW grant, and the consequences of such a denial. The purpose statement should be broad enough to allow for a reasonable range of alternatives, including environmentally preferable alternatives.

Recommendation:

- The FEIS should reflect a broader purpose and need statement that allows for a full evaluation of other alternatives, including off-site locations and other environmentally preferable on-site alternatives.
- The FEIS should explain BLM's options for acting upon an application for a right-of-way grant. For instance, it would be helpful if BLM would explain the extent of its authority in regards to requiring the adoption of a "modified" project alternative.

While the DEIS indicates that the need for the proposed action has its basis in Federal orders and laws regarding renewable energy generation, the current Purpose and Need section does not fully describe the specific Federal, State, and individual utility power provider renewable energy targets, timelines, and underlying needs to which BLM is responding. EPA believes this context is imperative for decision makers and the public to have, in light of the large number of renewable energy projects moving forward.

Presumably, some number of renewable energy facilities will be constructed pursuant to the joint Department of Energy (DOE)/BLM Programmatic Solar DEIS effort as well as the Desert Renewable Energy Conservation Plan (DRECP) process. It would be helpful to know the likely locations, construction timing, and generation capacities of such facilities relative to the proposed Project.

Recommendations:

- Fully describe the specific Federal and State renewable energy targets, timelines, and underlying needs to which BLM is responding, and explain how the Project meets those needs in the context of the many renewable energy project applications in the Desert Southwest and California.
- To the extent practicable, the FEIS should discuss how many of the total renewable energy applications received by BLM are likely to proceed pursuant to the joint Department of Energy (DOE)/BLM Programmatic Solar DEIS effort and the Desert Renewable Energy Conservation Plan (DRECP) process, and the level of energy production those applications represent.

- Further describe the utility purchases of power and provide a description of how the power would be bought, sold, and used so that the reader can better evaluate the tradeoffs between resource protection and power generation.

Project Independent Utility

The FEIS should clearly demonstrate the independent utility of the Project within its current geographic limits as it relates to the need for the Project. If the Project need cannot be met without future planned improvements, such as the reconductoring or further upgrading of the Southern California Edison transmission lines proposed to serve the site, the scope of the Project should be expanded accordingly, since these would be considered connected and similar actions (40 CFR 1508.25). In that case, the NEPA evaluation should include the full extent of the planned Project, including the necessary transmission lines and how it will operate. This broader scope should be applied to the identification and evaluation of project alternatives that may be less environmentally damaging. EPA believes this is the most effective way to address indirect and cumulative environmental impacts. The DEIS indicates that a separate environmental analysis would be conducted if further renovation of the SCE transmission lines were necessary; however, if the Project cannot meet its Purpose and Need without the transmission line project (thereby qualifying it as a connected action), the FEIS should address both projects together. Generally, funding or constraints of project staging and construction should not be used as a basis for segmenting the evaluation of environmental impacts under NEPA.

The DEIS indicates that “It has not been determined if upgrades to the existing 33-kV SCE distribution line, beyond the proposed reconductoring, would be required to accommodate Phase II” (p. 2-5). EPA recommends that the FEIS describe the current capacity of the existing transmission line and perform all necessary transmission analyses before the publication of the FEIS. The FEIS should also include a discussion of the existing transmission capacity compared to the future capacity after both reconductoring and any other potentially necessary upgrades. Considering the excess capacity that is stated to exist on the current transmission line (p. 2-15), the FEIS should consider an alternative that does not rely on the upgrade.

Recommendations:

- Demonstrate the independent utility of the Proposed Project within its current geographic limits as it relates to the need for the Project. If the Project need cannot be met without future planned improvements, the scope of the Project should be expanded accordingly by including an analysis of future improvements to the full extent of the planned Project, including the necessary transmission lines and how it will operate, since these would be considered connected and similar actions (40 CFR 1508.25).
- EPA recommends that the FEIS disclose: 1) the current available capacity of the existing Southern California Edison transmission line; 2) the estimated capacity of the transmission line following reconductoring and any other necessary renovation; and 3) to what degree the line is capable and expected to accommodate additional renewable energy generated in the Project’s vicinity.

Alternatives Analysis

Reasonable Range of Alternatives

The DEIS presents an unduly limited alternatives analysis. EPA believes that the alternatives analysis needs to be expanded to include a full analysis of a reasonable range of alternatives.

CEQ Regulations for implementing NEPA (40 CFR, Parts 1500 - 1508) state that the alternatives section of an EIS should “*rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly describe the reasons for their having been eliminated*” (40 CFR, part 1502.14). All reasonable alternatives that fulfill the purpose of the project’s purpose and need should be evaluated in detail, including alternatives outside the legal jurisdiction of the BLM (Council on Environmental Quality’s (CEQ) Forty Questions², #2a and #2b). The more alternatives considered, the greater the possibility of avoiding significant impacts. “*Reasonable alternatives include those that are practical and feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.*” (CEQ Forty Questions, #2a)

The DEIS states that “identifying alternative land is beyond the scope of this EIS” (p. 2-32); however, as stated at 40 CFR 1502.14 (c), the NEPA analysis must include a full range of alternatives, including those that may not be within the jurisdiction of the lead agency. For reasons stated earlier, EPA believes BLM’s current Purpose and Need statement is too narrow. Furthermore, when eliminating alternatives from consideration, the DEIS provides insufficient justification. Each alternative was described and a qualitative reason for elimination was provided. This qualitative discussion of the reasons for eliminating alternatives does not identify a clear set of criteria that were used to screen all alternatives in a similar manner. For example, no criteria outlining thresholds for competitively priced renewable energy, minimal plant efficiency rates, and levels of air, water, or habitat impacts were provided. If such criteria were used, the criteria and resulting quantification of impacts should be incorporated into the FEIS. The alternatives analysis should be constrained based upon specific and, as appropriate, quantifiable criteria, such that only those alternatives that do not meet these specific parameters are eliminated from further consideration.

Recommendations:

- Provide a clear discussion of the reasons for the elimination of alternatives that are not evaluated in detail and provide a clear set of criteria to screen all alternatives. The potential environmental impacts of each alternative should be quantified to the greatest extent practicable. For example, the FEIS should include a matrix that rates each of the alternatives on each of the selection criteria and include this information in the Executive Summary.
- Clearly identify the economic criteria used for analyzing alternatives. As appropriate, fully consider alternatives rejected in the earlier analysis. The FEIS should also include a concise summary of any cost-benefit analyses performed in the evaluation

²Forty Most Asked Questions Concerning CEQ’s NEPA Regulations, 40 CFR Parts 1500-1508, Federal Register, Vol. 46, No. 55, March 23, 1981.

of the Proposed Project and the various alternatives. This information should also be included in the Executive Summary.

- Discuss how unquantified environmental impacts (such as a reduction in visual impacts) have been determined in the environmental analysis.

Consideration of Disturbed Site Alternatives

As additional alternatives are considered for evaluation in the FEIS, as well for future projects, EPA continues to recommend the identification of locations that have been previously disturbed or contaminated. The FEIS should discuss any methods or tools BLM has used to identify and compare locations for siting renewable energy facilities, and to ascertain whether or not any disturbed sites are available that would be suitable for the proposed project. For example, the EPA's Re-Powering America initiative works to identify disturbed and contaminated lands appropriate for renewable energy development. For more information on the project visit <http://www.epa.gov/oswercpa/>

Recommendations:

- EPA strongly encourages BLM to promote the siting of renewable energy projects on disturbed, degraded, and contaminated sites before considering large tracts of undisturbed public lands.
- The FEIS should include information regarding all criteria used to evaluate the CES site and alternatives.

Consideration of Additional Modified Site Layout Alternatives

The Action Alternatives carried forward for further analysis by BLM include CES's Proposed Action Alternative, a Smaller Project Alternative and a Modified Site Layout Alternative. The Modified Site Layout Alternative is modified so as to reduce visual impacts; however, in order to do so, it increases impacts to hydrology and water resources (see below). EPA recommends that additional alternatives designed to avoid impacts to desert washes be considered in greater detail.

Recommendations:

- Consider additional on-site "Modified Layout" alternatives, particularly those that avoid and/or minimize impacts to sensitive desert washes and their associated communities.

Climate Change

We commend BLM for the attention given to the issue of climate change (Section 3.1). However, the DEIS does not include measures to avoid, minimize, or mitigate the effects of climate change on the proposed project, nor does it discuss the extent to which climate change may alter the impacts of the proposed project on the environment. Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. Effects on weather patterns, sea level, ocean acidification,

chemical reaction rates, and precipitation rates can be expected. These changes may affect the scope and intensity of impacts resulting from the proposed project.

Recommendations:

- Consider how climate change could affect the proposed project and the affected environment, specifically within sensitive areas, and assess how the impacts of the proposed project could be exacerbated by climate change.
- Identify strategies to more effectively monitor for climate change impacts in the surrounding area, such as monitoring groundwater change or special status species.
- Quantify and disclose the anticipated climate change-related *benefits* of solar energy. We suggest quantifying the greenhouse gas emissions that would be produced by other types of electric generating facilities (solar, geothermal, natural gas, coal-burning, and nuclear) generating comparable amounts of electricity, and compiling and comparing these values.

Miscellaneous Edits

The DEIS contains numerous inconsistencies. For example, while the text states that no intermittent streams or rivers exist on or adjacent to the site, the figures (such as 3.5-1) label hydrologic features running through the site as “intermittent stream / river”. Furthermore, the discussion of the outcome of the desert tortoise survey at 3.6-21 does not agree with the data presented on figure 3.6-3. A number of such inconsistencies exist in the document. Please correct these errors.

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

“LO” (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

“EC” (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

“EO” (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

“EU” (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

Category “1” (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category “2” (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category “3” (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.