

Response to Comment Letter O1

San Diego Astronomy Association
Michael Vander Vorst
February 6, 2014

O1-1

This comment is introductory in nature and does not raise a significant environmental issue for which a response is required.

Comment Letter O1



Date: February 10, 2014

To: County of San Diego
 Planning and Development Services (PDS)
 Project Processing Counter
 5510 Overland Avenue, Suite 110
 San Diego, CA 92123



From: San Diego Astronomy Association
 Board of Directors
 PO Box 23215
 San Diego, CA 92193-3215

San Diego Astronomy Association Tierra del Sol Observatory Site
 961 Tierra De Luna Road
 Boulevard, CA 91905

Re: Soitec Solar Development Program Environmental Impact Report, Log No:
 PDS2012-3910-12005
 Tierra del Sol, 3300-12-007

Dear Planning and Development Services,

On behalf of the nearly 600 members of the San Diego Astronomy Association we wish to bring to your attention our 10 acre astronomy dark sky observing site located at 961 Tierra del Sol Road, about 1,000' from the proposed Soitec Solar Tierra del Sol Solar farm. We appreciate the County of San Diego's efforts for keeping our night skies dark and supporting the many public and private astronomy activities in San Diego. Even the San Diego County seal shows an observatory (right), and in keeping with the county motto, the San Diego Astronomy Association feels public education in astronomy to be one of our primary objectives. We yearly provide tens of thousands of San Diegans the opportunity to view the night sky at star parties around the county, and especially at our



1

O1-1

10 acre dark sky observatories in Tierra del Sol. We are only 2 miles out of the County lighting regulated Zone A, and due to the TDS solar farm being within 1,000' of our observatories, we request the developer follow Zone A Private Outdoor Lighting Regulations. We have replaced light fixtures on neighboring houses that interfere with our enjoyment of the night sky at TDS, and maintain a close relationship with The International Dark Sky Association. Our members and associates have consulted with developers, including the US Department of Homeland Security Customs and Border Protection, Campo Band, Viejas and Golden Acorn casinos and we wish to offer our dark sky lighting expertise to Soitec. We appreciate the efforts of the County Board of Supervisors and PDS to promote and maintain astronomy and nighttime dark skies. This cover letter summarizes our concerns with the proposed solar array night lighting, especially the installation at the Tierra del Sol site. <i>The proposed solar farm, we believe, can be a good neighbor to our observatories by installation of fully shielded outdoor lighting fixtures such as required in Zone A, by turning off outdoor lighting when no one is on site, and using motion sensors and night vision cameras for security. Specifically:</i> The San Diego Astronomy Association requests the County PDS require the Proposer to specifically agree to: <i>1. Installation of fully shielded outdoor lighting fixtures such as required in Zone A at TDS, (LPC Sec 59.105)</i> <i>2. Use fully shielded motion sensor lighting at entrance gates, buildings, etc and turn off all outdoor lighting when no one is on site.</i> <i>3. When possible, wash solar arrays during evening and morning hours,</i> <i>4. Use motion sensors and night vision cameras for security. (LPC Section 59.107),</i> <i>5. Prohibit post construction addition of outdoor lighting not included in the proposed project, and</i> <i>6. Add the SDAA property to the list of sensitive land uses within 1,000' as shown on Figure 2.5-26.</i> 2	O1-1 Cont. O1-2 O1-3 O1-4 O1-2 While Tierra del Sol is located in Zone B, the Proposed Project applicants have agreed to comply with Zone A lighting standards at the Tierra del Sol solar farm site. In response to this comment, Chapter 2.1, Aesthetics, of the Draft Program Environmental Impact Report (DPEIR) has been revised to clarify that lighting at the Tierra del Sol solar farm would comply with Zone A lighting standards. These revisions to the DPEIR are presented in strikeout/<u>underline</u> format. To the extent these changes and additions to the DEIR provide new information that may clarify or amplify information already found in the DPEIR, and do not raise important new issues about significant effects on the environment, such changes are insignificant as the term is used in Section 15088.5(b) of the CEQA Guidelines. O1-3 The County of San Diego (County) appreciates this information and will take it into consideration. O1-4 Please refer to response to comment O1-2. In response to this comment, Chapter 2.1, Aesthetics, of the DPEIR has been revised to include project design feature PDF-AE-5. PDF-AE-5 reads as follows: PDF-AE-5: Outdoor lighting at each solar farm site shall conform to County of San Diego Light Pollution Code Zone A standards for lamp type and shielding requirements. More specifically, Zone A standards shall be applicable for all Class I (i.e., lighting for assembly areas where color rendition is important) and Class II
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The nearly 600 members and Board of the San Diego Astronomy Association appreciate this opportunity to provide input to the San Diego County Planning and Development Services department and the Board of Supervisors of the County of San Diego. Attached we highlight a few areas of the Visual Resources Report Tierra del Sol Solar Farm Project Environmental Review Num: 3910-120005 and Chapter 7.0 List of Mitigation Measures and Environmental Design Considerations to support our request. Document headings are bold, Times New Roman italics are quotes from the documents, our comments to each section is headed <u>SDAA Comments</u>. Very truly yours,  Michael Vander Vorst President San Diego Astronomy Association Attachment: SDAA response to specific Solar Farm EIA findings 3	(i.e., lighting for general illumination and security) lighting at the solar farm site and all outdoor lighting fixtures shall be fully shielded and directed downward. Further, fully shielded motion sensor lighting shall be installed at the on-site private substation yard, next to the entrance door to the substation control house, and mounted atop entrance gates and shall be turned off when no one is on site. When possible, tracker washing shall occur during evening and morning hours to reduce occurrences of dark sky illumination. Regarding operation of security measures, motion sensor infrared cameras shall be installed at the project site to avoid illumination of the site and surrounding area during nighttime hours. Lastly, the addition of new sources of substantial lighting following approval of the MUP shall be prohibited. These revisions to the DPEIR are presented in strikeout/<u>underline</u> format. To the extent these changes and additions to the DEIR provide new information that may clarify or amplify information already found in the DPEIR, and do not raise important new issues about significant effects on the environment, such changes are insignificant as the term is used in Section 15088.5(b) of the CEQA Guidelines. O1-5 Specific comments on the Proposed Project are addressed below.
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EIR Chapter 2.5 Land Use and Planning Page 2.5-26: Tierra del Sol <i>Land uses at or near proposed solar farm components of Tierra del Sol that could be temporarily disturbed by construction activities include several single-family residences; see Figure 2.5-1, Existing Land Uses, and Figure 2.5-4, Tierra del Sol - Sensitive Land Uses Within 1,000 Feet</i> SDAA Comments: The San Diego Astronomy Association is not shown on Figure 2.5-4 as a Sensitive Land Use Within 1,000 Feet. Parcels to the west, east and south of our property are hashed as Sensitive Land Use, although our Major Use Permit the SDAA holds for the property has been in place since 1972 and we have owned the property since 1968. Clearly visible on Figure 2.5-4 are our 9 observatories, public viewing pads, and 96 private telescope pads. We believe it is an error not to consider our property to be impacted, and an oversight that must be corrected by the Proposer before acceptance by Planning and Development Services and project approval by the Board of Supervisors. Page 2.5-28 Operations <i>While use of lighting as a preventive measure or permanent on-site security presence is not anticipated, use of remote-monitored cameras and alarm system(s), and for perimeter and safety lighting is proposed. However, such lighting would be used only on an as needed basis for emergencies, protection against security breach, or unscheduled maintenance and troubleshooting (such as may occasionally be required)</i> SDAA Comments: This is exactly what we need; lighting on an as needed basis when personnel are on site, and turned off when not in use. However other sections of the EIR, especially in the Visual Resources report, seem to contradict this statement. Visual Resources Report Tierra del Sol Solar Farm Environmental Review Project Number 3910-120005 Page 4: 1.3 Key Issues <i>Adverse effects typically associated with the project construction ... The elements of the proposed project that could potentially result in significant visual quality impacts include: ...and • Night lighting around selected facilities.</i> SDAA Comments: The San Diego Astronomy Association agrees that night lighting around the Tierra del Sol Solar Farm is a key issue. The County of San Diego <i>Guidelines for Determining Significance</i> ...<i>Dark Skies and Glare</i> is referenced in the 4	O1-6 The County agrees that the SDAA property should be shown as a sensitive land use on Figure 2.5-4. In response to this comment, the County has made revisions to Figure 2.5-4 of the DPEIR; refer to Chapter 2.5. O1-7 As stated in Chapter 1.0, Project Description, Location, and Environmental Setting, lighting would be fully shielded and directed downward to minimize any effects to surrounding properties, and would be used only on an as-needed basis. Other sections of and resources prepared for the DPEIR, in particular, Chapter 2.1, Aesthetics, have been revised to clarify that solar farm lighting would be turned off when not in use and when no one is on site. These revisions to the DPEIR are presented in strikeout/<u>underline</u> format. To the extent these changes and additions to the DEIR provide new information that may clarify or amplify information already found in the DPEIR, and do not raise important new issues about significant effects on the environment, such changes are insignificant as the term is used in Section 15088.5(b) of the CEQA Guidelines. O1-8 As stated in Chapter 1.0, Project Description, Location, and Environmental Setting, lighting would be fully shielded and directed downward to minimize effects to surrounding properties. Section 5.1 of the County of San Diego <i>Guidelines for Determining Significance: Dark Skies and Glare</i> states that “a fully shielded outdoor light ensures that light rays emitted
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Solitec EIS Chapter 5 References. On page 15 of the Guidelines, 5.1 Skyglow is the problem and mitigation and project design that can reduce skyglow include (in part): • Use full cutoff luminaires ... (LPC Sec 59.105) • Restrict the hours of outdoor lighting to hours of active use (LPC Section 59.107 and ZO Section 6322) • Condition new development projects to prohibit the post-construction addition of outdoor lighting that was not included in the proposed project Page 8: 2.0 Project Description <i>Switching and transformer equipment as well as a control house and a parking area for utility vehicles would be located within the 3-acre substation site and for security purposes and to allow for nighttime inspections, lighting would be installed near substation equipment, the control shelter, and on the entrance gates.</i> SDAA Comments: The San Diego Astronomy Association finds this proposed lighting would substantially impact our dark sky site and diminish the usefulness of our property. The SDAA requests the County and Developer agree to turn off all lighting when personnel are not onsite, as stated in the cover letter. For security purposes, as stated in the County of San Diego Private Outdoor Lighting Regulations, Class II (Security) require (a) fully shielded with motion sensor. Motion sensors for security and cameras provide adequate security. Indeed, the US Customs and Border Protection (CBP) fence in the area is not illuminated and CBP uses night vision cameras and to detect intrusion. The CBP agreed to limit border illumination in response to the presence of the San Diego Astronomy Association Tierra del Sol facility. Indeed, night illumination provides lighting for intruders, while dark premises require intruders bring their own lights which makes them all the more visible. Use of motion detectors for lighting and motion detectors linked with webcams provide better security than constant illumination. Best practices would include infrared or starlight night vision cameras with motion detection capability and notification to security personnel. Draft Visual Resources Report Tierra del Sol Solar Farm Project Prepared by: DUDEK 605 Third Street Encinitas, California 92024 Contact: Mike Sweesy P 131 Mitigation Measures <i>Impacts related to local goals, policies and requirements would be less than significant.</i>	from the fixture are projected below the horizontal plane passing through the lowest point on the fixture from which the light is emitted” (County of San Diego 2009). As such, use of full shielding on solar farm lighting would ensure that direct uplight is not emitted and that dark skies are protected. Please refer to the response to comment O1-4 and Chapter 2.1, Aesthetics, for information regarding the operational characteristics of nighttime lighting at the Tierra del Sol solar farm. O1-9 Please refer to the response to comment O1-4. O1-10 The comment summarizes certain sections of the Draft Visual Resources Report prepared for the Tierra Del Sol solar farm. As no specific comment regarding the DPEIR is provided, no additional response is provided.
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<i>Dark Skies and Glare</i> <i>The following significance guidelines guide the evaluation of whether a significant impact to dark skies or from glare will occur as a result of project implementation. A project will generally be considered to have a significant effect if it proposes any of the following, absent specific evidence to the contrary. Conversely, if a project does not propose any of the following, it will generally not be considered to have a significant effect on dark skies or from glare, absent specific evidence of such an effect:</i> Guideline 1 <i>The project will install outdoor light fixtures that do not conform to the lamp type and shielding requirements described in Section 59.105 (Requirements for Lamp Source and Shielding) and are not otherwise exempted pursuant Section 59.108 or Section 59.109 of the San Diego County Light Pollution Code.</i> Guideline 2 <i>The project will operate Class I or Class III outdoor lighting between 11:00 p.m. and sunrise that is not otherwise exempted pursuant Section 59.108 or Section 59.109 of the San Diego County Light Pollution Code.</i> Guideline 3 <i>The project will generate light trespass that exceeds 0.2-foot-candles measured five feet onto the adjacent property.</i> 7123 131 December 2013 Impact Analysis Solar Farm Site <i>Construction is anticipated to occur during hours permitted by the County of San Diego and therefore, nighttime lighting to accommodate construction activities would not normally be required. However, during fall and winter months when sunset would occur prior to 7 p.m., lighting during nighttime hours may be required. Although lighting would be briefly operational, nighttime lighting could affect the views of residents in the project area (residents are located in close proximity north and west of the solar farm site) which is generally devoid of significant nighttime lighting sources. To minimize potential lighting impacts, all lighting at the site would comply with the County of San Diego Light Pollution Code Section 59.101 et al. in regards to both general requirements (i.e., use of low-pressure sodium lamps, shielded light fixtures, hours of operation limitations) and lamp type and shielding requirements for Class II lighting in Zone A (areas outside of a 15 mile radius centered on the Mount Laguna Observatory). Therefore, nighttime lighting impacts during construction of the Tierra Del Sol Solar Farm would be less than significant.</i> <i>Class II security lighting and general nighttime lighting for operation and maintenance personnel would be installed at the solar farm site. Specifically, outdoor lighting would be installed at the operations and maintenance annex, atop entrance gates to the site, and at the collector substation to allow for safety inspections or maintenance that may be required during evening hours.</i> <i>Nighttime activities at the operations and maintenance annex and collector substation would be limited and the lights installed at these facilities for maintenance purposes would typically be turned off when not in use. In the event that emergency conditions warranted nighttime lighting,</i>	O1-10 Cont. 6
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impacts would be minimal as all light bulbs would be less than 100 watts and would be shielded and directed downward. As stated above, all lighting at the site would comply with the County of San Diego Light Pollution Code Section 59.101 et al. in regards to both general requirements (i.e., use of low-pressure sodium lamps, shielded light fixtures, hours of operation limitation) and lamp type and shielding requirements for Class II lighting in Zone A (areas outside of a 15 mile radius centered on the Mount Laguna Observatory). Tracker washing would occur during evening hours when modules are in sleep procedure and facing the western horizon and would require temporary illumination of the module surface. Lighting used during the washing process would be transient (trucks would visit each individual module to wash and would not illuminate any one area for a prolonged duration) and lighting would be focused onto the modules as opposed to into the nighttime sky. Therefore, nighttime lighting associated with operational activities at the Tierra Del Sol Solar Farm would be less than significant.

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Gen-Tie Line

Similar to construction of the solar farm site, construction of the Gen-Tie line is anticipated during hours permitted by the County of San Diego; however, during fall and winter months lighting during nighttime hours may be required. Although lighting would be briefly operational, nighttime lighting could affect the views of residents located along the gen-tie alignment. All construction lighting would comply with the County of San Diego Light Pollution Code Section 59.101 et al. in regards to both general requirements (i.e., use of low-pressure sodium lamps, shielded light fixtures, hours of operation limitations) and lamp type and shielding requirements for Class II lighting. Therefore, lighting impacts associated with construction of the gen-tie line would be less than significant.

Gen-tie structures (approximately 125 to 150 feet tall) would not exceed the 200 foot height threshold established by the FAA that requires the installation of obstruction lighting and marking for vertical structures. As such, the gen-tie structures would not generate day or nighttime lighting and no visual impacts would occur.

Significance of Impact

As discussed above, lighting impacts associated with the Tierra Del Sol solar farm and gen-tie would be less than significant.

Mitigation Measures

Because no significant impacts are associated with this Guideline, mitigation measures beyond the proposed Project design features and those measures proposed to satisfy other separate impacts would not be necessary.

Guideline 4

The project will install highly reflective building materials, including but not limited to reflective glass and high-gloss surface color that will create daytime glare and be visible from roadways, pedestrian walkways or areas frequently used for outdoor activities on adjacent properties.

Guideline 5

The project does not conform to applicable Federal, State or local statute or regulation related to dark skies or glare, including but not limited to the San Diego County Light Pollution Code.

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SDAA Comments: The Board of the San Diego Astronomy Association finds this section inconsistent with statements in Section 2.5-28 above. 2.5-28 states lighting will be used "only on an as needed basis", while Mitigation seems to waffle using the language: <i>lights installed at these facilities for maintenance purposes would typically be turned off when not in use</i>. The SDAA requests the County PDS to require the Proposer to specifically and categorically state all lighting will be turned off when no one is onsite. Motion detector lighting at entrances and buildings, can be briefly illuminated for entrance and exit, or remote security camera operation. 'Typically' is not good enough. Turn off lighting when it is not in use. The San Diego Astronomy Association Review Summary <i>The proposed solar farm we believe can be a good neighbor to our observatories by installation of fully shielded outdoor lighting fixtures such as required in Zone A, by turning off outdoor lighting when no one is on site, and using motion sensors and night vision cameras for security. Specifically:</i> The San Diego Astronomy Association requests the County PDS require the Proposer to specifically agree to: 1. <i>Installation of fully shielded outdoor lighting fixtures such as required in Zone A at TDS, (LPC Sec 59.105)</i> 2. <i>Use fully shielded motion sensor lighting at entrance gates, buildings, etc and turn off all outdoor lighting when no one is on site.</i> 3. <i>When possible, wash solar arrays during evening and morning hours,</i> 4. <i>Use motion sensors and night vision cameras for security. (LPC Section 59.107),</i> 5. <i>Prohibit post construction addition of outdoor lighting not included in the proposed project, and</i> 6. <i>Add the SDAA property to the list of sensitive land uses within 1,000' as shown on Figure 2.5-26.</i> The nearly 600 members and Board of the San Diego Astronomy Association appreciate this opportunity to provide input to the San Diego County Planning and Development Services department and the Board of Supervisors of the County of San Diego.	O1-11 Please refer to the responses to comments O1-4 and O1-7. O1-12 Please refer to the responses to comments O1-4 and O1-7. O1-13 Please refer to the response to comment O1-4. O1-14 Please refer to the response to comment O1-4. O1-15 Please refer to the response to comment O1-4. O1-16 Please refer to the response to comment O1-4. O1-17 Please refer to the response to comment O1-4. O1-18 Please refer to the response to comment O1-4. O1-19 This comment concludes the letter and does not raise an environmental issue for which a response is required. References County of San Diego. 2009. <i>Guidelines for Determining Significance and Report Format and Content Requirements: Dark Skies and Glare</i>. July 30, 2007; amended January 15, 2009. County of San Diego, Land Use and Environment Group, Department of Planning and Land Use, Department of Public Works. http://www.sdcounty.ca.gov/pds/docs/Dark_Skies_Guidelines.pdf.
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