

FINAL ENVIRONMENTAL IMPACT REPORT SECTION 6.0 RESPONSES TO LATE COMMENTS AV Solar Ranch One Project

COUNTY OF LOS ANGELES
Department of Regional Planning
Impact Analysis Section
320 West Temple Street
Los Angeles, California 90012

County Project No. R2009-02239
Vesting Tentative Tract Map No. TR071035
Conditional Use Permit No. RCUPT200900026
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SECTION 6.0 RESPONSES TO LATE COMMENTS

6.1 INTRODUCTION

The Draft Environmental Impact Report (Draft EIR) for the AV Solar Ranch One Project (Project) was circulated on June 16, 2010 for a formal 45-day public comment period ending on July 30, 2010. During that time, the County of Los Angeles Department of Regional Planning received a total of 14 individual comment letters on the Draft EIR as summarized in Table 4-1 of the Final EIR dated August 2010.

The County of Los Angeles Regional Planning Commission (RPC) held a public hearing on the Draft EIR on June 30, 2010. Public comments were received at the RPC hearing. Refer to Section 3.0 of the Final EIR (August 2010) for the June 30, 2010 RPC Hearing minutes and responses to oral comments received at the hearing.

The Final EIR (August 2010) addressed all written and oral comments received on the Draft EIR. A second RPC Hearing was held on September 15, 2010 at which time the Final EIR (August 2010) was certified by the RPC.

Following the close of the noticed Draft EIR public comment period (July 30, 2010) and after the August 2010 Final EIR was issued, four late comment letters were transmitted to the Los Angeles County Department of Regional Planning (LACDRP), as summarized in Table 6-1. These letters included a letter from the California Department of Transportation (Caltrans) dated September 14, 2010; a letter from Adams Broadwell Joseph & Cardozo, on behalf of the California Unions for Reliable Energy (CURE) dated September 14, 2010; and an email from Ms. Melody Mokres dated September 14, 2010. Additionally, on September 24, 2010, Northrop Grumman Corporation (NG) filed an Appeal to the RPC's certification of the Final EIR (August 2010) as well as the RPC's approval of Conditional Use Permit (CUP) No. 200900026 and Vesting Tentative Tract Map (VTTM) No. TR071035 for the Project. For purposes of this Final EIR Section 6.0, Responses to Late Comments, NG's Appeal and Rider is considered as a "late" comment letter along with the aforementioned three other late comment letters.

The Final EIR document (August 2010) consisted of the following five sections: 1.0 – Introduction; 2.0 – Revisions to the Draft EIR; 3.0 – Responses to Regional Planning Commission Hearing Comments; 4.0 – Comments and Responses to Written Comments; and 5.0 – Mitigation Monitoring and Reporting Program. This Final EIR Section 6.0 (November 2010), Responses to Late Comments, provides written responses to the late comment letters. The Project Final EIR consists of the following documents: 1) June 2010 Draft EIR; 2) June

2010 Technical Appendices to the Draft EIR; 3) August 2010 Final EIR; and 4) November 2010 Final EIR Section 6.0, Responses to Late Comments.

The late comment letter designations are presented in Table 6-1 and on each letter. The individual comments for each late comment letter are delineated and numbered in the letter margins for reference purposes. Written responses to each late comment letter are presented in Section 6.2, and the late comment letters are presented in Section 6.3.

TABLE 6-1
SUMMARY OF LATE COMMENTS RECEIVED ON THE FINAL EIR
(AUGUST 2010) FOR THE AV SOLAR RANCH ONE PROJECT

Date	Commenter/Affiliation	Late Comment Item ID	Number of Late Comments Identified
State Agencies			
9/14/10	Carl Shiigi/California Department of Transportation	CT-1	1
Organizations			
9/14/10	Elizabeth Klebaner/Adams Broadwell Joseph & Cardozo	EK-1	6
9/24/10	Northrop Grumman Corporation	NG-1	34
Individuals			
9/14/10	Melody Mokres	MM-1	3

6.2 WRITTEN RESPONSES TO LATE COMMENTS**6.2.1 California Department of Transportation (CT-1)****Response CT-1-1:**

This late comment letter was received by LACDRP on September 16, 2010, one day after the Los Angeles County Regional Planning Commission hearing was held on the Final EIR (August 2010) for the AV Solar Ranch One Project. The County acknowledges Caltrans previous studies and tentative, future plans for widening State Route (SR) 138. Refer to Response SA-2-2 in Section 4.2 (State Agencies) of the Final EIR (August 2010), which addresses the County's requirements for dedication of land by the Applicant on both sides of SR-138 to accommodate Caltrans' potential future widening of SR-138. The proposed Project design and County of Los Angeles required Project setbacks from SR-138 (generally 100 feet on each side of SR-138 centerline for a total width of 200 feet to accommodate potential future road widening) take Caltrans' possible future highway widening plans into consideration. The County and the Applicant understand that Caltrans' possible future widening of SR-138 will involve a total roadway/shoulder width of up to 164 feet (maximum) and could require minor Project modifications to accommodate Caltrans needs once they are defined with more certainty regarding the selected cross section width and location.

6.2.2 Adams Broadwell Joseph and Cardozo (EK-1)**Response EK-1-1:**

This comment states that Adams Broadwell Joseph & Cardozo's comments are on behalf of CURE and that they urge the RPC to not approve the Final EIR and to direct the LACDRP to revise and recirculate the Draft EIR. This comment does not state a specific concern or question regarding the adequacy of the analysis contained in the Final EIR (August 2010). Therefore, a response is not required pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Response EK-1-2:

The County disagrees with this comment and the contention that the Final EIR (August 2010) does not adequately respond to CURE's comments on the Draft EIR. Refer to the Written Responses to Comment Letter ORG-3 in the Final EIR (August 2010). This comment does not raise any new comments or specific points regarding the adequacy of the Final EIR (August 2010). The County also disagrees that significant new information was added to the Final EIR (August 2010) requiring recirculation of the EIR. Refer to Response EK-1-3 for

more information. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Response EK-1-3:

This comment states that the Final EIR includes “significant new information” within the meaning of California Public Resources Code Section 21092.1 and CEQA Guidelines Section 15088.5, and that the County was therefore required to revise and recirculate the Draft EIR. The Final EIR does not present “significant new information,” thus there is no justification or need to recirculate the Draft EIR.

CEQA Guidelines Section 15088.5 requires recirculation of an EIR prior to certification of the Final EIR when “significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review.” “New information added to an EIR is not ‘significant’ unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the Project or a feasible way to mitigate or avoid such an effect.” (CEQA Guidelines § 15088.5.) CEQA Guidelines Section 15088.5 (a) contains an illustrative list of examples of “significant new information” requiring recirculation:

- (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
- (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
- (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.
- (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

In addition, CEQA Guidelines Section 15088.5(b) provides that “recirculation is not required where the new information added to the EIR merely clarifies and amplifies or makes insignificant modifications in an adequate EIR.”

Mitigation Measure 5.7-13 (Pre-construction Desert Tortoise Surveys) was added to the Draft EIR based on a recommendation from the U.S. Fish and Wildlife Service as a precautionary measure to avoid unlikely Project impacts to Desert tortoise as discussed in Responses ORG-3-62 and ORG-3B-7 in Section 4.4 of the Final EIR (August 2010). The Final EIR did not identify a new significant impact to the Desert Tortoise requiring recirculation. The Final EIR (August 2010) does not present new, unsupported analyses regarding baseline biological and air quality conditions at the Project site as contended in this comment. As discussed in

Response ORG-3-2 (and other Responses referenced therein) in the Final EIR (August 2010), the Draft EIR includes sufficient baseline information and analysis regarding the Project's potentially significant impacts to biological resources, air quality, water supply et al. Moreover, there is no significant new information requiring recirculation (See CEQA Guidelines Section 15088.5).

As discussed in Final EIR (August 2010) Response ORG-3-9, a WSA is not required for the Project and, accordingly, a WSA was neither prepared nor included in the Draft EIR. This is not substantial new information and recirculation is not required.

Response EK-1-4:

The County disagrees with this comment and the contention that the Draft EIR was inadequate and conclusory in nature. The County also disagrees with the contentions that the Final EIR (August 2010) does not present a stable and finite Project description or adequately analyze impacts to air quality, biological resources, visual resources, and water quality, or propose adequate mitigation. This comment does not state specific examples to support these general contentions which were all previously addressed in Written Responses to Comment Letter ORG-3 in the Final EIR (August 2010); therefore, specific responses are not required pursuant to CEQA. Refer to the following relevant responses to comments in the Final EIR (August 2010):

- Project Description (see Responses ORG-3-8 and ORG-3-19 through ORG-3-28)
- Air Quality (see Responses ORG-3-8, -14, -16, -19, -25, -27, -31, -32, -33,-55, -58, and -59)
- Biological Resources (see Responses ORG-3-12, -16, -29, -31, -34 through -39, -61, -63, and -76; and ORG-3B-3 through -10, -13, -17, -18, -19, -22 and -25)
- Visual (see Responses ORG-3-50, -51, -52, and -53)
- Water (see Responses ORG-3-9, -13, -15, -18, -40 through -48, -65, -66, -67, -69, -70, -71, and -78; and ORG-3A-6 and -10)

The comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Response EK-1-5:

As discussed in Final EIR (August 2010) Response ORG-3-9, a WSA is not required for the Project and, accordingly, a WSA was neither prepared nor included in the Draft EIR. The Draft EIR presents a detailed analysis of groundwater resources and potential Project effects

in Section 5.14, Appendix J, and Appendix J2. The County disagrees with this comment and the contention that the EIR is deficient or invalid.

Response EK-1-6:

As discussed in Response EK-1-3, the County disagrees that the EIR must be recirculated for public review and comment in accordance with CEQA.

In accordance with Section 15121(a) of the CEQA Guidelines, the EIR is an informational document which informs public agency decisionmakers and the public generally of: 1) the significant environmental effect of the Project; 2) identify possible ways to minimize the significant effects; and 3) describe reasonable alternatives to the Project. The EIR was prepared in accordance with Section 15151 of the CEQA Guidelines, which states that:

An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

The EIR includes sufficient information and analysis regarding the Project description and the Project’s potentially significant impacts to air quality, biological resources, visual resources, water supply, and other relevant resource topics. In addition, the EIR presents adequate mitigation.

6.2.3 Northrop Grumman Corporation (NG-1)

Response NG-1-1:

This comment is Northrop Grumman Corporation’s (NG) Appeal (dated September 24, 2010) to the Los Angeles County Regional Planning Commission’s (RPC) September 15, 2010 decision on the AV Solar Ranch One Project. The Appeal is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration. Written responses to the Appeal Rider are presented beginning with Response NG-1-2.

Response NG-1-2:

This comment is the introduction to the Appeal “Rider” and states that the Appeal applies to the RPC’s certification of the Final EIR and approval of the Conditional Use Permit and the Vesting Tentative Tract Map for the Project. This comment does not state a specific concern or question regarding the adequacy of the analysis contained in the Draft EIR. Therefore, a response is not required pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Response NG-1-3:

The County disagrees with the general contention that the RPC’s certification of the Final EIR was unlawful. Please refer to Responses NG-1-4 through NG-1-27, which address and refute the specific contentions, where applicable, in the NG Appeal.

Response NG-1-4:

CEQA Guidelines Section 15143 states that the “EIR shall focus on the significant effects on the environment” and provides that the “[e]ffects dismissed in an Initial Study as clearly insignificant and unlikely to occur need not be discussed further in the EIR.” Instead, agencies may limit discussion to a brief explanation as to why some effects are not potentially significant and are therefore not discussed in detail in the EIR (CEQA § 21002.1 (e)). This requirement is satisfied either by “a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant” or by attaching a copy of the Initial Study (CEQA Guidelines §§ 15128, 15143). Contrary to the general, non-specific, and unsubstantiated contentions in this comment, the Draft EIR did not unlawfully omit environmental effects in the EIR.

In accordance with CEQA Guidelines Section 15063, the County prepared an Initial Study dated April 13, 2009 that identified the issue areas requiring analysis in the EIR (see Draft EIR Appendix A.1). Based on the analysis and conclusions of the Initial Study, the Draft EIR analyzed the following environmental issues:

- Geotechnical Hazards
- Flood Hazards
- Fire Hazards
- Water Quality
- Air Quality
- Biological Resources

- Cultural and Paleontological Resources
- Visual Qualities
- Traffic and Access
- Fire Protection Services
- Sheriff Services
- Utility Services
- Environmental Safety
- Land Use
- Global Climate Change

While the Initial Study did not identify potentially significant impacts to Agricultural Resources and Noise, these two resource disciplines were also included in the Draft EIR for further assessment of potential impacts (see Draft EIR Section 5.9 [Agricultural Resources] and Draft EIR Section 5.18 [Noise]). Additionally, issues relating to change of character and growth-inducing impacts are discussed in Section 7.0 of the Draft EIR. Draft EIR Section 5.1.2 includes a description addressing each of the environmental issues not addressed in the Draft EIR – mineral resources, sewage disposal, education, and recreation – and indicates the reasons why effects were determined to be clearly insignificant and unlikely to occur. Additionally, the Initial Study is included in Appendix A.1 of the Draft EIR.

Response NG-1-5:

This comment contends that the County failed to comply with notice requirements with respect to the preparation and distribution of the Draft EIR and Final EIR without providing any specific points to support this contention. Contrary to the general contention in this comment, the County fully complied with CEQA’s notice requirements for preparation and distribution of the Draft EIR and Final EIR. CEQA requires that after deciding that an EIR is required for a project, a Notice of Preparation (NOP) of an EIR must be provided to: 1) the Governor’s Office of Planning and Research; 2) Responsible and Trustee Agencies; and 3) Federal Agencies involved in approving or funding the Project (CEQA § 21080.4; CEQA Guidelines § 15082(a)). In addition, CEQA requires a Scoping Meeting for projects “of statewide, regional, or areawide significance.” (CEQA § 21083.9(a)(2); CEQA Guidelines § 15082(c)(1).) In compliance with CEQA and the CEQA Guidelines, the County oversaw the preparation and distribution of the Project’s NOP. The NOP and the Initial Study were circulated on April 29, 2009 to the State Clearinghouse and other public agencies for the required 30-day review and comment period ending on June 1, 2009. A Scoping Meeting was

held on May 14, 2009 near the Project site in Antelope Acres to facilitate public review and comment on the Project.

CEQA requires that public notice must be given by one of the following methods: 1) publication at least once in a newspaper of general circulation; 2) posting of the notice by the public agency on and off the site where the project is located; or 3) direct mailing to owners and occupants of property contiguous to the parcel or parcels on which the project is located (CEQA § 21092; CEQA Guidelines § 15087 (a)). Notice must also be posted in the Office of the County Clerk for a period of at least 30 days (CEQA § 21092.3; CEQA Guidelines § 15087 (d)). As discussed in Final EIR Section 1.2, the Draft EIR was circulated for a 45-day review period from June 16, 2010 to July 30, 2010. The Notice of Completion and Availability of the Draft EIR (“NOC”) was published on June 16, 2010, in *La Opinión* and the *Antelope Valley Press* which are newspapers of general circulation. On June 15, 2010, the NOC was posted at the Project site with a total of eleven notices posted. The NOC was also mailed by first-class mail on June 14, 2010 to all property owners within a 1,000-foot radius of the Project site and other interested parties. The NOC was also posted at the County Clerk’s Office on June 16, 2010. Copies of the Draft EIR were made available to the public at the offices of the Department of Regional Planning, online at the Department of Regional Planning website, and at several public libraries in the Antelope Valley.

The County also satisfied and surpassed CEQA requirements for the Final EIR. CEQA Section 21092.5 provides that “[a]t least 10 days prior to certifying an environmental impact report, the lead agency shall provide a written proposed response to a public agency on comments made by that agency.” In addition, CEQA provides that a lead agency may, but is not required to, provide an opportunity for the public to review a final EIR (CEQA Guidelines § 15089(b)).

On August 31, 2010, the County mailed copies of the Final EIR, including responses to comments, to public agencies and interested parties that commented on the Draft EIR. In addition, the County notified other interested parties of the preparation of the Final EIR. Finally, copies of the Final EIR were made available to the public at the office of the Department of Regional Planning, online at the Department of Regional Planning website, and at the Quartz Hill County Library, the Lancaster County Library, the Littlerock Library, the Lake Los Angeles Library, and the Antelope Valley Bookmobile.

Response NG-1-6:

This comment alleges that the project description is inadequate without offering any specific points in support of the claim. CEQA Guidelines Section 15124 provides that a project description must contain information about the project’s location and boundaries, objectives, a general description of its technical, economic, and environmental characteristics, and a brief statement of the intended uses of the EIR. Contrary to the general contention in this

comment, Draft EIR Section 4.0 (Project Description) clearly identifies the Project’s location and boundaries (Draft EIR Section 4.3), purpose and objectives (Draft EIR Section 4.1.2), a description of the Project’s components and characteristics including the technical, economic, and environmental characteristics (Draft EIR Section 4.4); and, a statement describing the intended use of the EIR (Draft EIR Section 4.5). The Draft EIR Project Description presents the key differences in the design and physical characteristics of each option under consideration and the environmental analyses presented in Draft EIR Section 5.0 (Environmental Impact Analysis) considered the worst-case attributes of the Project options respective to each environmental analysis.

Response NG-1-7:

This comment contends that both the Draft EIR and Final EIR unlawfully failed to analyze the Project’s impact on the operation of radar testing that occurs on Range 1 at the NG Tejon Test Facility. The commenter does not specify any particular environmental impact from the Project on operations at the Tejon Test Facility nor contend that impacts that may occur at the Tejon Test Facility constitute a significant effect upon the environment.

CEQA is clear – economic and social effects that are not related to physical impacts need not be evaluated in an EIR (CEQA Guidelines §15064(e), 15064(f)(6), 15131(a)). An EIR must identify and describe “[a]ll significant effects on the environment of the proposed project.” (CEQA § 21100(b)(1)). CEQA defines “significant effect upon the environment” as “a substantial or potentially substantive adverse change in the environment.” (CEQA § 21068.) “Environment” is defined as “the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, objects of historic or aesthetic significance.” (CEQA § 21060.5.) Further, the impacts analyzed in an EIR must be “related to a physical change.” (CEQA Guidelines § 15358(b).) “Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects.” (CEQA Guidelines § 15126.2(a).) “A direct physical change in the environment is a physical change in the environment which is caused by and immediately related to the project.” (CEQA Guidelines § 15064(d)(1).) Examples include dust, noise, traffic of heavy equipment, and odors. (*Id.*) “An indirect physical change in the environment is a physical change in the environment which is not immediately related to the project, but which is caused indirectly by the project.” (CEQA Guidelines § 15064(d)(2).) “An indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project.” (CEQA Guidelines § 15064(d)(3).) There is no evidence presented by the commenter that impacts to radar testing are environmental impacts, much less significant environmental impacts within the scope of CEQA. A radar testing facility is not “environmental,” i.e., it is not a physical condition such as land, air, water, minerals, flora, fauna, noise, or objects of historic or aesthetic significances within the scope of CEQA.

Accordingly, CEQA does not require that either the Draft EIR or the Final EIR analyze the Project's impact on the operations at the Tejon Test Facility.

Even if the impacts to radar operations at the Tejon Test Facility were considered environmental impacts (the County strongly asserts they are not), such impacts are not significant. As discussed in the attached November 2, 2010 report prepared by Exponent, Inc. titled, *Impact of the Antelope Valley Solar Ranch on the Tejon Test Facility*, Project operation and construction will not have a significant effect on NG's ability to operate the Tejon Test Facility. The Tejon Test Facility is located more than 10 miles to the northwest of the Project site. The Tejon Test Facility has two ranges—Range 1 and Range 2—for measuring radar cross section of test targets. NG has asserted that the Project would elevate background radar returns, sometimes referred to as “clutter,” to a level that would unacceptably affect NG's ability to operate Range 1 of the Tejon Test Facility. As described in Attachment A to this November 2010 Final EIR, Exponent conducted a conservative analysis of the Project's potential effect on NG's ability to operate Range 1 of the Tejon Test Facility. Exponent concluded that the Project will not contribute to clutter for numerous values of radar pulse-repetition frequency. Moreover, Exponent concluded that the Project possesses a clutter signature that, for all estimated Range 1 radar parameters, is below the sensitivity of the Tejon Test Facility and is indistinguishable from current ambient noise sources. Exponent further concluded that to the extent that the Project construction and operation could produce incremental clutter, there are well recognized and reasonable means of accounting for this effect that would allow NG to continue normal operation. For example, a properly chosen pulse repetition frequency will render the Project essentially invisible to radar pulses transmitted by the Tejon Test Facility. Accordingly, even if impacts to radar operations at the Tejon Test Facility were considered environmental impacts, the impacts are less than significant.

Additionally, even if the impacts to radar operations at the Tejon Test Facility were environmental impacts, CEQA requires agencies and courts to differentiate between adverse impacts upon particular persons and adverse impacts upon the environment of persons in general in determining whether a project will result in a significant impact on the environment (*Association for Protection etc. Values v. City of Ukiah* (1991) 2 Cal. App. 4th 720, 734). “[A]ll government activity has some direct or indirect adverse effect on some persons. The issue is not whether demolition of structures will adversely affect particular persons but whether demolition of structures will adversely affect the environment of persons in general.” (*Topanga Beach Renters Assn v. Department of General Services* (1976) 58 Cal.App.3d 188, 195.) “Under CEQA, the question is whether a project will affect the environment of persons in general, not whether a project will affect particular persons.” (*Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477, 492–93.) Courts have consistently held that impacts to a single party are not the types of environmental impacts the Lead Agency is required to evaluate in an EIR (*see, e.g., Ass'n for*

Protection of Environmental Values in Ukiah v. City of Ukiah (1991) 2 Cal.App.4th 720; *Banker's Hill City of San Diego* 139 Cal.App.4th 249; *Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477; *Bowman v. City of Berkeley* (2004) 122 Cal.App.4th 572; *Gabric v. City of Rancho Palos Verdes* (1977) 73 Cal.App.3d 183). Accordingly, since any impacts alleged in this comment are upon the radar facility only and not adverse impacts upon the environment of persons in general, CEQA does not require impacts to the Tejon Test Facility to be evaluated in the EIR.

Moreover, at the time the Draft EIR and Final EIR were prepared, there was no evidence presented by anyone for inclusion in the record which indicated that the Project would impact operations at the Tejon Test Facility. Despite the many opportunities for public participation, NG did not provide any written or oral testimony on the Project. In compliance with the CEQA Guidelines, the County oversaw the preparation and distribution of the Project's NOP. The NOP and the Initial Study were circulated on April 29, 2009 to the State Clearinghouse and other public agencies for the required 30-day review and comment period ending on June 1, 2009. A Scoping Meeting was held on May 14, 2009 in Lancaster to facilitate public review and comment on the Project. In accordance with CEQA, the Draft EIR was circulated for a 45-day public review period beginning on June 16, 2010 and ending on July 30, 2010. The Commission held two properly noticed public hearings: June 30, 2010 and September 15, 2010. Despite all of this public process, no contention was ever made which suggested that operations at the Tejon Test Facility were at issue.

Response NG-1-8:

The County disagrees with the general contention that the EIR was not prepared with a sufficient degree of analysis to permit informed decision making. Since no specific comments regarding the adequacy of the EIR's degree of analysis are provided in this comment, it is not possible to respond to specific points. However, in accordance with CEQA Guidelines Section 15151, the record demonstrates that the EIR was "prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences."

The Draft EIR provides thorough discussions and sufficient analysis for all applicable resource topics, including characterization of baseline environmental conditions, identification of all potentially significant impacts, and specification of appropriate mitigation measures for reducing identified impacts to less than significant levels, for the following resource topics:

- Geotechnical Hazards
- Flood Hazards
- Fire Hazards

- Water Quality
- Air Quality
- Biological Resources
- Cultural and Paleontological Resources
- Agricultural Resources
- Visual Qualities
- Traffic and Access
- Fire Protection Services
- Sheriff Services
- Utility Services
- Environmental Safety
- Land Use
- Global Climate Change
- Noise

See Draft EIR Section 5.0, and refer to Responses NG-1-10 through NG-1-23 for more information about each resource topic.

Response NG-1-9:

As discussed in Response NG-1-8, in accordance with CEQA Guidelines Section 15151, the EIR was “prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences.” In accordance with CEQA Guidelines Section 15121(a), the Draft EIR is an informational document which: 1) informs public agency decisionmakers and the public generally of the significant environmental effect of the Project; 2) identifies possible ways to minimize the significant effects; and 3) describe reasonable alternatives to the Project. An EIR need not be “exhaustive,” and must be reviewed in light of what is “reasonably feasible” given the available data, time constraints, and relative importance of the issues (CEQA Guidelines § 15151; *Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173, 1178). What is “reasonably feasible” is determined “in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project.” (CEQA Guidelines § 15204.) The EIR need not anticipate or engage in tit-for-tat rebuttal of every argument advanced by project opponents. (*Laurel Heights Improvement Ass’n v. Regents of the Univ. of Calif.* (1988) 47 Cal.3d 376,

408 [the “proper judicial goal . . . is not to review each item of evidence in the record with such exactitude that the court loses sight of the rule that the evidence must be considered as a whole”].) The EIR need only address substantive environmental issues at the level necessary to foster informed decision making. “The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.” (CEQA Guidelines § 15151; *see also Karlson v. Camarillo*, (1980) 100 Cal.App.3d 789, 805.)

The Draft EIR provides thorough discussions and sufficient analysis for all applicable resource topics, including characterization of baseline environmental conditions, identification of all potentially significant impacts, and specification of appropriate mitigation measures for reducing identified impacts to less than significant levels, for all resource topics (see Response NG-1-8).

Response NG-1-10:

This comment states that the Draft EIR analysis of air quality impacts is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of the air quality baseline and impacts in Section 5.6 (Air Quality) and Appendix D (Air Quality Emission Calculations and Wind Rose Data). The air quality analysis included consultation and coordination with the Antelope Valley Air Quality Management District (AVAQMD) and the Kern County Air Pollution Control District (KCAPCD). The methodology for quantification of air emissions is presented in Draft EIR Section 5.6.3.2. The results of the air quality emissions calculations presented in Section 5.6.3 and Appendix D of the Draft EIR show that AVAQMD and KCAPCD significance thresholds (for criteria pollutants) would not be exceeded during the construction or operational phases of the Project. As discussed in Draft EIR Section 5.6.5 (Air Quality, Mitigation Measures), implementation of the following mitigation measures would reduce all potentially significant air quality impacts to less than significant levels:

- Mitigation Measure (MM) 5.6-1: Ensure AVAQMD Construction Emission Thresholds would be Met
- MM 5.6-2: Develop and Implement Fugitive Dust Emission Control Plan
- MM 5.6-3: Dust Plume Response Requirement
- MM 5.6-4: Off-road Diesel-fueled Equipment Standards
- MM 5.6-5: Limit Vehicle Traffic and Equipment Use
- MM 5.6-6: Heavy Duty Diesel Water Haul Vehicle Equipment Standards
- MM 5.6-7: On-road Vehicles Standards
- MM 5.6-8: Properly Maintain Mechanical Equipment

- MM 5.6-9: Restrict Engine Idling to 5 Minutes
- MM 5.6-10: Off-road Gasoline-fueled Equipment Standards
- MM 5.6-11: Off-road Equipment Operator Worker Protection

In summary, potential impacts to air quality would be less than significant with mitigation and the analysis of Project impacts to air quality presented in the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-11:

This comment states that the Draft EIR analysis of biology impacts is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of the baseline and impacts for biological resources in Section 5.7 (Biological Resources) and Appendix E (Biota Report). Section 5.7 and Appendix E of the Draft EIR include a detailed biological description of the site (2,100-acre solar facility and off-site transmission line) and its surroundings, descriptions of the various field surveys conducted, and discussions of the resources present, including plants, animals, and mapped vegetation communities. Consistent with CEQA Guidelines Section 15126.2(a), the Draft EIR considers and discusses the existing physical conditions of the potentially affected area. Numerous, full-coverage field surveys of the Project site were conducted in 2008, 2009, and 2010 to establish the existing biological conditions for purposes of the Draft EIR, as described in Draft EIR Section 5.7. The identification of potentially impacted sensitive biological resources/species (flora and fauna) and associated field surveys included coordination and consultation with the following pertinent regulatory agencies: California Department of Fish and Game; U.S. Fish and Wildlife Service; U.S. Army Corps of Engineers; and the County of Los Angeles Significant Ecological Areas Technical Advisory Committee. All special-status resources identified during field investigations of the site and off-site transmission line were considered in the impact analysis. As discussed in Draft EIR Section 5.7.3 (Biological Resources, Project Impacts), implementation of the biological resource mitigation measures presented in Draft EIR Section 5.7.5 (Biological Resources, Mitigation Measures) would reduce all identified potentially significant impacts to biological resources to less than significant levels. In summary, potential impacts to biological resources would be less than significant with mitigation and the analysis of Project impacts to biological resources presented in the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-12:

This comment states that the Draft EIR analysis of cultural and paleontological resources impacts is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of the baseline and impacts for cultural and paleontological resources in Section 5.8 (Cultural and Paleontological Resources) and Appendix F (Phase I

Cultural Resources Technical Report). Section 5.8 and Appendix F of the Draft EIR include detailed descriptions of the cultural resources (archaeological and historic resources) and paleontological resources for the site (2,100-acre solar facility and off-site transmission line) and its surroundings, and descriptions of the intensive cultural resource field surveys conducted in 2009 and 2010. Research in support of the cultural and paleontological resources analysis presented in the Draft EIR was conducted at or with the South Central Coastal Information Center (SCCIC) at California State University Fullerton, the Southern San Joaquin Valley Information Center (SSJVIC) at California State University Bakersfield, the Natural History Museum of Los Angeles County (NHMLAC), and the Native American Heritage Commission (NAHC). This assessment included a review of published and unpublished literature. As discussed in Section 5.8.3 (Cultural and Paleontological Resources, Project Impacts) of the Draft EIR, implementation of the cultural and paleontological resource mitigation measures presented in Draft EIR Section 5.8.5 (Cultural and Paleontological Resources, Mitigation Measures) would reduce all potentially significant impacts to cultural and paleontological resources to less than significant levels. In summary, potential impacts to cultural and paleontological resources would be less than significant with mitigation and the analysis of Project impacts to these resources as presented in the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-13:

This comment states that the Draft EIR analysis of impacts on agricultural resources is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of the baseline and impacts for agricultural resources in Section 5.9 (Agricultural Resources). The Draft EIR presents descriptions of the baseline conditions for agricultural resources in Section 5.9.2 (Agricultural Resources, Environmental Setting), including historical and present agricultural conditions for the site (2,100-acre solar facility and off-site transmission line), including Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Williamson Act lands (applicable to Kern County portion of off-site transmission line only). As discussed in Section 5.9.3 (Agricultural Resources, Project Impacts) of the Draft EIR, the potential impacts of the proposed Project on agricultural resources are considered to be less than significant absent mitigation. Implementation of Mitigation Measure 5.9-1 presented in Draft EIR Section 5.9.5 (Agricultural Resources, Mitigation Measures) would be expected to reduce potentially significant impacts to Williamson Act contract lands in Kern County associated with the off-site transmission line to less than significant levels. In summary, the analysis of Project impacts to agricultural resources presented in the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-14:

This comment states that the Draft EIR analysis of impacts to utilities is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of the baseline and impacts for utility services in Section 5.14 (Utility Services) and Appendix J (Groundwater Characteristics at the AV Solar Ranch One Site), including Appendix J.2 (Water Requirements and Groundwater Supply AV Solar Ranch One). Section 5.14 and Appendix J/J.2 of the Draft EIR include detailed descriptions of the utility services for the Project site and vicinity, including water supply, electricity and gas, and solid waste. As discussed in Section 5.14.3 (Utility Services, Project Impacts) of the Draft EIR, the potential impacts of the proposed Project on utility services are considered to be less than significant absent mitigation. In summary, potential impacts to utilities would be less than significant and the analysis of Project impacts to utility services presented in the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-15:

This comment states that the Draft EIR analysis of impacts on visual qualities is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of the baseline and impacts for visual resources in Section 5.10 (Visual Qualities). Section 5.10.2 (Visual Qualities, Environmental Setting) of the Draft EIR includes a detailed description of the environmental setting for the Project solar facility site and off-site transmission line, including a description of existing visual resources and sensitive viewing areas. Section 5.10.3 (Visual Qualities, Project Impacts) of the Draft EIR presents the visual impact assessment methodology and significance criteria, identifies the visual sphere of influence, identifies the key observation points (KOPs) identified and utilized in the impact analysis and visual photosimulations, and assesses Project impacts from sensitive viewing locations. Based on an assessment of the sensitive viewers and locations, as described in Section 5.10.3 of the Draft EIR, KOPs were selected and an evaluation was made as to the degree of visual change from each location as a result of the Project. Five KOPs were selected and analyzed to determine the impacts of the proposed Project on surrounding views. Figures 5.10-1A and 5.10-1B in the Draft EIR illustrate the five KOP locations identified for the Project, which consist of the following:

- KOP 1: Motorist view traveling west along SR-138, which bisects the Project site
- KOP 2: Motorist view traveling north on 170th Street West at intersection of 170th Street West and SR-138 (170th Street West also bisects the Project site)
- KOP 3: Recreational user view from a representative trail located within the AVCPR, looking northwest towards Project

- KOP 4: Recreational user view from easternmost edge (trailhead) of Desert Woodland Park looking northeast towards Project
- KOP 5: View from a representative residence located at 50800 172nd Street looking south-southeast towards Project (approximately 0.5 mile north of the site)

The Draft EIR presents a detailed description of the simulation preparation in Section 5.10.3.4.2, which includes: a description of the equipment used (Fuji GX 617 panoramic camera providing a 2.25-inch-by-6-inch film transparency, Nikon 12-megapixel digital camera with a 35-mm lens image, hand-held GPS unit, and various computer software [terrain model, computer-aided design, rendering software, etc.]); the steps and procedures followed to generate the simulations; and the methodology and purpose of the procedures. Draft EIR Section 5.10.3.4.2 also describes methods employed to produce visual accuracy (for instance, use of a terrain model to align the Project computer model to the photographs, use of computer aided design (CAD) for life-sized modeling, use of global positioning systems [with coordinates depicted on Draft EIR Figure 5.10-1B] to accurately georeference facility equipment locations, color mapping and texturing of all modeled elements to simulate actual facility materials, simulating the lighting conditions at the time the photographs were taken, etc.). In summary, Section 5.10 of the Draft EIR provides adequate documentation on visual baseline conditions, the impact assessment methodology (including photosimulations) and findings. Based on the analysis presented in Section 5.10 of the Draft EIR, no significant impacts to visual quality (i.e., aesthetic resources) were identified. However, the Draft EIR stipulates visual quality related mitigation measures in Section 5.10.5 to ameliorate less than significant construction and operation phase impacts further. Mitigation Measure 5.10-4 implements vegetative screening for a 10-foot-wide strip along both sides of SR-138. As shown on Draft EIR Figures 5.10-4 (Existing View of KOP #1), 5.10-5 (Simulated View of KOP #1), and 5.10-7 (Simulated View of KOP #2), the Project's implementation of the design and enhancement features (i.e., the facility setback from SR-138 (approximately 120 feet from centerline of the roadway to Project fence lines), use of the lower elevation trackers, and vegetated areas along the fence line) would maintain views to the distant mountains, and would result in less than significant effects to the viewshed. While the Project impacts are not considered significant, Mitigation Measure 5.10-3, Building and Equipment Paint, which requires neutral and non-reflective paints and pigments on proposed on-site building and equipment structures, Mitigation Measure 5.10-4, which requires County approval of a landscaping plan for the proposed screening vegetation along SR-138, and Mitigation Measure 5.10-5, requiring the Applicant to maintain additional land on both sides of SR-138 free of trash and debris until the applicable lands are transferred to Caltrans and improved by the County, would further ameliorate less than significant Project operation impacts. In conclusion, potential impacts to visual quality would be less than significant and the analysis of Project impacts to visual quality presented in the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-16:

This comment states that the Draft EIR analysis of the Project's land use impacts is inadequate, but provides no specific points in the comment to support this claim. The Draft EIR presents a thorough assessment of the baseline and impacts for land use in Section 5.16 (Land Use). The land use analysis presented in Section 5.16 of the Draft EIR assesses whether the Project would: be consistent with County General Plan land use or zoning designations for the property; be consistent with Significant Ecological Area conformance criteria; physically divide an established community; and be consistent with the County Green Building Ordinance. As analyzed in detail in Section 5.16.3 of the Draft EIR, the proposed Project would be consistent and/or compatible with all of the aforementioned considerations, and the Project would not physically divide an established community. In conclusion, potential impacts to land use would be less than significant and the analysis of Project impacts related to land use presented in the Draft EIR is adequate contrary to the contention in this comment. Refer to Responses NG-1-28 through NG-1-33, which address subsequent comments related to land use consistency.

Response NG-1-17:

This comment states that the Draft EIR analysis of the Project's noise impacts is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of the baseline and impacts for noise in Section 5.18 (Noise) and Appendix I (Noise Technical Report). The noise analysis presented in Section 5.18 and Appendix I considers and addresses potential Project noise impacts due to construction and operation of the solar generation facility and the off-site transmission line. The noise analysis considers: applicable Los Angeles and Kern County noise standards; the location of Project facilities and activities relative to potentially sensitive noise receptors (i.e., residences); background noise levels based on a baseline noise monitoring survey conducted for the Project area; the worst-case noise levels associated with Project construction and operation; and the resultant noise levels at sensitive receptors and relative to applicable noise standards. The noise analysis presented in the Draft EIR determined that pile driving (using vibratory pile drivers) during construction for solar panel support foundations would potentially exceed the applicable Los Angeles County noise ordinance standard of 55 dBA at several of the closest sensitive receptors (residences R-1, R-2, and R-3 [see Figure 5.18-2 in the Draft EIR]). With implementation of Mitigation Measure 5.18-1 – Pile Driver Orientation (refer to Section 5.18.5 in the Draft EIR), construction noise impacts would be less than significant. The noise analysis presented in the Draft EIR determined that no other construction or operational phase noise impacts would exceed applicable standards or result in potentially significant noise impacts. In conclusion, potential Project-related noise impacts would be less than significant with mitigation and the analysis of Project impacts related to noise presented in the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-18:

This comment states that the Draft EIR analysis of fire hazard impacts is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of the baseline and impacts for fire hazards in Section 5.4 (Fire Hazards). As documented in the fire hazards analysis presented in Section 5.4, the Project site is located in Fire Zone 3 and is not located in a Very High Fire Hazard Severity Zone. Additionally, the off-site transmission line in Los Angeles and Kern counties is not located in a Very High Fire Hazard Severity Zone. As documented in the Draft EIR, the Project site is: not located in a high fire hazard area served by inadequate access; not located in an area having inadequate water pressure to meet fire flow standards; and is not located in close proximity to potential dangerous fire hazard conditions/uses. The fire hazard impact analysis presented in Section 5.4.3 of the Draft EIR states that the Project site and off-site transmission line construction and operation would constitute a potentially significant, but mitigable, fire hazard. Compliance with Los Angeles County Fire Department (LACFD) requirements for the facility site and applicable County and California Public Utility Commission General Order 95 et al fire safety requirements for the off-site transmission line combined with the required implementation of Mitigation Measure 5.4-1 – Fire Protection and Prevention Plan (see Section 5.4.5 of the Draft EIR) would reduce potential fire hazard impacts to a less than significant level. In addition, the Vegetation Management and Fire Control Measures Plan presented in Appendix K of the Draft EIR would further reduce the potential fire hazard at the Project site. In conclusion, potential Project-related fire hazard impacts would be less than significant with mitigation and the analysis of Project impacts related to fire hazards presented in the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-19:

This comment states that the Draft EIR analysis of fire protection is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of the baseline and impacts for fire protection services in Section 5.12 (Fire Protection Services). As documented in the fire protection services analysis presented in Section 5.12, the Project site and off-site transmission line areas are served by the LACFD, the Kern County Fire Department (KCFD) and adequate fire response resources serve the Project area. The fire protection services impact analysis presented in Section 5.12.3 of the Draft EIR documents the available fire protection service resources and the lack of significant impacts caused by the Project relative to creation of staffing or response time problems at the fire stations servicing the Project area. As discussed in Response NG-1-18, the Project site is located in Fire Zone 3 and is not located in a Very High Fire Hazard Severity Zone. Implementation of Mitigation Measure 5.4-1 – Fire Protection and Prevention Plan (see Section 5.4.5 of the Draft EIR) would reduce potential fire hazard impacts to a less than significant level. In addition, the Vegetation Management and Fire Control Measures Plan presented in Appendix

K of the Draft EIR would further reduce the potential fire hazard at the Project site. Therefore, construction and operation of the Project would not be expected to result in significant special fire problems or hazards as discussed in Section 5.12.3.2.2 of the Draft EIR. In conclusion, potential Project-related fire protection service impacts would be less than significant and the analysis of Project impacts related to fire protection services presented in the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-20:

This comment states that the Draft EIR analysis of environmental safety is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of the baseline and impacts for environmental safety in Section 5.15 (Environmental Safety). Section 5.15.2 (Environmental Safety, Environmental Setting) of the Draft EIR presents the pertinent results of the Phase I Environmental Site Assessments that have been conducted for the Project, including the identification of several recognized environmental conditions related to past uses of the site. The potential Project impacts related to environmental safety are assessed in Section 5.15.3 (Environmental Safety, Project Impacts) of the Draft EIR in accordance with the eight (8) Los Angeles County significance criteria listed in Section 5.15.3.1 of the Draft EIR. The impact assessment presented in the Draft EIR identified and assessed the following potentially significant environmental safety related impacts associated with Project implementation: 1) impacts from hazardous materials use/storage during construction and operation activities; 2) impacts from potential soil contamination; 3) impacts from abandoned oil well; and 4) impacts from demolition/building materials containing hazardous materials/waste. All other potential impacts assessed in accordance with applicable County significance criteria would be less than significant, absent mitigation, as analyzed and documented in Section 5.15.3 of the Draft EIR. The pertinent mitigation measures presented in Section 5.15.5 of the Draft EIR are listed below (refer to Section 5.15.5 of the Draft EIR for more information regarding the details of each measure):

- Mitigation Measure (MM) 5.15-1: Additional assessment, and possibly remediation, of potentially contaminated soils on the Project site
- MM 5.15-2: A Soil Management Plan for Transmission Line Construction
- MM 5.15-3: The historic oil well that requires abandonment or re-abandonment shall be abandoned to current standards
- MM 5.15-4: Demolition Hazardous Building Materials Assessment and Management Plan

With implementation of the mitigation measures identified above (as presented in detail in Section 5.15.5 of the Draft EIR), all four of the aforementioned potentially significant environmental safety related impacts would be less than significant. In conclusion, potential

Project-related environmental safety impacts would be less than significant with mitigation and the analysis of Project impacts related to environmental safety presented in the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-21:

This comment states that the Draft EIR analysis of alternatives is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of alternatives in Section 6.0 (Alternatives to the Proposed Project). In accordance with CEQA Guidelines Section 15126.6, the Draft EIR assesses a range of reasonable alternatives to the proposed Project, which could feasibly attain most of the basic objectives of the proposed Project and avoid or substantially lessen any of the significant effects of the proposed Project. The Project alternatives considered in the Draft EIR consisted of:

- Alternative facility layout
- Underground off-site/on-site transmission lines

The Draft EIR also discussed alternatives that were considered, but eliminated from further consideration, and the No Project Alternative, which provides a discussion of existing conditions and what would reasonably be expected to occur in the future if the Project were not approved.

The alternatives analysis presented in the Draft EIR includes the following sections:

- 6.1 – Introduction
- 6.2 – Alternatives Considered but Eliminated from Further Consideration
- 6.3 – Alternatives Analysis
- 6.4 – Environmentally Superior Alternative

The assessment in Section 6.2 of the Draft EIR includes consideration of: alternative sites, alternative transmission line routes, alternative project size, alternative technologies, and alternative drainage improvements. The alternatives assessment presented in Section 6.3 of the Draft EIR analyzes the following alternatives in detail for all pertinent environmental resource topics, including comparisons with the proposed Project: Alternative 1 – No Project; Alternative 2 – Alternative Facility Layout; and Alternative 3 – Underground Transmission Lines. Section 6.4 of the Draft EIR assesses and identifies the environmentally superior alternative as required by CEQA Guidelines Section 15126.6. In conclusion, the analysis of alternatives presented in Section 6.0 of the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-22:

This comment states that the Draft EIR analysis of growth-inducing impacts is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of growth-inducing impacts in Section 7.2 (Growth-Inducing Impacts). As discussed and assessed in Section 7.2 of the Draft EIR, CEQA requires the analysis of a proposed project's potential to induce growth. CEQA Guidelines Section 15126.2(d) requires that the EIR discuss the ways in which a project could be growth-inducing by fostering economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. New employees hired for proposed commercial and industrial development projects and population growth resulting from residential development projects represent direct forms of growth. A project would indirectly induce growth if would increase the capacity of infrastructure or facilities in an area in which the public service currently meets demand. Examples of indirect growth-inducing impacts include expansion of urban services into a previously un-served or under-served area, extension of transportation links, or removal of major obstacles to growth. Typically, the growth-inducing potential of a project would be considered significant if it would foster growth or a concentration of population above what is assumed in local and regional land use plans, or in projections made by regional planning authorities. Significant growth impacts could also occur if the project provides infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies. The Draft EIR analyzes the Project's potential to result in growth-inducing impacts in Section 7.2.1 (Other CEQA Considerations, Growth Caused by Direct employment), Section 7.2.2 (Other CEQA Considerations, Growth Related to the Provision of Electric Power Generation), and Section 7.2.3 (Other CEQA Considerations, Indirect Growth Effects).

As discussed in Section 7.2.1 of the Draft EIR, the Project construction labor force needed (estimated peak of 453 workers) would account for a maximum of 0.16 percent of the employment positions in Los Angeles and Kern counties (combined). The Project construction workforce needs (approximately 38 months maximum) are negligible compared to the size of the available regional workforce. As a result, construction workers would be expected to be hired locally, and workers would not be anticipated to relocate into the Project area during construction. Additionally, based on the above reported figures, construction of the Project may be anticipated to provide employment opportunities to the current unemployed construction workforce in Los Angeles and Kern counties. During operation, the Project would require approximately 16 employees for facility operation, maintenance, and security activities. According to EDD-LMI, the total number of utility related positions in the Project region in June 2009 was 23,200 jobs, which have similarly declined since 2008 (EDD LMI 2009). The Project's operational employment needs would be negligible compared to the available regional workforce. Accordingly, the Project is anticipated to hire permanent employees from the available regional workforce, and operations phase workers would not

be expected to be required to relocate to the Project area. Accordingly, the Project would not result in potentially significant growth-inducing impacts related to direct employment during construction or operation.

As discussed in Section 4.0 (Project Description) of the Draft EIR, the primary purpose of the proposed Project is to generate 230 MW of clean, renewable electrical power using solar photovoltaic technology. The Project is designed to meet the increasing demand for clean renewable electricity that is set forth in the California’s statutory and regulatory goals to increase renewable power generation and reduce greenhouse gas generation. The Applicant proposes the AV Solar Ranch One Project in response to the State-mandated increases in clean, renewable electricity generation versus conventional fossil-fuel power generation sources. The proposed Project involves construction and operation of a solar photovoltaic electric generating facility and a privately-owned, 230-kV high-voltage transmission line. The Project does not involve increase or expansion of public services or removal of major obstacles to growth that would increase growth beyond land use plans and regional projections. Therefore, the Project would not result in impacts related to direct or indirect growth effects. In conclusion, the analysis of potential Project-related growth-inducing impacts presented in the Draft EIR determined that the Project would not result in significant growth-inducing impacts and the analysis of growth-inducing impacts presented in Section 7.2 of the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-23:

This comment states that the Draft EIR analysis of cumulative impacts is inadequate, but provides no specific points to support this claim. The Draft EIR presents a thorough assessment of cumulative impacts in Section 4.6 (Project Description, Cumulative Projects List) and in each of the individual environmental resource topic analyses presented in Section 5.0 (Environmental Impact Analysis) of the Draft EIR. In accordance with CEQA Guidelines, the Draft EIR presents an analysis of cumulative impacts that may result from construction and operation of the proposed Project. As defined in Section 15355, cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Draft EIR Section 4.6 presents the cumulative projects basis for consideration in the cumulative impact analyses presented in Section 5.0 by environmental topic.

The cumulative impact analyses in Draft EIR Section 5.0 consider a number of variables including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic study area of each analysis is based on the nature of the geography surrounding the proposed Project, the characteristics of each resource, and the region to which they apply. In addition, each project in a region will have its own implementation schedule, which may or may not coincide or overlap with the proposed

Project's schedule. For reference, the proposed AV Solar Ranch One Project is planned to be under construction between the fourth quarter of 2010 through the fourth quarter of 2013.

CEQA Guidelines Section 15130(b)(1) recommends two methodologies for establishing the cumulative impact scenario. One approach is to use "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency" (CEQA Guidelines §15130(b)(1)(A)). Another approach is to use "a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact" (CEQA Guidelines § 15130(b)(1)(B)). The cumulative impact analysis presented in the Draft EIR considers a combination of both methodologies to provide a tangible understanding and context for analyzing the potential cumulative effects of the proposed Project. The geographic boundary was established to include a review of applicable projects within 5 miles of the proposed Project site and off-site transmission line route. Additionally, the cumulative resource study area was expanded to include a review of projects within the City of Lancaster, the Centennial master planned community along SR-138, and the community of Gorman near the intersection of SR-138 and I-5.

The cumulative scenario was developed through a review of active project lists (as of September 2009) from LACDRP, Kern County Planning Department, City of Lancaster, California Energy Commission (CEC), the California Independent System Operator (CAISO) interconnection queue and the U.S. Bureau of Land Management (BLM). The cumulative impact basis presented in the Draft EIR also considers planning documents, including general plans, area plans, specific plans, and previously certified EIRs, and Southern California Association of Governments (SCAG) growth projections.

Refer to Table 4.6-1 in the Draft EIR for a tabular listing of projects and planning areas identified that are considered in the Project cumulative impact analysis. The locations of the cumulative projects considered are shown on Figure 4.6-1. The list of cumulative projects considered in the Draft EIR was developed in September 2009 to facilitate completion of the necessary assessments following issuance of the AV Solar Ranch One EIR Notice of Preparation in April of 2009. Based on the assessments of potential cumulative impacts (by environmental resource topic) presented in Section 5.0 of the Draft EIR, the proposed Project would not result in any significant cumulative effects (i.e., all potentially significant cumulative effects would be less than significant with mitigation).

In conclusion, the analysis of potential cumulative impacts presented in the Draft EIR determined that with implementation of specified mitigation, the proposed Project would not result in significant cumulative impacts and the analysis of cumulative impacts presented in Sections 4.6 and 5.0 of the Draft EIR is adequate contrary to the contention in this comment.

Response NG-1-24:

This comment states that there is no credible evidence that many of the mitigation measures, including those relating to biological, cultural and paleontological, and noise impacts, would mitigate the Project’s impacts to a level of insignificance; however, this comment does not provide any specific points to support these claims. CEQA requires an EIR to describe feasible mitigation measures, which could minimize significant adverse impacts. (CEQA Guidelines § 15126.4.) Mitigation measures need only be reasonable (*Sacramento Old City Ass’n v. City Council* (1991) 229 Cal.App.3d 1011, 1019). “CEQA does not require analysis of every imaginable mitigation measure; its concern is with feasible means of reducing environmental effects.” (*Concerned Citizens of South Central Los Angeles v. Los Angeles Unified School Dist.* (1994) 24 Cal.App.4th 826, 841 [emphasis in original]; CEQA Guidelines § 15126.4 (a)(1)). When examining whether mitigation measures are supported by substantial evidence the entire administrative record is examined including staff reports, the EIR, and testimony at administrative hearings (*City of Walnut Creek v. County of Contra Costa* (1980), 101 Cal.App.3d 1012, 1018; see also *Laurel Heights, supra*, 47 Cal.3d at 422). “Substantial evidence” means “enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached.” (CEQA Guidelines § 15384 (a).)

The Draft EIR presents a thorough impact assessment (Section 5.0, Environmental Impact Analysis, and associated technical studies) for each environmental resource topic, including: regulatory setting; environmental setting; Project impacts; cumulative impacts, impact significance; mitigation measures; and level of significance after mitigation. The impact assessments, mitigation measures and residual impact findings (i.e., with consideration of mitigation measure effectiveness) presented in the Draft EIR for all applicable resource topics, including biological resources (Section 5.7), cultural and paleontological resources (Section 5.8), and noise (Section 5.18), are thorough and conclude that all potentially significant impacts would be reduced to less than significant levels with mitigation. In conclusion, the identification of impacts, appropriate and feasible mitigation, and the analysis of mitigation measure effectiveness presented in the Draft EIR are adequate contrary to the contentions in this comment.

Response NG-1-25:

This comment states that the Final EIR includes “significant new information” within the meaning of California Public Resources Code Section 21092 and CEQA Guidelines Section 15088.5, and that the County was therefore required to revise and recirculate the Draft EIR, but it unlawfully failed to do so. However, this comment does not provide any specific points to support this claim. The Final EIR does not present “significant new information,” thus there is no justification or need to recirculate the Draft EIR as explained in the following

discussion. No new technical reports were presented, no new significant impacts were identified and no substantial changes were made to the Draft EIR.

Therefore, the Final EIR for the Project does not require recirculation under CEQA. (See Public Resources Code § 21092.1, CEQA Guidelines § 15088.5). CEQA Guidelines Section 15088.5 requires recirculation of an EIR prior to certification of the Final EIR when “significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review.” “New information added to an EIR is not ‘significant’ unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the Project or a feasible way to mitigate or avoid such an effect.” (CEQA Guidelines § 15088.5.) CEQA Guidelines Section 15088.5 (a) contains an illustrative list of examples of “significant new information” requiring recirculation:

- (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
- (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
- (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project's proponents decline to adopt it.
- (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

In addition, CEQA Guidelines Section 15088.5(b) provides that “recirculation is not required where the new information added to the EIR merely clarifies and amplifies or makes insignificant modifications in an adequate EIR.”

This comment does not provide any specific points to support the claim that the Final EIR presents “significant new information.” The record does not support the contention that there is significant new information requiring recirculation of the Draft EIR.

Response NG-1-26:

This comment states that the responses to comments in the Final EIR are not based on good-faith, reasoned analysis. However, this comment does not provide any specific points to support this claim. Contrary to the contention in this comment and as explained in the following discussion, the Final EIR presents a thorough, reasoned, good-faith analysis of the comments received on the Draft EIR and provides detailed responses to all substantive written and oral (public testimony) comments received on the Draft EIR.

CEQA requires the lead agency to evaluate and respond to all comments on environmental issues (CEQA § 21091 (d)(2)(A)). The agency must provide “written responses that evince a good faith and reasoned analysis why specific comments and objections were not accepted. The public agency need not respond to every comment raised . . . but it must specifically respond to the most significant environmental questions raised in opposition to the project.” (*Gallegos v. State Bd. of Forestry* (1978) 76 Cal.App.3d 945, 954; CEQA Guidelines § 15088(c).) The adequacy of responses is determined by several factors: whether the responses are “totally conclusory”; whether the responses contain “specific information as to the basis for rejecting the objection”; whether the responses are supported with “empirical information, scientific authorities, and explanations”; and, if data is unavailable, whether that is explained (*Ebbetts Pass Forest Watch v. Dept. of Forestry and Fire Protection* (2004) 123 Cal.App.4th 1331, 1357–58 [superseded on other grounds]).

The Draft EIR was circulated for a 45-day public review period as required by CEQA from June 16, 2010 to July 30, 2010. The County of Los Angeles Regional Planning Commission held a public hearing on June 30, 2010 and took public testimony. Refer to Section 3.0 of the Final EIR for the June 30, 2010 RPC Hearing minutes and responses to oral comments received at the hearing.

The Responses to Written Comments received during the 45-day public review are divided into four sections as follows: State Agencies (SA); Local Agencies (LA); Organizations (ORG); and Individuals (I). A tabular summary of the comments received on the Draft EIR that are fully responded to in the Final EIR Section 4.0 follows:

SUMMARY OF WRITTEN COMMENTS ON DRAFT EIR

Date	Commenter/Affiliation	Comment Item ID	Number of Comments Identified
Federal Agencies			
None			
State Agencies (SA)			
7/15/20	Dave Singleton/Native American Heritage Commission	SA-1	14
7/16/10	Carl Shiigi/California Department of Transportation	SA-2	8
7/30/10	Scott Morgan/State Clearinghouse	SA-3	2
Local Agencies (LA)			
7/9/10	Gary T. K. Tse/Los Angeles County Sheriff Department	LA-1	2
7/15/10	John R. Todd/Los Angeles County Fire Department	LA-2	6
7/15/10	Richard Kite/City of Palmdale	LA-3	1
7/20/10	Bret Banks/Antelope Valley Air Quality Management District	LA-4	3

Date	Commenter/Affiliation	Comment Item ID	Number of Comments Identified
Organizations (ORG)			
7/30/10	Kate Allen/Antelope Valley Group of Sierra Club	ORG-1	5
7/21/10	Elizabeth Klebaner/Adams Broadwell Joseph & Cardozo	ORG-2	1
7/30/10	Elizabeth Klebaner/Adams Broadwell Joseph & Cardozo	ORG-3	79
Individuals (I)			
6/21/10	Shizuko Hill	I-1	1
6/21/10	Ponciano Manalo	I-2	2
7/26/10	L. Dean Webb	I-3	7
7/30/10	Several Residents of Antelope Acres (Stout, Kerekes, Seybold, Fuentes)	I-4	6

The Final EIR included a response to every comment made on the Draft EIR during the public comment period. (See Final EIR Section 3.0 for responses to oral comments received during the Commission public hearing and Final EIR Section 4.0 for responses to comment letters received during the 45-day public comment period.) The responses evince a good faith and reasoned analysis and are supported by empirical, scientific, and explanatory information.

In conclusion, the Final EIR, including the responses to comments in the Final EIR, is based on good-faith, reasoned analysis and are considered to be adequate contrary to the contention in this comment.

Response NG-1-27:

This comment states that the CEQA Findings of Fact are not supported by substantial evidence. However, this comment does not provide any specific points to support this claim. CEQA requires that findings be supported by substantial evidence. (CEQA Guidelines § 15091.) The standard for adequacy of an EIR is “not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.” (CEQA Guidelines § 15151.) Indeed, all that is needed is “**any** substantial evidence in the record to support the findings.” (*Smith v. County of Los Angeles* (1989) 211 Cal.App.3d 188, 198 [original emphasis] [citation omitted].) Substantial evidence means “enough relevant information and reasonable inferences . . . that a fair argument can be made to support a conclusion, even though other conclusions might also be reached.” (CEQA Guidelines § 15384 (a).) As discussed in the Draft EIR, the Final EIR, and Responses NG-1-1 through NG-1-26, there is substantial evidence in the record to support the findings.

Moreover, the commenter does not identify how the evidence before the County is insufficient to reach the conclusions set forth in the CEQA Findings of Fact. (*Environmental*

Council of Sacramento v. City of Sacramento (2006) 142 Cal.App.4th 1018, 1026.) The test is whether, “based on the evidence before the agency, a reasonable person could not reach the conclusion reached by the agency.” (*Harris v. City of Costa Mesa* (1994) 25 Cal.App.4th 963, 969 [citation omitted].) Therefore, it must be demonstrated that there is no substantial evidence in the administrative record supporting the CEQA Findings of Fact or project approval (*Snarled Traffic Obstructs Progress v. City & County of San Francisco* (1999) 74 Cal.App.4th 793, 798 [citation omitted]; CEQA Guidelines § 15384).

Response NG-1-28:

This comment does not state a specific concern or question regarding the adequacy of the analysis contained in the Draft EIR. Therefore, a response is not required pursuant to CEQA. Moreover, the County disagrees with this comment and the general contention that the Conditional Use Permit (CUP) and the Vesting Tentative Tract Map (VTTM) are unlawful and not in accord with the purposes of Titles 21 and 22 of the Los Angeles County Code. Please refer to Responses NG-1-30 through -32 for information on the CUP and NG-1-33 for information on the VTTM.

Response NG-1-29:

This comment does not state a specific concern or question regarding the adequacy of the analysis contained in the Draft EIR. Therefore, a response is not required pursuant to CEQA. Moreover, the County disagrees with this comment and the general contention that the approval of the CUP was unlawful and not in accord with the purposes of Title 22 of the Los Angeles County Code (the County Zoning Ordinance). Please refer to Responses NG-1-30 through -32 for information on the CUP.

Response NG-1-30:

This comment does not state a specific concern or question regarding the adequacy of the analysis contained in the Draft EIR. Therefore, a response is not required pursuant to CEQA. Moreover, the County disagrees with this comment and the contention that the Open Space Zone (O-S zone) is the only zone that permits solar uses. The Heavy Agriculture (A-2) zone provision concerning the types of electric generating facilities allowed with a CUP is broader than the corresponding O-S zone provision. As described in Draft EIR Section 5.16.2.1, the Project site is located on A-2 zoned land. As discussed in Draft EIR Section 5.16, the Project would be permitted through the issuance of a CUP as provided by County Zoning Ordinance Section 22.24.150, which conditionally permits in the A-2 zone “electric distribution substations, electric transmission substations and generating plants.” The Project will include photovoltaic solar panels, associated electrical and distribution equipment, an on-site electricity substation, and a 230-kilovolt transmission line approximately 4.25 miles in length, which will connect to Southern California Edison’s proposed Whirlwind Substation

north of the Project site in southern Kern County. (Draft EIR Section 4.4.) The Project will generate approximately 230 megawatts of clean, renewable electrical power and integrate the electrical output of the Project into the electrical grid. (Draft EIR Section 4.4.) Therefore, based on its characteristics, the Project is considered equivalent to an electric generating plant and is allowed with a CUP in the A-2 zone. (Draft EIR Section 5.16.3.2.2) Please also refer to Response NG-1-31.

Response NG-1-31:

This comment does not state a specific concern or question regarding the adequacy of the analysis contained in the Draft EIR. Therefore, a response is not required pursuant to CEQA. Moreover, the County disagrees with this comment and the contention that the record does not support the conclusion that the Project is a permitted use within the A-2 zone. As discussed in Response NG-1-30, the Project is equivalent to an electric generating plant and is permitted within the A-2 zone (Draft EIR Section 5.16.3.2.2). The Project will include photovoltaic solar panels, associated electrical and distribution equipment, an on-site electricity substation, and a 230-kilovolt transmission line approximately 4.25 miles in length, which will connect to Southern California Edison’s proposed Whirlwind Substation north of the Project site in southern Kern County (Draft EIR Section 4.4). The Project will generate approximately 230 megawatts of clean, renewable electrical power and integrate the electrical output of the Project into the electrical grid (Draft EIR Section 4.4). These project characteristics and the many graphic images in the Draft DEIR depicting the various project elements all lead to the reasonable conclusion that the facility is an electric generating plant.

Response NG-1-32:

This comment does not state a specific concern or question regarding the adequacy of the analysis contained in the Draft EIR. Therefore, a response is not required pursuant to CEQA. Moreover, the County disagrees with this comment and the contention that there is not sufficient evidence in the record for the County to make findings to approve the CUP.

As discussed in Draft EIR Table 5.16-1, the Project use is consistent with all applicable land use policies and ordinances including Los Angeles County General Plan policies, Antelope Valley Area Wide Plan policies, and the County Zoning Ordinance.

As discussed in Draft EIR Section 5.16.2.1, the Project site is located within the Antelope Valley Areawide General Plan of the Los Angeles County General Plan and has a land use designation of “Non-Urban 1” (N-1). Under the N-1 land use designation, allowable uses include utility installations. As discussed in Draft EIR Section 5.16.3.2.1, the Project, based on its enumerated characteristics, is considered to be a utility installation and, therefore, would be consistent with the General Plan Land Use designation for the Project site. In addition, as discussed in Draft EIR Table 5.16-1 (page 5.16-18), the Project is consistent with

Los Angeles County General Plan Conservation, Open Space, and Recreation policies 2 (support the conservation of energy and encourage the development and utilization of new energy sources including solar), 3 (promote the use of solar energy to the extent possible), and 7 (preserve significant ecological areas by appropriate measures, including preservation, mitigation, and enhancement). In addition, Draft EIR Table 5-16-1 (pages 5.16-18 through -23) discusses the Project's consistency with Antelope Valley Area Wide Plan policies. The Project is consistent with Antelope Valley Area Wide Plan policies relating to agricultural lands, resource conservation, physical appearances/community image, environmental resource management, recreation, energy consumption, non-residential uses in non-urban areas, and significant ecological areas.

The burden of proof provisions in County Zoning Ordinance Section 22.56.040 mirror the required findings set forth in County Zoning Ordinance Section 22.56.090. As discussed in Draft EIR Table 5.16-1 (page 5.16-23), the Project is consistent with County Zoning Ordinance Section 22.56.040. The Project is in a rural area with low residential density and is largely dominated by open space and agricultural uses. Additionally, the Project is associated with a low level of activity during operations, with minimal noise, emissions, lighting, and human presence. Therefore, the Draft EIR concluded that the Project's requested use at the location will not: 1) adversely affect the health, peace, comfort or welfare of persons residing or working in the surrounding area; or 2) be materially detrimental to the use, enjoyment or valuation of property of other persons located in the vicinity of the site; or 3) jeopardize, endanger or otherwise constitute a menace to the public health, safety or general welfare. The Draft EIR also concluded that the Project site is adequately served by public or private service facilities as are required (see Draft EIR Table 5.16-1 [page 5.16-23]; Section 5.12 [Fire Protection Services]; Section 5.14 [Utility Services]).

Response NG-1-33:

This comment does not state a specific concern or question regarding the adequacy of the analysis contained in the EIR. Therefore, a response is not required pursuant to CEQA. Moreover, the County disagrees with this comment and the contentions that the VTTM is unlawful, violates the Subdivision Map Act and that the findings regarding the VTTM approval were not supported by substantial evidence. No substantive basis or reasoned analysis is provided in the comment to support the conclusions posited. The VTTM is not an authorization to change the physical environment and, in and of itself, the VTTM does not directly authorize any use or development on the Project site (Draft EIR Section 4.2).

Response NG-1-34:

This comment states that Northrop Grumman Corporation is appealing the approval of the AV Solar Ranch One project and provides a Letter of Authorization for specified attorneys to

represent NG in this matter, but does not state a specific concern or question regarding the adequacy of the analysis contained in the Draft EIR. Therefore, a response is not required pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

6.2.4 Melody Mokres (MM-1)

Response MM-1-1:

This comment requests that the hearing for the AV Solar Ranch One Project be postponed because a public hearing has not been held regarding the County’s identification of solar and wind farms, as indicated by the blue-shaded section of the General Plan Map of the Antelope Valley. The County has not adopted a General Plan map showing a solar-wind-designated area, and the proposed AV Solar Ranch One Project is not related to any such mapping effort or designated area. Amendments to the General Plan require public hearings, thus adoption of any such future General Plan mapping changes would be open to public comment, as applicable. See Draft EIR Section 4.1.2 for information regarding the AV Solar Ranch One Project purpose and objectives, including details on the Project site selection criteria.

Response MM-1-2:

This comment states that due to the amount of land that will be removed by the Project from the original intent for land use, a public hearing should have been conducted on the Project, and such a hearing should have been conducted in the Antelope Valley. The County of Los Angeles conducted a Scoping Meeting in accordance with CEQA § 21083.9(a)(2), which was held in the community of Antelope Acres at the Westside Community Church on May 14, 2009, in order to facilitate public review and comment on the Project. The Scoping Meeting was noticed in the Project Notice of Preparation, which was transmitted on April 29, 2009, and circulated to the public in accordance with CEQA Guidelines § 15082. The Draft EIR analyzes impacts to land use (including analysis of the Project consistency with agricultural opportunity areas), agricultural resources, and visual qualities in Section 5.16, Section 5.9, and Section 5.10, respectively. Additionally, cumulative impacts were evaluated for each resource discipline in the Draft EIR. The Los Angeles County Regional Planning Commission held two properly noticed public hearings in Los Angeles on June 30, 2010 (Draft EIR), and September 15, 2010 (Final EIR and associated entitlements).

Response MM-1-3:

In accordance with CEQA Guidelines §15126, the EIR considers and discusses environmental impacts, and identifies mitigation measures to minimize significant environmental effects. Ongoing discussions between the Antelope Acres Town Council and the Applicant are not related to the Project’s environmental impacts or mitigation measures

to minimize significant environmental effects. Accordingly, the discussions are not within the scope of CEQA or the EIR and, therefore, are not addressed in the EIR.

6.3 LATE COMMENT LETTERS

This section presents the four late comment letters received on the Final EIR (August 2010). Refer to Table 6-1 for a summary of the late comment letters. The attached letters have the comments delineated in the margins for cross reference to the written responses presented in Section 6.2.

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, OFFICE OF PUBLIC
TRANSPORTATION AND REGIONAL PLANNING
 IGR/CEQA BRANCH
 100 SOUTH MAIN STREET
 LOS ANGELES, CA 90012
 PHONE (213) 897-9140
 FAX (213) 897-1337

CT-1

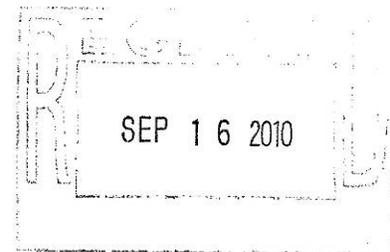


Flex your power!
Be energy efficient!

September 14, 2010

IGR/CEQA FEIR CS/100902
 County of Los Angeles
 AV Solar Ranch One Project
 Vic. LA-138-22.05, SCH# 2009041145

Ms. Christina Tran
 County of Los Angeles
 Department of Regional Planning
 320 West Temple Street
 Los Angeles, CA 90012



Dear Ms. Tran:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Final Environmental Impact Report (FEIR) for the AV Solar Ranch One Project. The proposed project consists of a 230-megawatt (MW) solar photovoltaic (PV) facility on approximately 2,100 acres of former agricultural land in northern Los Angeles County along State Route 138 (SR-138). Based on the information received, we have the following comments:

This letter is submitted to you in order to clarify the ultimate highway facility segment for the future State Route 138 (SR-138) corridor between I-5 and SR-14.

An approved Project Study Report/Project Development Support (PSR/PDS), Preliminary Environmental Analysis Report, Initial Site Assessment Report, and Stormwater Data Report was completed in December of 2008 by Caltrans Office of Project and Special Studies. Of concern are the future highway cross sections at or around the proposed project site. The future corridor envisions a 6 lane access controlled expressway or freeway (72 feet) with a 62 foot median with 30 foot recovery zones/shoulders as part of the ultimate highway concept in the vicinity of the project.

Since it has not yet been determined if the future highway alignment would use the existing centerline or be built north or south of the existing centerline, the needed right-of-way preservation would be 300 feet or 150 feet north of and 150 feet south of the existing centerline to accommodate these unknown factors. Based on these highway requirements, no permanent structures should be built within the ultimate footprint of these three cross-sections. This means that actions to preserve the right-of-way throughout the corridor will be needed so that physical improvements would remain viable as major developments occur.

Ms. Christina Tran
September 14, 2010
Page Two

CT-1

If you have any questions regarding our comments, you may reach me at (213) 897-1726 and please refer to our record number 100902/CS.

CT-1-1

Sincerely,



Carl Shiigi
IGR/CEQA Coordinator
Office of Regional Planning

cc: Scott Morgan, State Clearinghouse

ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

801 GATEWAY BOULEVARD, SUITE 1000
SOUTH SAN FRANCISCO, CA 94080-7037TEL: (650) 589-1660
FAX: (650) 589-5062

eklebaner@adamsbroadwell.com

SACRAMENTO OFFICE

520 CAPITOL MALL, SUITE 350
SACRAMENTO, CA 95814-4721TEL: (916) 444-6201
FAX: (916) 444-6209DANIEL L. CARDOZO
THOMAS A. ENSLOW
TANYA A. GULESSERIAN
JASON W. HOLDER
MARC D. JOSEPH
ELIZABETH KLEBANER
RACHAEL E. KOSS
LOULENA A. MILES
ROBYN C. PURCHIAOF COUNSEL
THOMAS R. ADAMS
ANN BROADWELL
GLORIA D. SMITH

September 14, 2010

By Email and U.S. Mailc/o Rosie Ruiz
Chair Wayne Rew and Commissioners
Regional Planning Commission
Los Angeles County
Department of Regional Planning
Impact Analysis Section, Room 1348
320 West Temple Street
Los Angeles, CA 90012
rruiz@planning.lacounty.govRe: Comments on the Final Environmental Impact Report for the AV Solar Ranch One Project (County Project R2009-02239, Conditional Use Permit No. 200900026)

Dear Chairman Rew and Commissioners:

We write on behalf of California Unions for Reliable Energy ("CURE") to comment on the Final Environmental Impact Report ("FEIR") prepared by the Los Angeles County Department of Regional Planning ("DRP") for the 230 MW AV Solar Ranch One Project ("Project") proposed by AV Solar Ranch 1, LLC. Although we will not attend tomorrow's hearing on the Project, we urge the Planning Commission to not approve the FEIR and to direct DRP to revise and recirculate a draft EIR to the public.

CURE submitted extensive comments on the draft EIR on July 30, 2010. After carefully reviewing the FEIR, we conclude that DRP failed to adequately respond to CURE's comments and that significant new information has been added to the EIR. For these reasons, DRP's contention that recirculation of the EIR is *not* required under the California Environmental Quality Act ("CEQA") lacks merit.

When significant new information is added to a draft environmental review document after the close of public comment and before Project certification, a

EK-1-1

-2

-3

September 14, 2010

Page 2

revised draft environmental review document must be noticed and recirculated for public comment.¹ New information is significant for the purpose of CEQA when the environmental review document is “changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect.”² Here, DRP has revised its analysis in response to CURE’s July 30, 2010 comments to include a *new* mitigation measure for *previously unidentified impacts* to the federally listed Desert tortoise and *new*, unsupported, *analyses* regarding baseline biological and air quality conditions at the Project site.³ Additionally, DRP now claims that this *industrial* Project is *not* subject to the requirements of Water Code sections 10910 and 10912. This new information qualifies as “significant new information” under CEQA.

-3

As detailed in CURE’s July 30, 2010 comments, the draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. The FEIR still does not adequately analyze potentially significant Project impacts in several critical resource areas, including air quality, biological resources, visual resources, and water quality, and fails to propose adequate mitigation for the significant impacts that it does identify. The FEIR continues to fail to present a stable and finite Project description and to include an adequate Water Supply Assessment as required by Sections 10910 and 19012 of the California Water Code. These defects, as well as numerous additional analytical deficiencies described fully in our July 30, 2010 comments, render the DEIR, and the FEIR, invalid as an environmental review document under CEQA.

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The EIR must be recirculated for public review and comment in accordance with CEQA.⁴ Failure to circulate the EIR deprives the public of a meaningful opportunity to comment upon the substantial adverse effects of the Project.

-6

Sincerely,

/s/

Elizabeth Klebaner

¹ Pub. Resources Code, § 21092.1.

² Cal. Code Regs. tit 14, § 15088.5.

³ See Department of Regional Planning, Los Angeles County, AV Solar Ranch One Project Final Environmental Impact Report, August 2010, pp. RORG-3-3, 3-13, 3-36-37, 3-45-46.

⁴ See *Cadiz Land Co., Inc. v. Rail Cycle, L.P.* (2000) 83 Cal.App.4th 74, 91.

September 14, 2010
Page 3

EK:

cc: ctran@planning.lacounty.gov (email only)
kszalay@planning.lacounty.gov (email only)

NON-APPLICANT

NG-1

Date September 24, 2010

Mr. Don Ashton
Deputy Executive Officer
Los Angeles County Board of Supervisors
Room 383, Kenneth Hahn
Hall of Administration
500 West Temple Street
Los Angeles, California 90012

Dear Mr. Ashton:

PROJECT NO./
CUP NO.: Project No. R-2009-02239

APPLICANT: AV Solar Ranch One, LLC

LOCATION: The project is located in the Antelope Valley, in unincorporated Los Angeles County, approximately 15 miles northwest of downtown Lancaster. The project site consists of approximately 2,100 acres of land, and is located within Sections 11, 13, 14, and 24 in Township 8 North, Range 15 West, and within Section 18 in Township 8 North, Range 14 West (San Bernardino Base and Meridian). The project is located in an area both north and south of SR-138, and is approximately bounded on the north by West Avenue B-8, on the south by West Avenue E, on the east by 155th Street West and on the west by 180th Street West.

Zoned
District A-2

Related zoning matters:

CUP(s) or VARIANCE No. Conditional Use Permit No. 200900026

Change of Zone Case No.

Other Vesting Tentative Tract Map No. 071035 and Environmental Assessment No. 200900027

This is an appeal on the decision of the Regional Planning Commission in the subject case. This form is to be presented with a check (or money order) and personal identification prior to the appeal deadline at 5:00 p.m. at the above address. Contact the Zoning section of the Board of Supervisors for more information: (213) 974-1426

This is to appeal: (Check one)

- The Denial of this request \$789.00*
- The Approval of this request \$789.00*

*For Subdivisions \$130.00 of this amount is to cover the cost of the hearing of the Board of Supervisors

NG-1-1

FILED

NG-1

2010 SEP 24 PM 3:06

BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES

NG-1-1

Briefly, explain the reason for this appeal is as follows (attach additional information if necessary):

Please see the attached rider for an explanation of the reasons for this appeal.

NORTHROP GRUMMAN SYSTEMS CORPORATION

x 
 (Signed) **Appellant**
 Its Authorized Signatory

Kyndra Jov Casper, Esq.
 Print Name

Sheppard Mullin Richter & Hampton LLP

333 South Hope Street, 43rd Floor

Los Angeles, California 90071

(213) 617-4157

kcasper@sheppardmullin.com

NG-1-1

RIDER

This Rider supports, and is part of, the non-applicant appeal by Northrop Grumman Systems Corporation ("NGSC") of the Regional Planning Commission's (the "Planning Commission") certification of the Final Environmental Impact Report (the "FEIR") and approval of Conditional Use Permit No. 200900026 (the "CUP") and Vesting Tentative Tract Map No. TR071035 (the "VTTM") for the AV Solar Ranch One Project (the "Project") proposed by AV Solar Ranch One, LLC ("AV Solar") on a 2,100-acre site (the "Site") located in Los Angeles County (the "County").

NG-1-2

The reasons for this appeal are as follows:

I. The Planning Commission's certification of the FEIR for the Project was unlawful for the following reasons:

-3

A. Pursuant to the State CEQA Guidelines (the "Guidelines"), only environmental effects that are dismissed in an initial study as "clearly insignificant and unlikely to occur" can be omitted from an environmental impact report ("EIR"), unless the agency later receives information that is inconsistent with the findings of the initial study. Guidelines § 15143. The Draft Environmental Impact Report (the "DEIR") violated Section 15143 because it failed to analyze the Project's impacts with respect to several environmental subjects, but in each instance failed to make the finding required by Section 15143 to lawfully eliminate those subjects from full environmental review in the DEIR.

-4

B. The County failed to comply with notice requirements with respect to preparation and distribution of the DEIR and the FEIR.

-5

C. The DEIR project description is inadequate. An accurate and stable project description is the *sine qua non* of an informative and legally sufficient EIR.

-6

D. Both the DEIR and the FEIR unlawfully failed to analyze the Project's impact on the operation of NGSC's Tejon Test Facility, in particular its impact on NGSC's operation of radar testing that occurs on Range 1 at the Tejon Test Facility.

-7

E. An EIR must be "prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences." Guidelines § 15151. An EIR must also contain facts and analysis, not just the bare conclusions of a public agency. The certification of an EIR constitutes a prejudicial abuse of discretion if the failure to include relevant information precludes informed decision-making and informed participation, thereby thwarting the statutory goals of the EIR process. The DEIR for the Project was not prepared with a sufficient degree of analysis to permit a decision that

-8

-9

intelligently took account of the environmental consequences of the Project, which precluded informed decisionmaking and public participation, as follows:

- 1. The DEIR's analysis of the Project's air quality impacts is inadequate. -9
- 2. The DEIR's analysis of the Project's biology impacts is inadequate. -10
- 3. The DEIR's analysis of the Project's cultural and paleontological impacts is inadequate. -11
- 4. The DEIR's analysis of the Project's impact on agricultural resources is inadequate. -12
- 5. The DEIR's analysis of the Project's impacts on utilities is inadequate. -13
- 6. The DEIR's analysis of the Project's impacts on visual qualities is inadequate. -14
- 7. The DEIR's analysis of the Project's land use impacts is inadequate. -15
- 8. The DEIR's analysis of the Project's noise impacts is inadequate. -16
- 9. The DEIR's analysis of fire hazard impacts is inadequate. -17
- 10. The DEIR's analysis of fire protection is inadequate. -18
- 11. The DEIR's analysis of environmental safety is inadequate. -19
- 12. The DEIR's analysis of alternatives is inadequate. -20
- 13. The DEIR's analysis of growth-inducing impacts is inadequate. -21
- 14. The DEIR's analysis of the Project's cumulative impacts is inadequate. -22

F. The DEIR identifies numerous significant impacts caused by the Project and concludes that most or all of the significant impacts would be mitigated to a level of insignificance with the implementation of mitigation measures. However, there is no credible evidence that many of these mitigation measures, including, but not limited to, mitigation measures relating to biology impacts, cultural and paleontological impacts and noise impacts, would mitigate the Project's impacts to a level of insignificance. -23

G. The FEIR includes "significant new information" within the meaning of Section 21092 of the California Public Resources Code and Section 15088.5 of the -24

Guidelines, and the County was therefore required to revise and recirculate the DEIR, but it unlawfully failed to do so.

H. The responses to comments in the FEIR are not based on good-faith, reasoned analysis.

I. The Findings of Fact regarding the FEIR are not supported by substantial evidence. In addition, the Planning Commission failed to provide an adequate explanation regarding the logical step between the ultimate Findings of Fact regarding the FEIR and facts in the record.

II. The Planning Commission's Approval of the CUP and VTTM was unlawful and not in accord with the purposes of Titles 21 and 22 of the Los Angeles County Municipal Code (the "Code").

A. The Planning Commission's approval of the CUP was unlawful and not in accord with the purposes of Title 22 of the Code for the following reasons:

1. The Project is not a permitted or conditionally permitted use within the A-2 zone. The Code only permits solar uses (with a conditional use permit) in the Open Space Zone (the "O-S Zone"), not in the A-2 zone where the Site is located. Specifically, Section 22.40.430 of the Code allows for "energy generating or storage devices, including but not limited to solar, wind or geothermal devices" with a conditional use permit in the O-S Zone. The Project, however, is not located in the O-S Zone.

2. There is not substantial evidence in the record to support the County's conclusion that the Project is equivalent to "electric distribution substations, electric transmission substations and generating plants, including microwave facilities used in conjunction with any one thereof," which are conditionally permitted uses in the A-2 Zone. Code § 22.24.150.

3. Pursuant to Section 22.56.090 of the Code, the Planning Commission made numerous findings in order to approve the CUP. There is not substantial evidence in the record to substantiate the Planning Commission's findings, including, but not limited to, its findings regarding consistency (or lack thereof) of the Project with the County's general plan, its adverse affects on the health, comfort and welfare of persons residing or working in the area, its ability to jeopardize public health and general welfare, and the adequacy (or lack thereof) of public and private service facilities for the Project.

B. The Planning Commission's approval of the VTTM was unlawful for the following reasons:

1. The Planning Commission's approval for the VTTM was not in accord with the purposes of Title 21 of the Code.
2. The Planning Commission's approval of the VTTM violated provisions of the Subdivision Map Act, including but not limited to, Government Code Section 66474.
3. The Planning Commission's findings regarding the VTTM approval were not supported by substantial evidence.

NORTHROP GRUMMANNorthrop Grumman Corporation
Aerospace SystemsStrike and Surveillance
Systems DivisionOne Hornet Way
El Segundo, California 90245 2804

September 22, 2010

Mr. Don Ashton
Deputy Executive Officer
Los Angeles County Board of Supervisors
Room 383, Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, California 90012

Re: Letter of Authorization

Dear Mr. Ashton:

Northrop Grumman Corporation ("NGC") is appealing the approval of the AV Solar Ranch One project that was approved by the Los Angeles County Regional Planning Commission on September 15, 2010. In connection with the appeal, NGC hereby authorizes Kyndra Joy Casper, Esq. and James E. Pugh, Esq., or any other duly designated attorney at Sheppard Mullin Richter & Hampton, LLP, to act as its agent and representative for any matter associated with this matter.

Very truly yours,



Kathleen M. Paralusz
Senior Counsel
Northrop Grumman Corporation

Melody Mokres.txt
 From: Melody Mokres [melody@dslxtreme.com]
 Sent: Tuesday, September 14, 2010 10:01 PM
 To: Tran, Christina
 Cc: fifthdistrict@lacbos.org
 Subject: County Project R2009-02239 Solar Ranch One

To: Regional Planning Commission

Comments on the Antelope Valley Solar Ranch One Project

I am requesting that the hearing for the Antelope Valley Solar Ranch One project be postponed for the following reasons.

1. There has not been a public hearing regarding the identification by the county of areas suitable for solar and wind farms as indicated in the blue shaded section of the General Plan Map of the Antelope Valley. This issue has never been discussed at any public meeting.

2. Due to the amount of land that will be removed from the original intent for land use, i.e. orchards, vineyards and other agricultural opportunity areas, significantly changing the look and use of the Northwest Los Angeles County, a public hearing should have been done by planning on this solar project and the cumulative effects stemming from this project and the next generation of anticipated projects.

In addition, hearings should have been conducted in the Antelope Valley as opposed to requiring residents to drive to Planning Commission Hearings in Los Angeles. Considering the size of the Antelope Valley and potential uses of this area, a satellite planning office should be set up here in the northwest county.

3. I understand that there is some type of mitigation being worked on between Antelope Valley Solar Ranch One and the Antelope Acres Town Council. I have been informed by a Town Council member that mitigation is only in the beginning stages and that it is realized if nothing is stated in writing that any mitigation is only on good faith. Therefore, I would like to see the hearing postponed until any and all mitigations are in writing.

Thank you for your consideration.

Melody Mokres
 8202 W. Ave. "E"
 Antelope Acres, CA
 661-942-1998

MM-1-1

MM-1-2

MM-1-3

ATTACHMENT A
EXPONENT REPORT

This attachment presents the Exponent Report titled *Impact of the Antelope Valley Solar Ranch on the Tejon Test Facility* (dated November 2, 1010) associated with Written Response NG-1-7 in Section 6.2.2 of this Final EIR (November 2010).

Exponent[®]

Electrical and Semiconductors Practice

**Impact of the Antelope Valley
Solar Ranch on the Tejon Test
Facility**

November 2, 2010

Impact of the Antelope Valley Solar Ranch on the Tejon Test Facility

November 2, 2010

Prepared for

AV Solar Ranch 1, LLC
1111 Broadway, 4th Floor
Oakland, CA 94607

Prepared by



Stig L. Nilsson, P.E., Principal Engineer*
Joshua Phinney, Ph.D., P.E., Senior Managing Engineer
Timothy Chevalier, Ph.D., Senior Associate
Exponent, Inc.
5401 McConnell Ave.
Los Angeles, CA 90066

*Registered Professional Control System Engineer, California, #3793

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Executive Summary

Exponent was retained by AV Solar Ranch 1, LLC to perform an engineering analysis of the proposed Antelope Valley Solar Ranch (AVSR) photovoltaic (PV) project as it relates to the Northrop Grumman Systems Corporation (NGSC) Tejon Radar Test Facility. NGSC asserts that the AVSR project would elevate background radar returns, sometimes referred to as “clutter,” to a level that would unacceptably affect NGSC’s ability to operate Range 1 of the Tejon facility. NGSC does not state that AVSR compromises its entire operation or the ability to perform measurements on other test ranges present at the Tejon site. After analysis of the available information, Exponent has concluded that the construction and operation of AVSR will not have a significant effect on NGSC’s ability to operate Range 1 of the Tejon Test Facility. Furthermore, to the extent that the construction and operation of AVSR could produce incremental “clutter,” we conclude that there are well recognized and reasonable means of accounting for this effect that would allow NGSC to continue normal operation.

NGSC has taken the position that to perform the testing required under its existing and anticipated contracts, the Tejon Test Facility must have a range of noise floor extending “down to -90 dB” across a stated frequency range. Exponent has interpreted -90 dB as -90 dBsm, which is a measure of Radar Cross Section, or the effective “size” (as seen by a radar system) of a target object on the test range. In the type of testing described by NGSC, the radar returns of a target object must be discerned against a background of objects such as hills, rocks, birds, rain, vehicles and distant structures.

To put the numbers in context, -90 dBsm is roughly equivalent to a metallic object that is 1/1,000,000,000th of a square meter in area. A small piece of an insect’s anatomy on the Range 1 test stand would produce such a clutter level. In our opinion, -90 dBsm is a best-case sensitivity for Range 1 that is applicable for only a limited range of radar parameters, assumes low winds and other favorable testing conditions, and is achieved only by means of integration or similar signal-processing techniques.

NGSC has not provided sufficient information to perform detailed clutter analysis for the particular operating parameters of the Tejon Test Facility, nor has NGSC disclosed the methods, parameters or assumptions used to justify its position relative to AVSR. In the absence such information, Exponent has conservatively calculated returns from AVSR by considering 42 reasonable combinations of estimated radar parameters. Radar returns were calculated by considering the radar cross sections (RCS) and physical locations of solar panels comprising AVSR.

Based on these calculations, AVSR:

(a) will not contribute to clutter for numerous values of radar pulse-repetition frequency; and

(b) possesses a clutter signature that, for all estimated Range 1 radar parameters, is below the stated sensitivity of the Tejon Test Facility.

The findings presented herein are made to a reasonable degree of engineering and scientific certainty. In the analysis, we have relied on radar parameters found in an August 27, 2010, NGSC letter to Kern County and in NGSC documents that are part of the PdV Wind Energy record. Exponent cannot verify the correctness of all these data, and relies on NGSC's statements to accurately reflect present conditions at the Tejon Test Facility. We have made every effort to accurately and completely investigate all areas of concern identified during our investigation.

Introduction

Radar systems work by sending out pulses of electromagnetic energy through a highly directional antenna. These pulses propagate from the radar through the atmosphere and small amounts of energy are reflected back by targets and clutter. Targets are objects that the radar is trying to detect or characterize (such as aircraft) and clutter includes unwanted returns from objects other than a target. The radar receives the reflected energy and attempts to either identify targets among the clutter (in the case of a detection problem) or accurately measure the return (in the case of a radar-cross-section measurement problem).

Radar Cross Section Radar cross section (RCS) is a measure of an object's ability to scatter incident electromagnetic field radiation in the direction of a receiver and is defined as the ratio of power scattered by a distant object relative to the incident power illuminating the object:

$$\sigma = \lim_{r \rightarrow \infty} 4\pi r^2 \frac{|E_s|^2}{|E_i|^2} \quad (1)$$

Where r is the distance from the antenna to the object, E_s is the scattered electric field measured at the receiving antenna, and E_i is the incident electric field on the target. The radar cross section is normalized such that it is a function of object geometry, incident wave angle, material properties of the scattering object, wave polarization and excitation frequency. In general, the radar cross section is not the same as the physical size of the scattering object. For instance, adding radar-absorbing material to an object will decrease the amount of scattered energy directed back to the receiver, effectively decreasing its RCS relative to the same object without absorbing material. So too, faceted surfaces that reflect incident radiation away from the source decrease the RCS compared to surfaces that are perpendicular to incident radiation. These are among the commonly used techniques to minimize RCS. Radar cross sections can vary by orders of magnitude. As such, the RCS is commonly converted to a logarithmic scale using the following relation:

$$\sigma_{dBsm} = 10 \log_{10} \left(\frac{\sigma_{m^2}}{1_{m^2}} \right) \quad (2)$$

The radar cross section in dBsm is referenced to an object 1m² in size. RCS values for various objects are listed in Table 1. Every RCS shift of -10 dBsm corresponds to a factor of 10 decrease in RCS. For instance, an insect with 1/1000th the RCS of a human body has an RCS that is 30 dBsm less than the RCS of a human body.

Table 1. Examples of objects and their corresponding RCS¹

Object	RCS (m ²)	RCS (dBsm)
Cargo Ship	10,000	40
Large Airliner	100	20
Small Aircraft	5	7
Human Body	1	0
Locust	0.001	-30

Antenna Radiation Pattern The transmitting and receiving characteristics of antennas are, in part, governed by geometry and excitation frequency among other factors. For example, a parabolic dish antenna will direct most of its power parallel to the axis of revolution about the center of the dish, and the degree of focusing or directivity for a given antenna is determined by the frequency of operation. As a result, an antenna will transmit only a small fraction of its supplied power to distant objects located at off-angle directions relative to the antenna's main lobe or boresight. Reciprocity dictates that a given antenna will transmit and receive in an identical fashion. Thus, distant objects that do not lie within the main lobe of the antenna's radiation pattern will scatter and return (as determined by RCS) a much weaker signal than one that lies within the antenna's boresight (direction at which the antenna is effectively pointed). Figure 1 is a plot of the power pattern of a parabolic dish antenna at two distinct frequencies. As seen in Figure 1, higher frequencies (smaller wavelengths) exhibit a larger angular dependence in power pattern. Therefore, the ratio of the gain of the main lobe (centered at zero degrees) to the gain of any side lobe is larger at higher radar frequencies than at lower frequencies. For example, in Figure 1, the ratio between the main lobe gain and the chosen side lobe gain is approximately 47 dB for a frequency of 6 GHz, whereas for a frequency of 2 GHz, the ratio between the main lobe gain and the chosen side lobe gain is only approximately 33 dB.

¹ Knott, Eugene F., "Radar Handbook: Radar Cross Section", McGraw-Hill, 2008.

This phenomenon is due to the increase in phase variation of the fields across the aperture of the antenna.

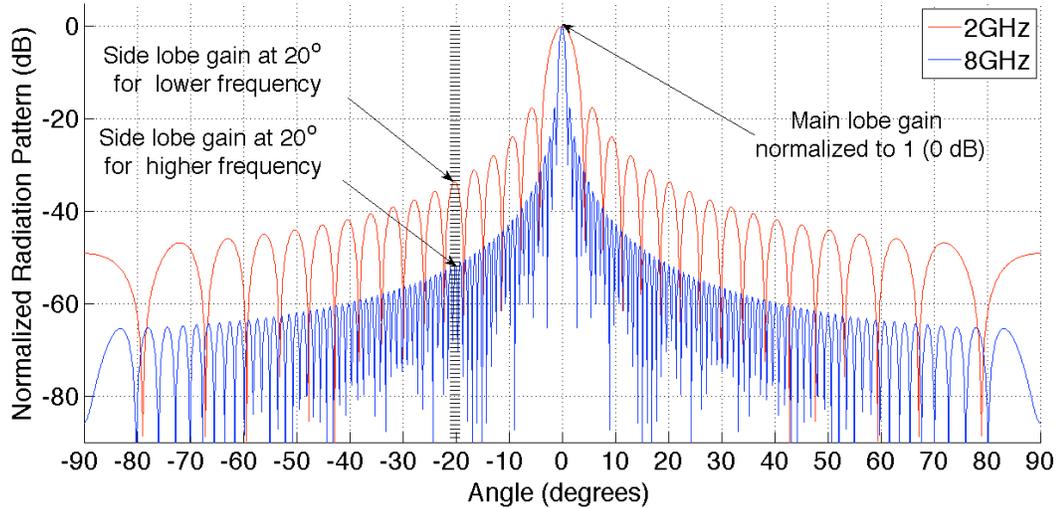


Figure 1. Plot of normalized radiation pattern in dB for a parabolic antenna, 8 feet in diameter, as a function of angle with respect to antenna boresight, for two operating frequencies.

Radar Equation

The role of RCS in characterizing the received signal strength for a given transmitter-receiver pair is best explained by means of the radar equation. The monostatic radar equation (in which transmitter and receiver are collocated) is defined as:

$$P_r = P_t \frac{G_t \sigma A_r}{(4\pi)^2 r^4} \quad (3)$$

Where P_r and P_t are the received and transmit power respectively, G_t is the gain of the transmitting antenna, σ is the radar cross section of the scattering object, A_r is the aperture of the receiving antenna, and r is the distance (also referred to as the range) to the object from the transmitter/receiver.

It can be seen by examination of the radar equation that for a given object with RCS of σ , the power at the receiver, assuming all other variables are constant, varies as the 4th power of range. Thus, an object with given RCS will have a radar return echo that carries 16 times less power when the distance from the object to the transmitter/receiver increases by 2 times. Generally, an object with substantially larger RCS that is placed much further from the transmitter/receiver can exhibit the same received signal strength as an object with small RCS that is placed much closer to the transmitter/receiver. Additional factors can be included in the monostatic radar equation to account for multipath terrain-dependent (e.g., reflection and/or diffraction from surrounding objects) and medium dependent (e.g., atmospheric) losses. These factors are not included in the above formulation for far-field clutter since their effect is second order.

Range gate and pulse repetition frequency Radars transmit each pulse at the carrier frequency f during transmit time, wait for returning echoes during listening or rest-time, and then radiate the next pulse. The time between the beginning of one pulse and the start of the next pulse is called pulse repetition time (PRT) and is equal to the reciprocal of the pulse repetition frequency (PRF):

$$PRF = \frac{1}{PRT} = \frac{c_0}{2 \times d} \quad (4)$$

In the equation above, d is the spatial period corresponding to the physical distance between successive pulses traveling away from the radar, and c_0 is the speed of light. The quantity d is often called the maximum unambiguous range, which for a fixed PRF corresponds to the maximum distance an object can be placed from the radar such that the return time can be used to uniquely determine the actual distance of that object from the radar. The range gate (RG) shortens the listening time of the radar, such that only radar returns arriving within a certain time period during each pulse repetition time are considered. Range gating results in the consideration of radar returns from a much smaller area than the maximum unambiguous range.

When plotted on a map for a given PRF and RG, the areas surrounding the antenna that contribute to all radar returns consist of a series of concentric rings, of thickness given by RG, and of ring separation distance d (maximum unambiguous range)². Neglecting the influence of multipath interference, areas surrounding the antenna that do not fall within this range-gated area, as defined by a given PRF and RG, are effectively invisible to the antenna because the radar returns do not arrive when the antenna is listening (i.e. when the range gate is “open”).

Northrop Grumman Site

Specific information regarding Northrop Grumman’s Tejon Test Facility was obtained from publicly available aerial photographs and NGSC’s November 1, 2007 letter regarding the PdV Wind Energy Project.³ The Tejon Test Facility has two ranges for measuring radar cross section (RCS) of test targets. An overview of both ranges is shown in Figure 2, where “Range 1” is visible as the longer oblong region to the south, and “Range 2” is the shorter oblong region to the north. The region extending southeast from “Range 1” (the “Range 1 Keyhole”) is specifically mentioned in an August 27, 2010 letter from NGSC to the Kern County Planning Department as a region sensitive to the placement of reflecting objects. Figure 3 is a detailed aerial image of the test facility in which four RCS test antennae are circled. Since only the left two antennae shown in Figure 4 are identified by Northrop Grumman as corresponding to Range 1, the analysis presented in this report only considers the effects of these two antennae. We have estimated that the Range 1 antennae, the smaller antennae of those visible at the Tejon Test Facility, collectively operate at frequencies between 2 and 18 GHz (see Appendix A).

² See Figure 8 for graphical representation of RG width and d .

³ November 1, 2007 letter to Anne E. Mudge, Esq, Cox, Castle & Nicholson LLP, Re: “Impact of PdV Wind Energy Project ‘Scenario’ on Northrop Grumman Tejon Test Facility.

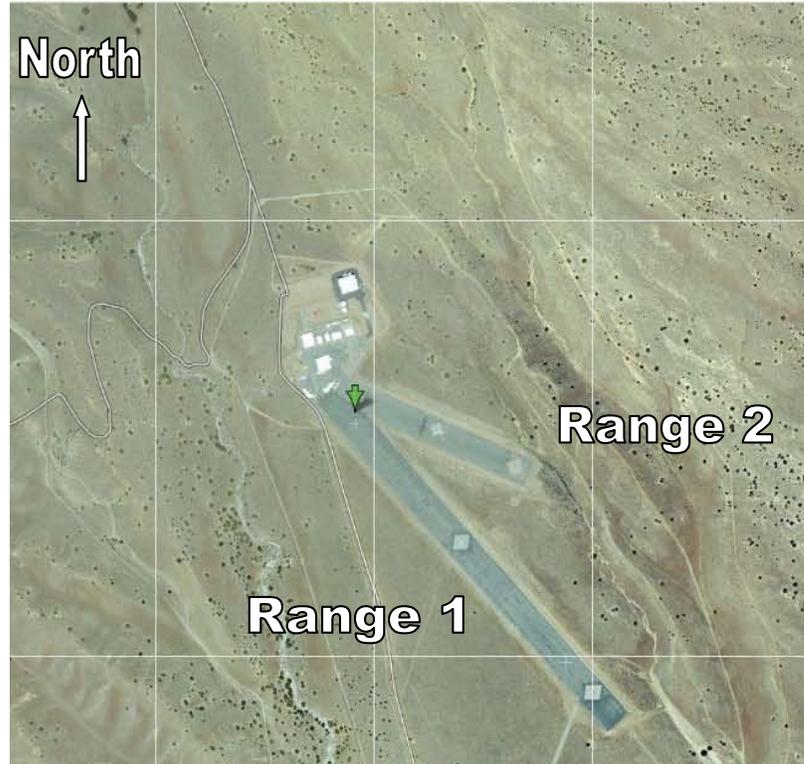


Figure 2. Plan view of Tejon test facility from Google Earth 09/21/2010. The approximate latitude is 34.927° and longitude is -118.532° .



Figure 3. Enlarged image of Figure 1 showing dish antennae encircled.

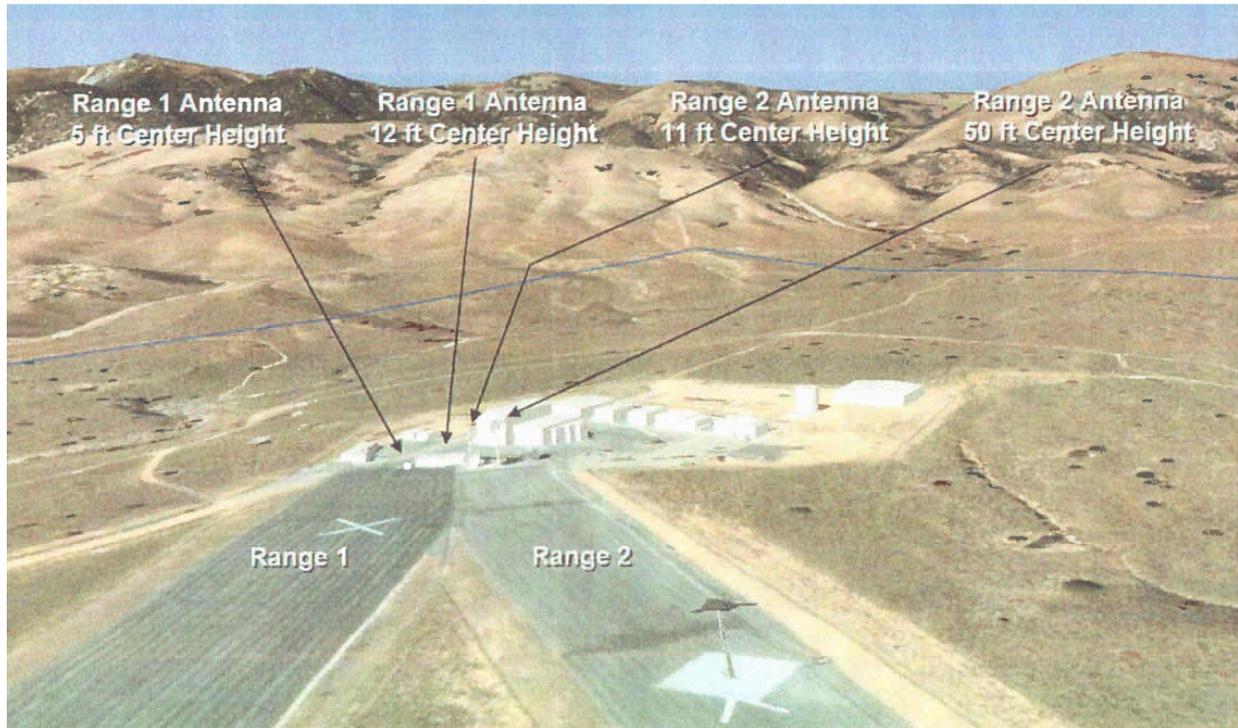


Figure 4. View of Ranges 1 and 2, image from Northrop Grumman. The Range 1 antennae, referred to in this report as A1 and A2, from left, were assumed to have respective dish diameters of 8 feet and 5 feet, respectively.

As can be seen in Figure 4, test targets (such as scale models of aircraft) are placed on downrange supports in one of two locations on either test range. Radar returns from test targets are used to characterize the targets in terms of their radar cross section (RCS). Objects that reflect little incident radiation (in the direction of radar) when illuminated by the test beam have a lower RCS and are more difficult to detect. There are two important observations regarding NGSC's -90 dBsm noise floor:

1. NGSC has not provided information necessary to express the radar return from distant objects in terms of the sensitivity of the Tejon Test Facility, *viz.*, the identity of the test-range antenna, test-stand location, operating frequency, pulse-repetition frequency, and range-gate size.
2. NGSC has not provided any justification that the -90 dBsm noise floor is achievable in an outdoor range. A -90 dBsm value for the radar cross section corresponds to $1/1,000,000,000$ m², or the area subtended by a fraction of an insect's anatomy, and is more difficult to achieve in an outdoor environment than in an indoor range.

Indoor and outdoor ranges

With any type of RCS measurement range, it is desirable to locate the target far enough from the transmitter so that the incident wavefront is planar with constant phase across the entire target. Outdoor ranges can more readily satisfy this requirement since practical separations are much larger than for indoor ranges. Unlike indoor ranges, however, outdoor ranges are subject to a

number of factors that limit their sensitivity levels, including weather and environmental conditions (IEEE Std 1502 – 2007). Wind is a “major concern” at many outdoor ranges located in desert regions, and wind speeds of 10 m/s can stop RCS measurements.⁴ Dust accumulating on the surface of components will change their radar scattering properties.⁵ If security is a concern, outdoor ranges can preclude measurement of very sensitive targets.

In addition to environmental factors, RCS measurements taken outdoors must take into account ground-plane effects and must satisfy accurate height and frequency constraints to maintain proper phase relationships of the direct and ground-reflected signals at the target location. A thin layer of pavement is used to provide a smooth ground plane and prevent vegetation from growing along the direction of the antenna boresight. Even so, it is difficult to eliminate all naturally occurring sources of clutter in the terrain surrounding an outdoor RCS measurement range. In outdoor facilities, certain techniques to mitigate the effects of clutter, such as background or “coherent” subtraction, are only effective for long wavelength (low frequency) RCS measurements.⁶

With these sensitivity constraints, outdoor ranges are more suited to RCS measurements of larger targets, as opposed to indoor ranges that are more immune to the factors listed above.

Antelope Valley Solar Ranch

As shown in Figure 5, the Antelope Valley Solar Ranch is located more than 10 miles (16.4 kilometers) to the southeast of the Tejon Test Facility. The site covers about 3.25 square miles (see Figure 7) and includes a 7-foot tall chain link perimeter fence topped with barbed wire.

⁴ Knott, Eugene F., Radar Cross Section. Second Edition. SciTech Publishing, Inc. 2004.

⁵ Ibid.

⁶ IEEE Std 1502-2007 IEEE Recommended Practice for Radar Cross-Section Test Procedures

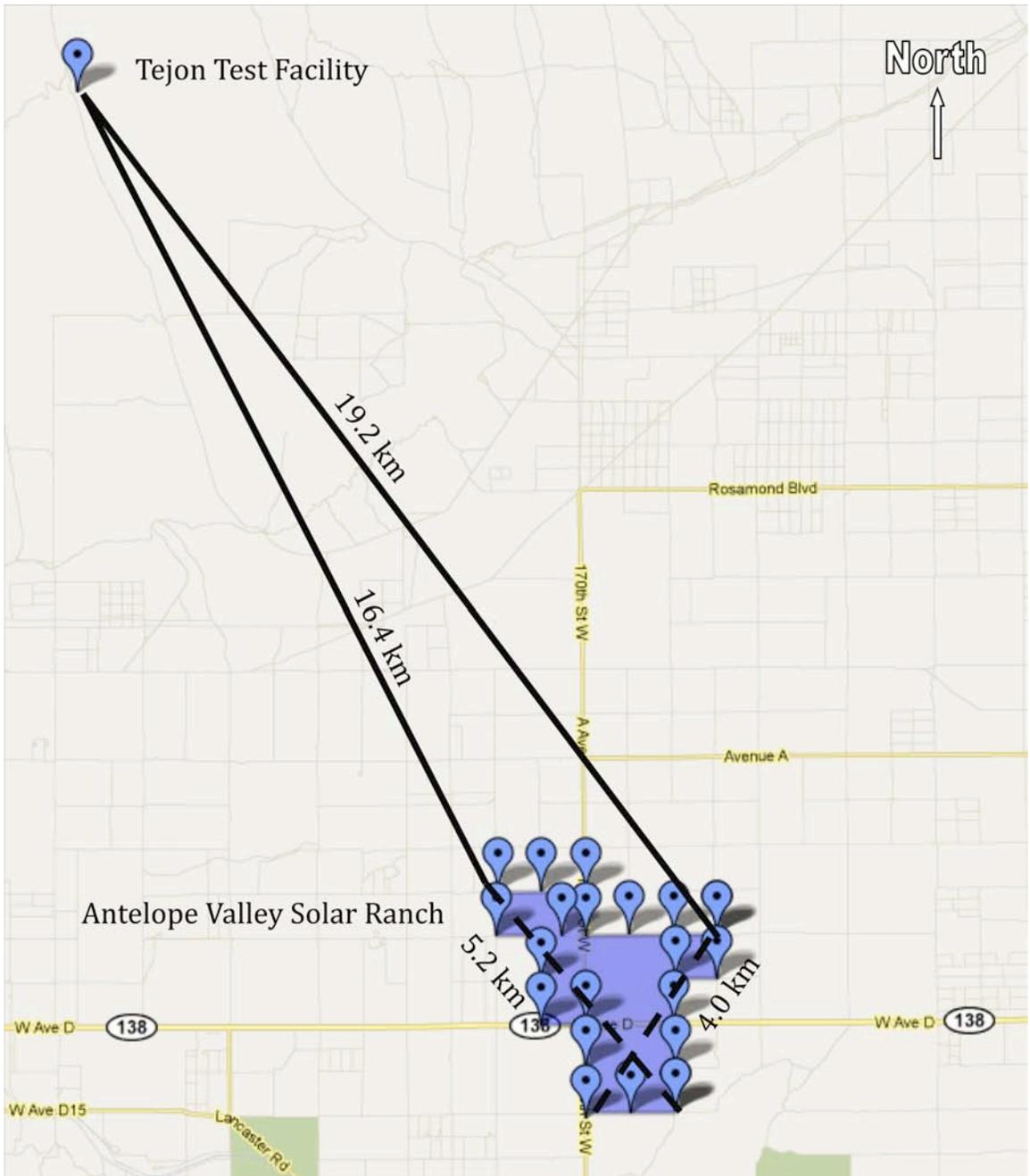


Figure 5. Relative locations of the Tejon Test facility (upper left, northwest corner of map) and the Antelope Valley Solar Ranch (shaded area).

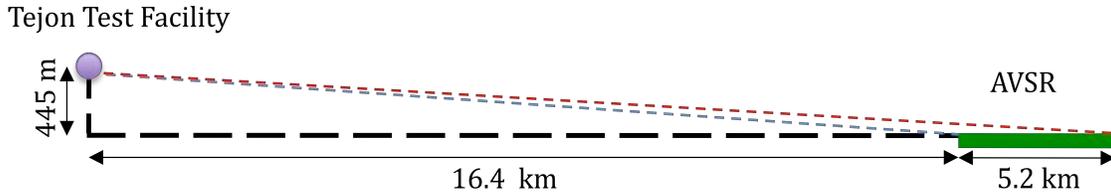


Figure 6. Average relative elevation of the Tejon Test facility to the Antelope Valley Solar Ranch. Distance from closest edge of AVSR to Tejon Test Facility and the maximum width of AVSR are indicated.

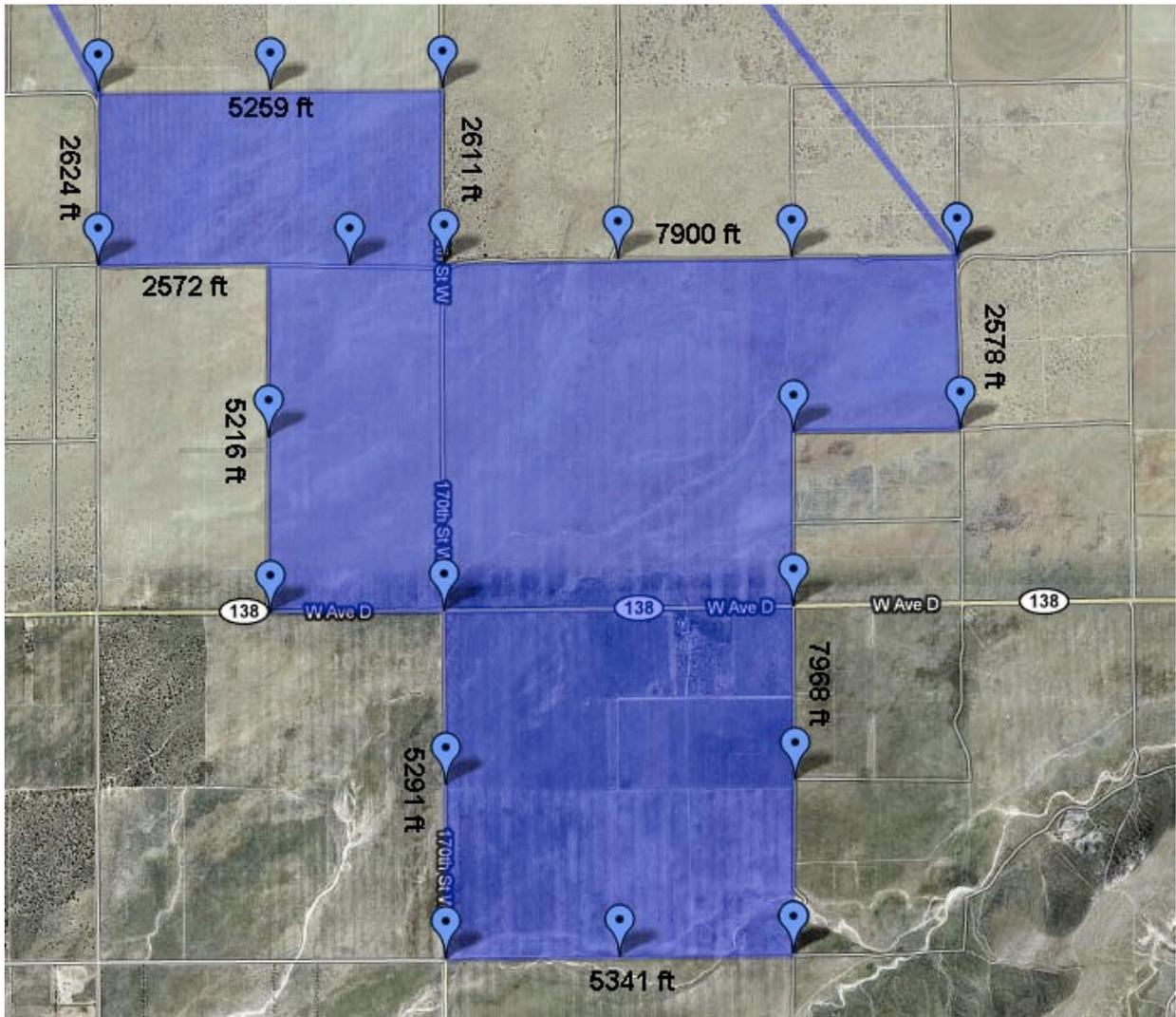


Figure 7. Outline of the Antelope Valley Solar Ranch including external dimensions.

The solar field will consist of PV panels mounted on steel support structures. The supports will be either fixed or pivoting. The assembled fixed tilt PV panels will have a typical height of about 6 feet and the tracking panels will have a maximum height of 8 feet. The PV panels will

be arranged in rows with center-to-center spacing from 14 feet for fixed tilt panels and 16 feet for tracking panels. In the case of fixed supports, the arrays will be laid out in blocks approximately 400 feet in the north-south direction and 360 feet in the east-west direction, with rows aligned east to west, and PV panels will be tilted 25 degrees to the south. In the case of pivoting supports (tracking arrays), arrays will be laid out in blocks approximately 500 feet in the north-south direction and 300 feet in the east-west direction, with rows aligned north to south. The PV panels in the tracking arrays will pivot, tracking the sun, east to west. Single-axis trackers have no southward tilt, and typical trackers are capable of pivoting to within a 45° tilt toward the east and west horizons. To minimize shadowing, typical tracking array designs support “backtrack,” lying nearly flat in the afternoon as the sun’s western elevation decreases below 45°. For these designs, the panels lay flat overnight until approximately 9 A.M. in the morning, when the sun’s eastern elevation increases above 45°. The panels then pivot about their north-south axis to face the sun, moving slowly toward the west over the course of the day. Approximately 75 percent of the solar field is proposed fixed tilt arrays, and the balance for horizontal single-axis trackers.

Photovoltaic cells convert sunlight directly into electricity and are made from semiconductor materials. Traditional solar panels arrange together cells made of wafers sliced from ingots of crystalline silicon. Thin-film solar panels use a thin, flexible layer treated with semiconductor material protected by sheets of glass. PV panels have multiple cells with negative (sunny side) and positive (dark side) layers. Conductors on the sunny-side layer typically comprise metal “fingers,” the shape of which is optimized to minimize the shadowed area while providing a low-resistance path for current to flow between the layers. Metallization near the dark-side layer comprises a continuous layer of metal, metal paste, or other conductor. Typically, a large number of individual PV devices are electrically connected to form a single PV panel, along with associated electronics such as bypass diodes and non-conductive packaging.

The current design includes 185 conversion stations throughout the Antelope Valley Solar Ranch site, each containing two inverters and one medium voltage transformer. Each conversion station will be approximately 12 feet wide by 35 feet long by 10 feet high. The majority of the proposed 34.5-kV transmission lines (approximately 3 miles on the project site) would be underground, with above-ground crossings planned for crossings at 170th Street West and to cross jurisdictional drainages. The Antelope Valley Solar Ranch will also contain a single operations and maintenance (O&M) building. The footprint for the most likely design of the operations building is approximately 30 feet wide by 84 feet long, with a height of approximately 10 feet. The O&M building will be a pre-engineered metal building.

Methods

Due to the majority of the Antelope Valley Solar Ranch being occupied by fixed-tilt arrays, the results presented here were calculated assuming that the entire area within the boundaries of the site (see Figure 7) was covered by the fixed-tilt arrays described above.

Published RCS measurements of terrestrial solar panels could not be located, and NGSC has not communicated its basis for assuming a particular RCS for the Antelope Valley Solar Ranch.

Since the PV panels comprise numerous flat conductive surfaces, the radar cross-section of the Antelope Valley Solar Ranch was estimated using RCS expressions for multiple canted planes.⁷

The Antelope Valley Solar Ranch was divided into 10 meter by 10 meter square bins (see Figure 8), and the power reflected back from each bin given a 1 W transmitted radar pulse was calculated using the radar equation. The contributions from each bin were then summed to obtain a total returned power estimate for the Antelope Valley Solar Ranch, which was compared to the returned power from an object under test within the Tejon Test Facility having a radar cross section of -90 dBsm. It should be noted that the 1W transmitted power is a normalized quantity and that the results can be scaled to the actual known transmitter power.

Range gate and pulse repetition frequency The width of the range gate and the pulse repetition frequency (PRF) determine which areas within the Antelope Valley Solar Ranch contributed to the total returned power, and thus which bins to consider for our calculation. A range gate of 50 m wide was assumed for all calculations. A choice of PRF and range gate determines the radii and thickness of concentric rings that define the range-gated area, that is, the locations from which the antenna receives radar reflections (see Figure 8). For certain values of pulse repetition frequency, plotted in the Results section below, we found that no range-gated areas overlapped with the Antelope Valley Solar Ranch. For other values of PRF, we identified the bins that fell within the range-gated areas and included these bins in our calculation of the total returned power. The range-gated regions of the Antelope Valley Solar Ranch for several values of PRF are plotted in Appendix B.

⁷ Solar array panels are modeled as perfectly reflecting plates in the following publications:

Hwu, S.U. Johnson, L.A. Elmore, J.D. Lu, B.P. Fournet, J.S. Panneton, R.J. Ngo, J.C. Arndt, G.D. Bourgeois, B.A. , "Space station Ku-band antenna performance degradation due to solar panel scattering interference," Global Telecommunications Conference, 1994. GLOBECOM '94. pp. 1346 - 1350 vol.3

Hwu, S.U. Lu, B.P. Johnson, L.A. Fournet, J.S. Panneton, R.J. Arndt, G.D., "Scattering Properties of Solar Panels for Antenna Pattern Analysis," Antennas and Propagation Society International Symposium, 1994, pp. 266 - 269 vol.1

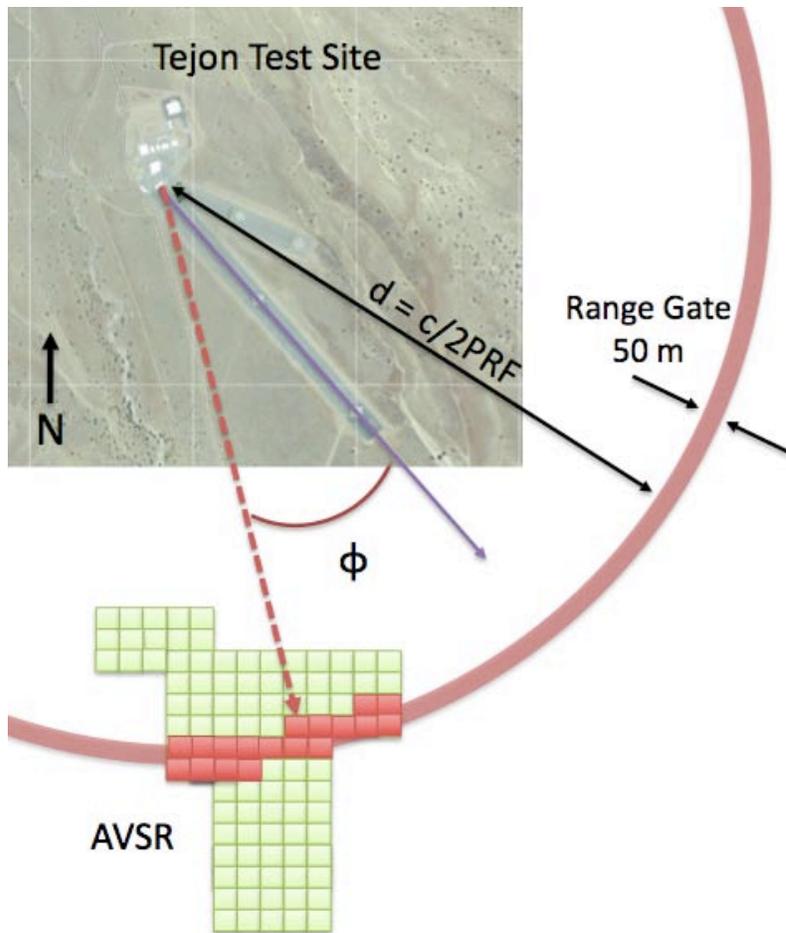


Figure 8. Schematic of model (not to scale) used to calculate total reflected power from the Antelope Valley Solar Ranch. The angles ϕ_1 and ϕ_2 respectively are between the boresight of a particular antenna (purple solid arrows, assumed to be along the axis of a test range) and the location of a particular bin (dashed red arrow).

Radar cross section The equivalent radar cross section (RCS) was calculated for each bin that was identified to be within the range gated region. Depending on the size chosen (10 m x 10 m square in this case), each bin may contain sections of multiple rows of solar panels. Fixed-tilt arrays were assumed to be arranged in parallel in east-west rows, with a maximum solar panel tilt angle of $\beta = 25^\circ$ southward about the east-west axis. The rows of panels were assumed to have a center-to-center separation of s . The RCS, σ , for a given solar panel section residing in a particular bin was approximated as that of a conductive rectangular plate with a width w and length l , using the equation below, where ϕ is the angle between the plane containing the line of sight and the edge of the rectangle of length l , and θ is the angle between the surface normal of the rectangular plate and the direction from the given bin to the antenna.⁸

⁸ Knott, Eugene F., "Radar Handbook: Radar Cross Section", McGraw-Hill, 2008.

$$\sigma = 4\pi \left(\frac{A \cos \theta}{\lambda} \frac{\sin(kl \sin \theta \cos \phi)}{kl \sin \theta \cos \phi} \frac{\sin(kw \sin \theta \sin \phi)}{kl \sin \theta \sin \phi} \right)^2 \quad (5)$$

For sufficiently small values of θ and appropriate choice of s , a fraction of each panel would be obscured by the adjacent panels, and the unobscured width of each panel could be represented by some value, w' . As a conservative modeling assumption, the entire width w of each panel was used in RCS calculations. Due to changes in ϕ and θ due to the locations of different bins, the radar cross section of panels varies across the Antelope Valley Solar Ranch.

Antenna Radiation Pattern The angle between the antenna boresight and the location vector (direction from the antenna site to a given bin location) was calculated for each bin within the range gated area. This angle was used to compute the normalized radiation pattern factor for each bin, as described above. This factor was included in the antenna gain and describes the fraction from the maximum antenna power transmitted to and received from a given bin due to the directionality of the antenna. As shown in Figure 1, higher radar operating frequencies result in a narrower radiation pattern and thus less power transmitted to and from bins at locations off-angle from the antenna boresight. The normalized radiation pattern for each antenna is plotted in Appendix A.

Additional Assumptions The resulting model incorporates several additional assumptions to calculate the total returned power of the facility:

- (1) No terrain shielding was assumed. Our examination of terrain elevation data⁹ indicates that a ridge approximately midway between the two sites may partially obscure the Antelope Valley Solar Ranch from the Tejon Test facility.
- (2) Constructive/destructive interference patterns via superposition of reflected electromagnetic fields from each bin were not considered. Our calculations represent an upper bound to any effect of interference, as we assume that the total returned power is simply the sum from all bins. Considering interference effects would only decrease the total returned power.
- (3) Electromagnetic coupling between individual elements of the solar array was not considered.
- (4) Atmospheric loss was not considered. For the highest radar frequencies we have considered (18 GHz), losses due to atmospheric attenuation will be approximately 0.1 dB/km, or a loss of at least 3.2 dB per round trip¹⁰ between an antenna and the Antelope Valley Solar Ranch. For adverse weather conditions (moderate rain, heavy fog, dust),

⁹ USGS data, aggregated at <http://www.heywhatsthat.com/profiler.html>

¹⁰ An attenuation of 3 dB means that the signal is reduced to 50% of the original signal strength. Thus, atmospheric conditions cause the signal to be reduced by more than half of the original signal.

the additional loss/km can be as high as another 0.1 dB/km (at least 3.2 dB per round trip) at the highest frequencies.¹¹

(5) Geometrical optics was used to calculate the RCS. This approximation is less accurate at the low range of the radar frequencies we have considered (150 MHz).

(6) Surface roughness and absorption by the materials on the solar panel surface are not expected to contribute significantly to RCS, and thus these effects were not considered.

(7) Multipath returns, caused by radar pulses reflecting off multiple surfaces between transmission and reception, were not considered in this analysis. Multipath returns would increase the total reflected power, as reflections from a bin outside a given range gate would be received as a result of an increased path length. However, the terrain appears unfavorable to multipath, due to the presence of a ridge approximately midway between the two sites that may partially obscure the Antelope Valley Solar Ranch from the Tejon Test facility.¹²

(8) For fixed-tilt arrays arranged in east-west rows, the planned Antelope Valley Solar Ranch does not have edges perpendicular to the radar line of sight. In this case, the returns from a canted plate can still contain reflections from plate corners.¹³ To account for these reflections from solar panel corners that will be illuminated by the gated radar signal, and to account for panel racking and support members, we increased the RCS of each bin comprising the Antelope Valley Solar Ranch by 100 times.

¹¹ Adamy, David L. "Tactical Battlefield Communications Electronic Warfare", Artech House, 2009.

¹² USGS data, aggregated at <http://www.heywhatsthat.com/profiler.html>

¹³ Knott, Eugene F., "Radar Cross Section." Second Edition. SciTech Publishing, Inc., 2004, p.8.

Results

Based on a range of operating frequencies (assumed for each antenna) and PRF, Exponent calculated a range of the total reflected power from the Antelope Valley Solar Ranch. Of particular importance are several values of PRF for which our model predicts that no significant power will be reflected back to the radar from the Antelope Valley Solar Ranch. For values of PRF less than approximately 7.1 kHz, and at bands shown in Figure 9, our model predicts that no significant part of the Antelope Valley Solar Ranch lies within a 50 meter wide range gate at the unambiguous range defined by each PRF, and thus no significant radar power will be reflected from the Antelope Valley Solar Ranch.

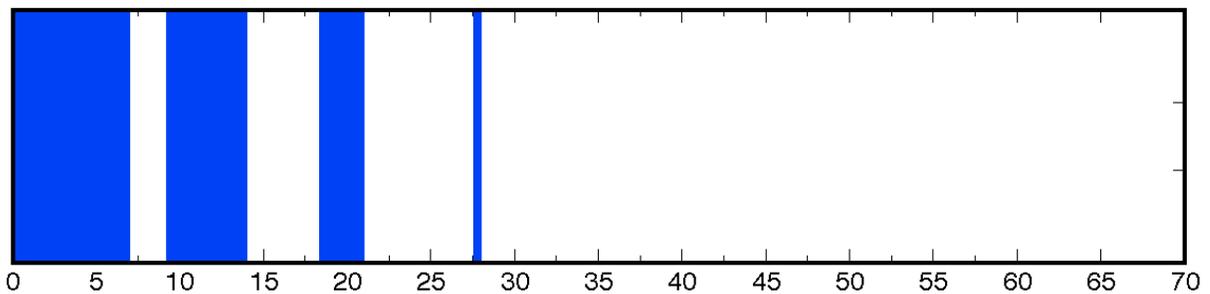


Figure 9. Plot of pulse repetition frequencies that result in negligible reflected radar power from the Antelope Valley Solar Range. Shaded areas indicate the values of PRF for which there is no overlap between a 50 meter wide range gate and the Antelope Valley Solar Ranch site, resulting in negligible reflected power.

For other choices of PRF, the total reflected power from the area of the Antelope Valley Solar Ranch within a 50 m range gate was calculated using the method described above and compared to the reflected power from a test object, mounted on a test pylon on the test range, having a -90 dBsm radar cross section. The plots of returned power from the Antelope Valley Solar Ranch for each antenna over a range of assumed operating frequencies are provided in Appendix C. Depending on the choice of operating frequency and antenna parameters, our calculations indicate that the total reflected power from the Antelope Valley Solar Ranch is in all cases less in magnitude than that of a test object having a -90 dBsm radar cross section mounted on a test pylon down range from the Range 1 antennas at the Tejon Test Facility.

Conclusion

Given the estimated radar parameters of NGSC's Tejon Test Facility and the model for calculating the RCS of solar panels presented above,

- (a) The Antelope Valley Solar Ranch does not contribute to clutter for numerous values of radar pulse-repetition frequency; and
- (b) for all the Range 1 radar parameters considered, the Antelope Valley Solar Ranch possesses a clutter signature below the Tejon Test Facility sensitivity threshold, indistinguishable from current ambient noise sources.

A properly chosen pulse repetition frequency will render the Antelope Valley Solar Ranch essentially invisible to radar pulses transmitted by the Tejon Test Facility. For additional combinations of pulse repetition frequency and radar operating frequency, the calculated return power from the Antelope Valley Solar Ranch is below -90 dBsm when referred to the test-range sensitivity.

Appendix A: Normalized Radiation Patterns

Exponent calculated the normalized radiation pattern for each of the four antennas identified at the Tejon Test Facility, based on assumptions about the antenna diameter, the parabolic shape of the antenna, and the relevant frequency ranges used by each antenna¹⁴. The maximum and minimum frequency for each antenna is presented in Figure 10 and Figure 11. The range of angles with respect to the antenna boresight that the Antelope Valley Solar Ranch occupies is highlighted, approximately 4 to 14 degrees for antennas directed down Range 1.

Table 2. Antenna parameters used in radar return calculations. Range 1 is the southern range.

Antenna	Diameter	Coordinates	Height	Frequency	Range
A1	2.4 m	34.927370, -118.532504	1.5 m	2 – 8 GHz	Range 1
A2	1.5 m	34.927392, -118.532468	3.7 m	6 – 18 GHz	Range 1
A3	4.0 m	34.927488, -118.532178	3.4 m	0.5 – 4 GHz	Range 2
A4	6.1 m	34.927598, -118.532178	15.2 m	0.15 – 1 GHz	Range 2

¹⁴ Kraus, John D. “Antennas.” Second Edition. McGraw-Hill, 1988.

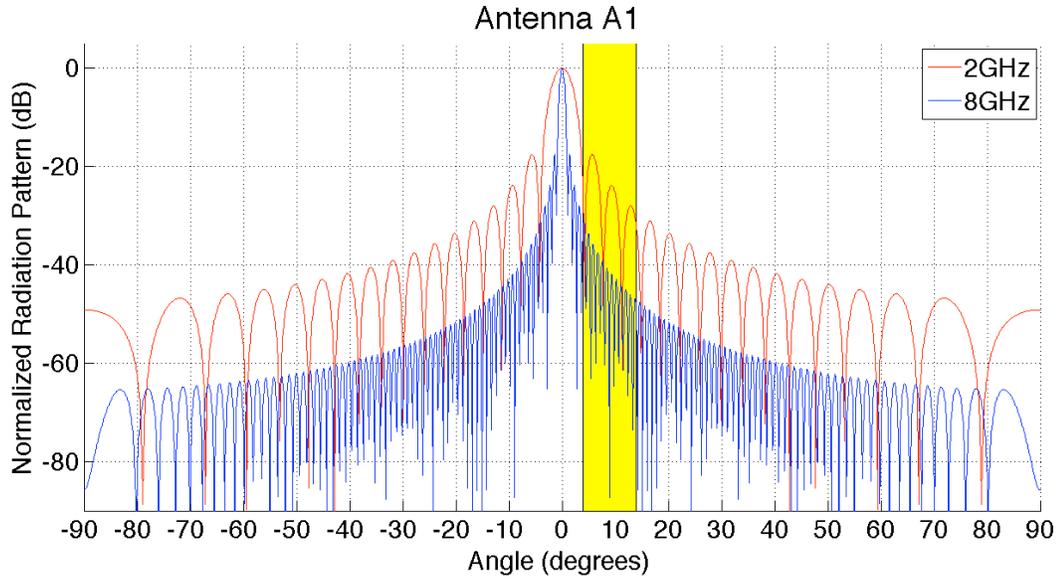


Figure 10. Normalized radiation pattern for antenna A1 for maximum (8 GHz) and minimum (2 GHz) assumed operating frequencies. Approximate angles corresponding to Antelope Valley Solar Ranch are shown in shaded region.

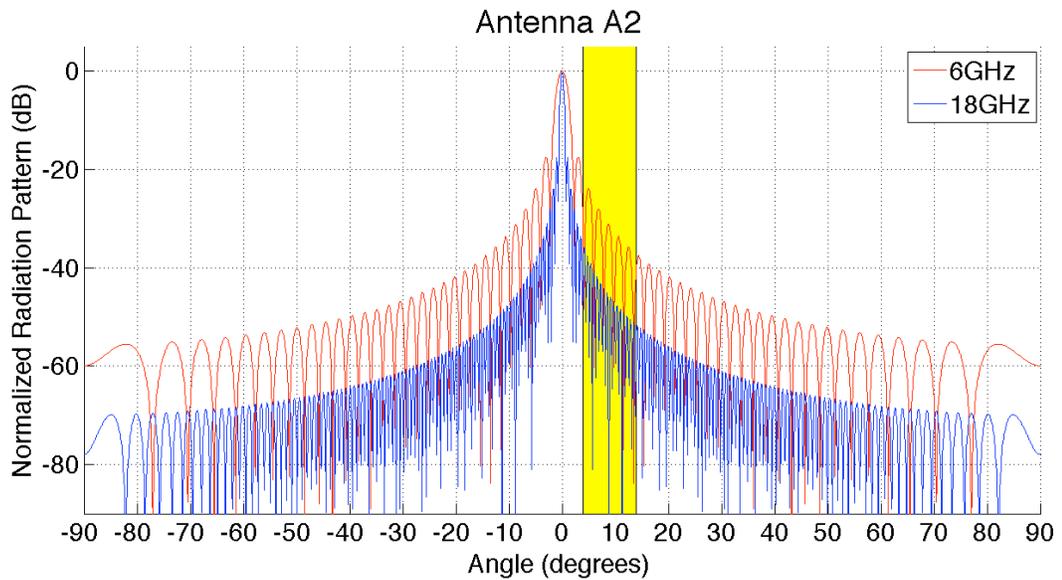


Figure 11. Normalized radiation pattern for antenna A2 for maximum (18 GHz) and minimum (6 GHz) assumed operating frequencies. Approximate angles corresponding to Antelope Valley Solar Ranch are shown in shaded region.

Appendix B: Range Gated Regions

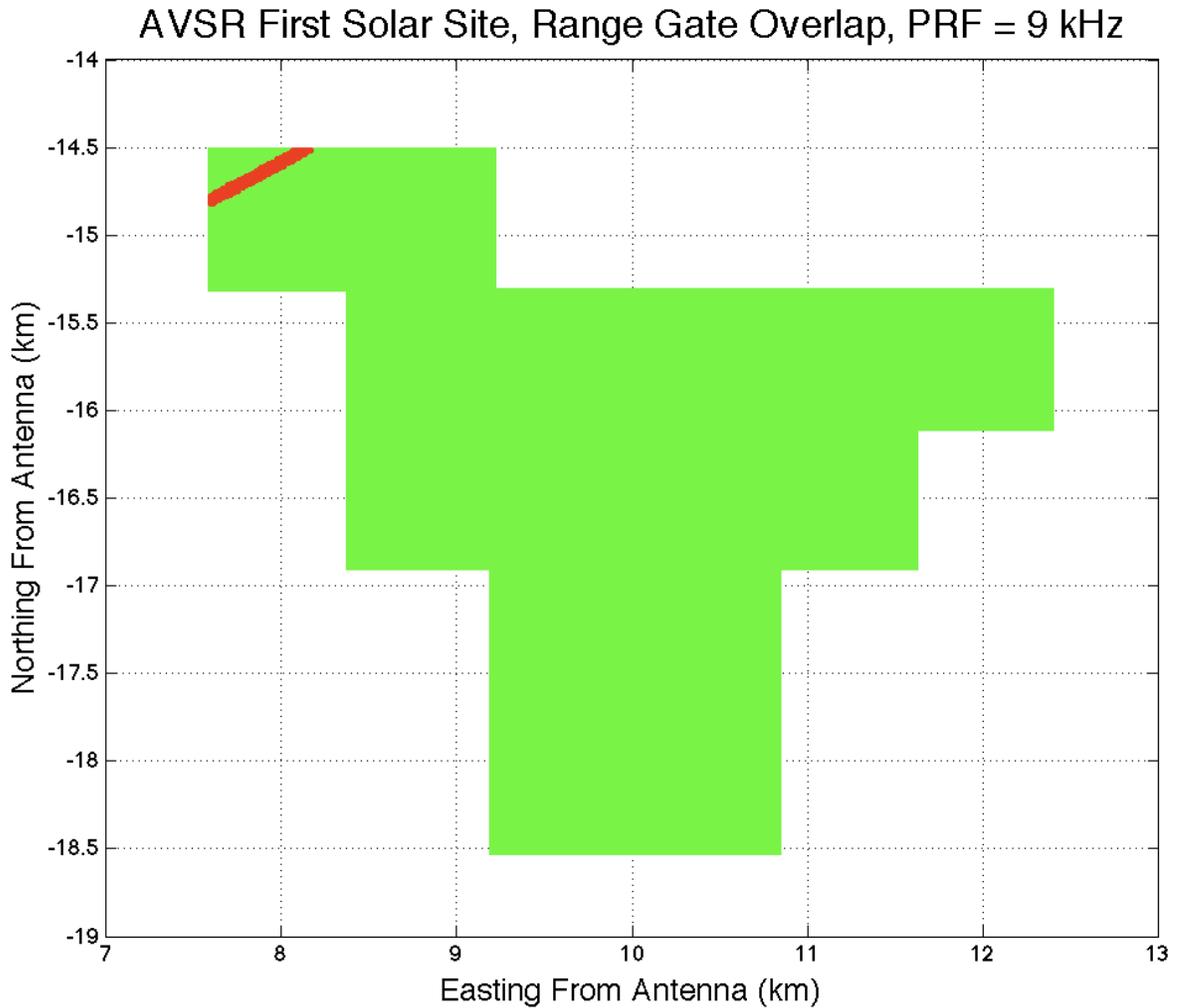


Figure 12. Plot of Antelope Valley Solar Ranch (green shape) indicating the location of the range-gated bins (red stripes) for a range gate width of 50 m and a pulse repetition frequency of 9 kHz (range gate width not to scale for illustration purposes).



Figure 13. Plot of Antelope Valley Solar Ranch (green shape) indicating the location of the range-gated bins (red stripes) for a range gate width of 50 m and a pulse repetition frequency of 150 kHz (range gate width not to scale for illustration purposes).

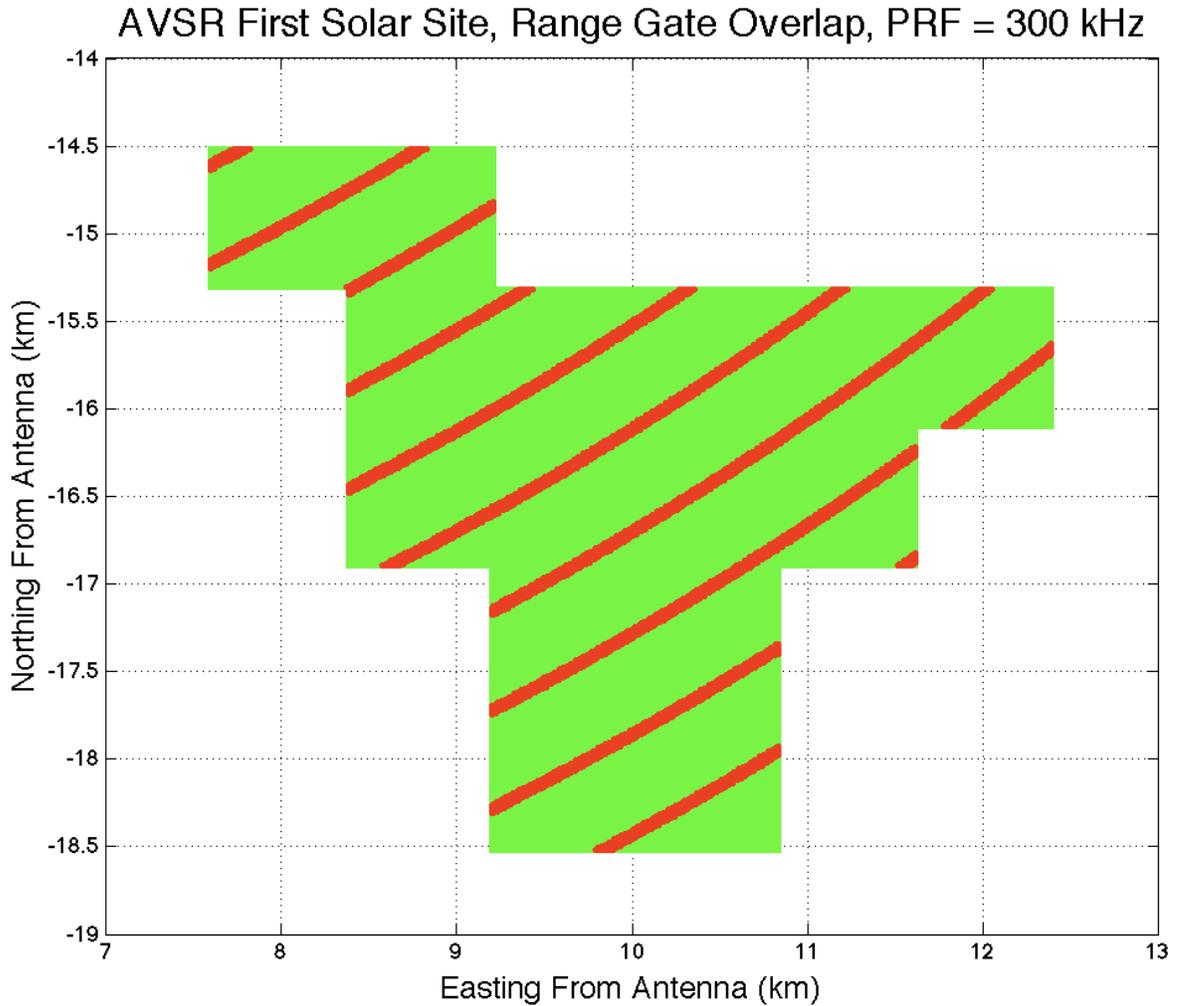


Figure 14. Plot of Antelope Valley Solar Ranch (green shape) indicating the location of the range-gated bins (red stripes) for a range gate width of 50 m and a pulse repetition frequency of 300 kHz (range gate width not to scale for illustration purposes).

Appendix C: Returned Power Comparisons

Exponent calculated the returned power from the Antelope Valley Solar Ranch for several values of PRF for which a significant area of the site falls within the range gated area, as determined by the pulse repetition frequency and assumed range gate width of 50 m. Calculations were performed for each of the two antennas at the Tejon Test Facility identified by Northrop Grumman as corresponding to Range 1, and based on the assumptions previously outlined. The solar panels were assumed to have a width of 2.54 meters, a row separation of 4.23 meters, and a southward tilt of 25° with respect to horizontal. Normalized return power (dB) and range-referred clutter level (dBsm) are presented in Figure 15 and Figure 16.

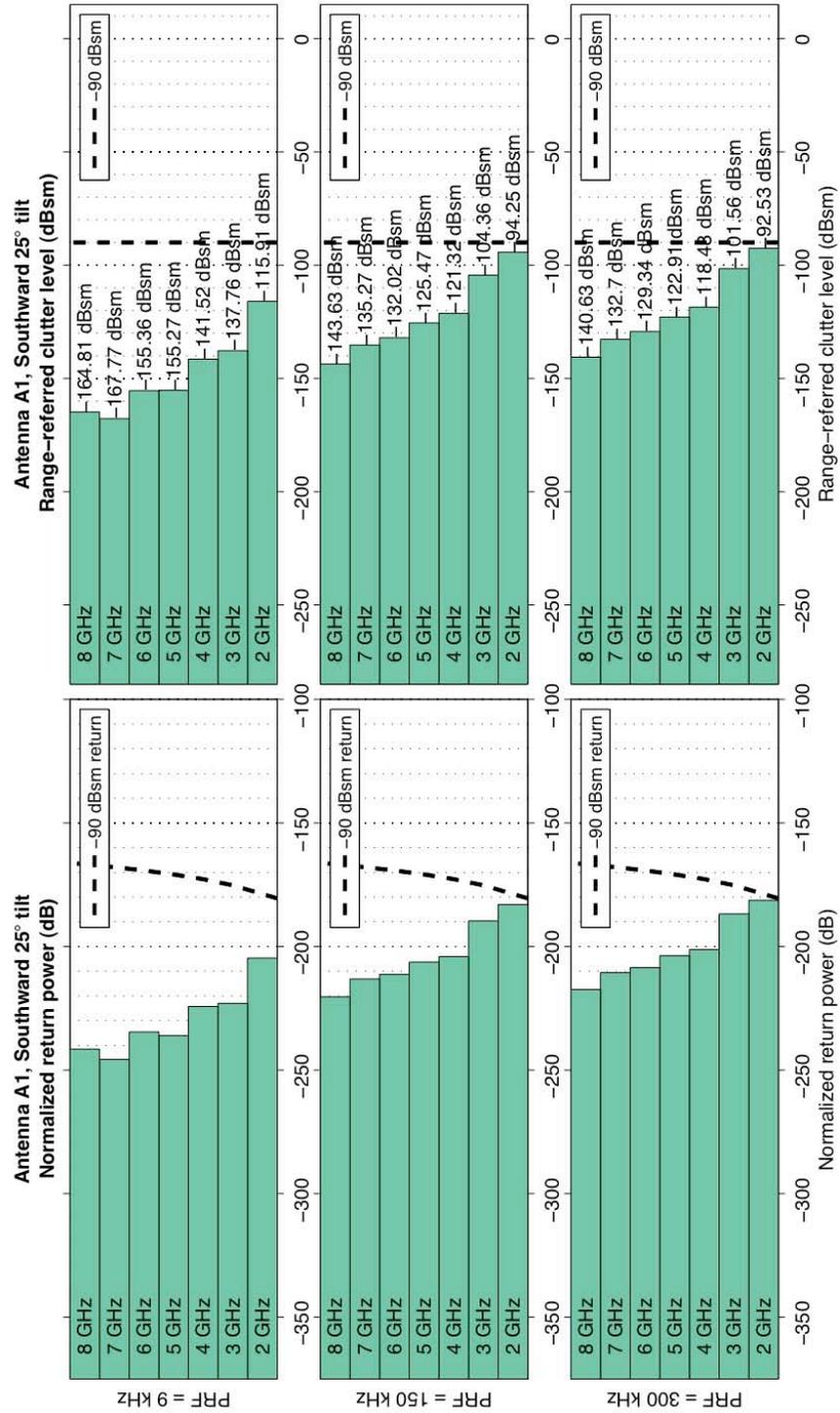


Figure 15. Antenna A1, normalized return power (dB) and range-referred clutter level (dBsm) for 25° tilt.

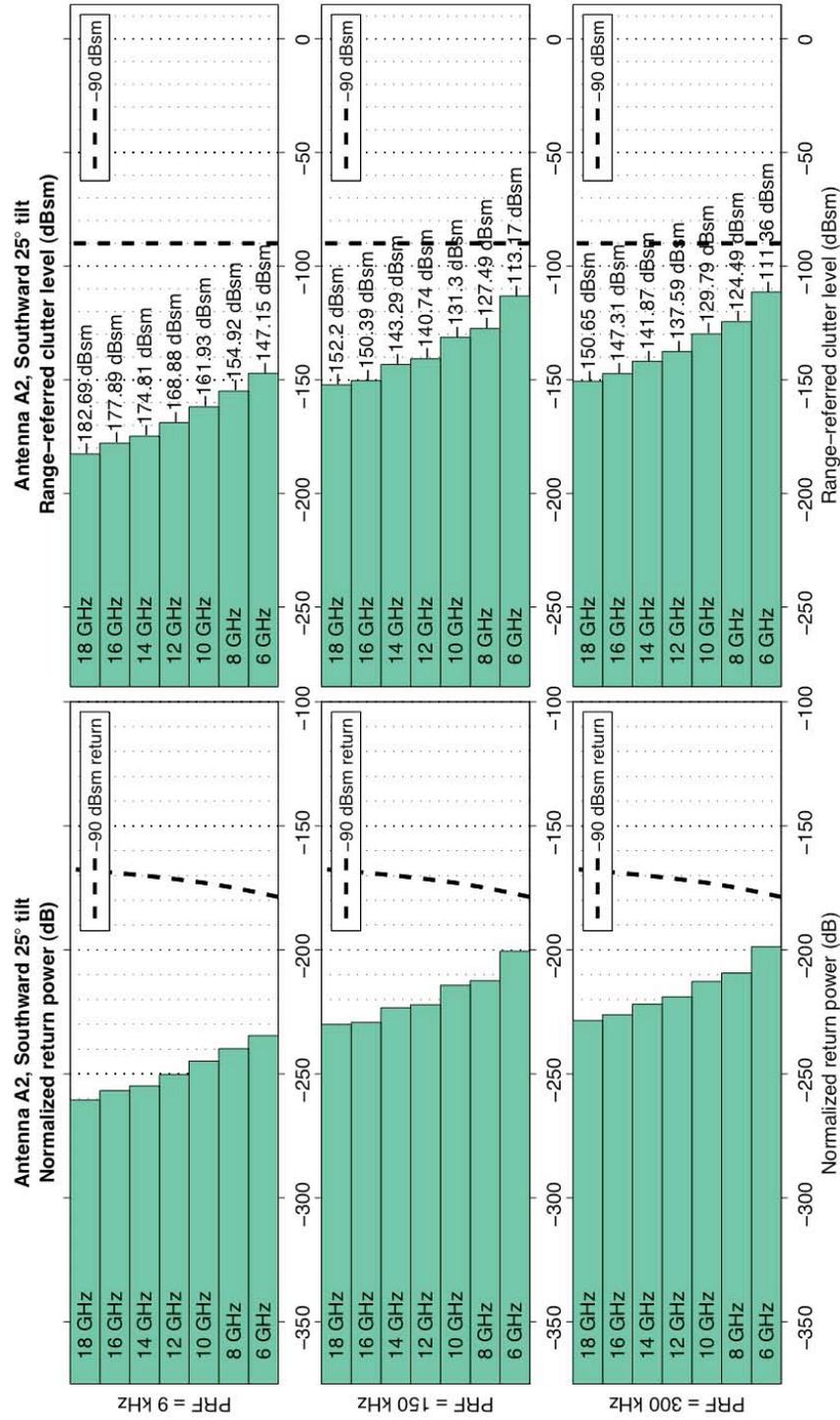


Figure 16. Antenna A2, normalized return power (dB) and range-referred clutter level (dBsm) for 25° tilt.