

APPENDIX K

Agency and Other Correspondence

July 9, 2009

Tom Meagher
Bureau of Land Management
California State Office
2800 Cottage Way, Suite W-1623
Sacramento, CA 95825-1886

Re: Final Evaluation Letter Report
Ridgecrest Solar
Application _____ (Psomas Job 6BLM0101.01)

Under contract #L09PC00076, Task Order TBD, Psomas was retained to "...conduct a civil engineering, geologic and hydrologic review of Plans of Development (POD) for Solar Energy facilities on BLM lands. The review needs to be done to insure that preliminary storm water management, site grading and water supply are properly addressed and technically feasible...."

This letter report summarizes Psomas' findings at the Ridgecrest Solar Millennium site.

SUMMARY OF FINDINGS

Psomas has reviewed the 30% plans, hydrology and engineering for storm water issues related to the SOLAR MILLENIUM Ridgecrest solar project and in our opinion, the basic design and layout of storm water facilities are feasible. Even if more detailed topographic information and engineering reveal that some adjustments are needed in the final design, the project foot print should not change to a significant degree. From a stormwater perspective, the project appears to be sufficiently developed to file a notice of intent to complete an EIR / EIS.

SITE RECONNAISSANCE

Psomas completed a site visit on June 11, 2009 to observe existing conditions at the project site.

PSOMAS

Tom Meagher

Page 2 of 9

July 9, 2009

Final Evaluation Letter Report – Ridgecrest Solar

Present at the site review were:

Solar Millennium: Gavin Berg

Chevron: Ralph Hollenbacher

AECOM: Bill Hagmaier & Mike Flack

PSOMAS: Mike Thalhamer, Ernie Leporini, Stefanie Kemen, & Mike Daly

BLM: Claude Kirby,

CEC: Paul Marshall, Richard Latteri

SITE DRAINAGE

Scope of review

The overall intent of the review was to identify potential issues which impact existing drainage features and patterns adjacent and downstream of the proposed project. It was not intended to provide input related to the proposed onsite drainage scheme beyond how this scheme might impact areas beyond the project limits.

Summary Of Project Documents Reviewed:

- *Ridgecrest Solar Power Plant Hydrology Report*, May 18, 2009, AECOM (Attachment A)
- Preliminary Civil Construction Plans for Ridgecrest Solar Power Project, dated May 28, 2009. (Attachment B)

Project Hydrology

The hydrologic analysis for the project was reviewed and appears to be well documented and appropriate for site specific conditions. It also appears to be in general compliance with the methodologies outlined in the *Kern County Hydrology Manual*. However, Psomas provides the following recommendations for the final drainage report:

A CD of the HEC-HMS models for both the existing and proposed conditions should be provided for review.

The potential for an increase in curve number (CN) for developed and disturbed watersheds should be considered as there does appear to be the potential for increased runoff from these areas. Under developed conditions all vegetation will be removed. The area will also be graded flat eliminating any potential “surface retention” associated with an uneven terrain, and it will likely be compacted to a greater degree than existing conditions. Numerous collector

Tom Meagher

Page 3 of 9

July 9, 2009

Final Evaluation Letter Report – Ridgecrest Solar

collector swales are also proposed which may more effectively convey runoff to the main channels. Based on the table provided in Appendix D of the Hydrology Report, the developed CN would appear to be closer to 85 for “B” soil consistent with fallow agricultural land. A photograph of existing conditions at the Ridgecrest site as well as one from the existing solar field facility just outside of Kramer Junction off of highway 395 have been provided in Attachment C. Assuming that conditions at the developed Ridgecrest site will be similar, the photographs provide a clear indication of the potential for increased runoff due to grading and compaction.

The proposed conditions hydrologic model does not appear to provide for any channel routing within the individual solar units, but rather treats them as single watersheds with a discreet point of concentration. This approach, in conjunction with the potentially underestimated CN values, may cause the model to underestimate discharges associated with these watersheds under developed conditions.

The construction of engineered channels to collect and convey flow through and around the site can significantly change downstream peak flows by more efficiently conveying flows and reducing the magnitude of flood peak attenuation which occurs in natural floodplains. Per input from BLM staff, the watershed containing the proposed project has a documented history for contributing to downstream flooding of developed areas. Studies have been completed to assess possible measure to mitigate this flooding and any changes in the watershed which could exacerbate the current flooding potential is of great concern to the BLM. It is recommended that the final drainage report specifically address the issue of potential increases in downstream peak discharges within the context of the proposed land use changes and the previous two comments above.

Existing Conditions Hydraulics

Under existing conditions the project site is impacted by numerous poorly defined washes and will enter the project area as predominately shallow flow during large events. The report did not include the analysis of existing floodplains limits impacting the upstream project boundary. It is recommended that at a minimum floodplain mapping be completed on the large wash which crosses Brown Road to facilitate the design of the transition of constructed Channel #2B back to the existing floodplain. A detailed assessment of the other floodplains impacting the project would allow for a more site specific design and should be considered.

Proposed Conditions Hydraulics

- Collector Channel Design. The concept design includes collector channels along the upstream property boundary to collect offsite flows for conveyance through or around the property. Flow into the collector channels is primarily from poorly defined shallow washes. Flows during large events occur primarily as shallow sheet flow and there is a tendency for the small washes to migrate or for new channels to form. The collector channels must be appropriately designed to account for the unpredictable flow patterns and to prevent headcutting upstream of the constructed channel. If not protected, these headcuts can quickly become incised to the flowline depth of the collector channel. This may also be an issue where site drainage flows into the constructed channels. Neither the drainage report nor the concept plans have yet addressed this issue.
- Channel Velocities. Velocities within earthen channels should be within acceptable limits to minimize both vertical and lateral channel erosion. Typical maximum velocities for non-consolidated silty sands as observed at portions of the project site range from approximately 3.5 to 5.0 feet per second (ft/s) for the 10-year flow. Higher velocities for less frequent events may be considered if there is sufficient room for some migration of the channel to occur without threat to adjacent structures. Based on the average 10-, 25-, and 100-year velocities presented in Tables 12 through 14, the proposed use of unlined earthen channels appears to be reasonable. Backup data for the reported velocities needs to be provided in the appendices.
- Channel Sections. Some of the proposed channels have very large width/depth ratio which will tend to favor incisement of a low flow thalweg within the overall drainage channel. Rather than flow in a very wide and shallow condition, low flows will tend to develop a low-flow channel to more efficiently convey flow. This channel can become quite deep depending on the actual channel slope and can cause bank sloughing or undercut erosion protection measures. It is recommended that the potential issues associated with the formation of a low flow thalweg be considered in the final design.

Field Decisions

The overall consensus of the site review team was that Channel 1D along the western boundary of Solar Field 2 should be eliminated, and Channel 1B should end near the southwest corner of the project allowing flow to follow the natural topography back to existing conditions. Additionally, it was agreed that Channel 2B should be extended for direct

PSOMAS

Tom Meagher

Page 5 of 9

July 9, 2009

Final Evaluation Letter Report – Ridgecrest Solar

direct connection to Channel 2D, as the transition from natural channel into Channel 2D would be problematic. This scenario will also allow for better control of flows from the adjacent onsite channel. See Attachment D.

General report comments

Relevant channel data such as slope range, design Q and velocity range should be included on the proposed channel sections in Appendix I of the Hydrology Report.

With the exception of the average flow velocity, the channel hydraulic data in Tables 13 through 15 is identical. Additionally, there is no backup data in the appendices for the hydraulic analysis.

The scale of the project may warrant using larger maps to depict existing and future watershed conditions. The scale and size of the maps provided make it very difficult to discern topography or any relevant features.

To facilitate comparison of the existing and proposed conditions, roadway should be labeled on the Proposed Conditions Hydrology maps in Appendix I.

A CD with the HEC-RAS input files should be provided with the final drainage report.

General plan comments

Relevant channel data such as slope range, design Q and velocity range should be included on the proposed channel sections on Sheet 3 of the Preliminary Civil Construction Plans.

WATER SUPPLY

Scope of review

The overall intent of the review was to "...evaluate [the water supply] for sustainability, water quality and for potential impacts to the environment such as groundwater depth, springs, effects underground water movement such as plumes, salinity or movement between aquifers...."

PSOMAS

Tom Meagher
Page 6 of 9
July 9, 2009
Final Evaluation Letter Report – Ridgecrest Solar

Summary of Project Documents Reviewed

Final Report, “Installation and Implementation of a Comprehensive Groundwater Monitoring Program for the Indian Wells Valley, California”, March 2008, prepared for “Local Ground Water Assistance Program AB303, State of California”.

“Groundwater Management in the Indian Wells Valley Basin, Ridgecrest, California”, June 2003. Prepared for Eastern Kern County Resources Conservation District.

Water Supply Requirements

According to Michael Flack of AECOM (Developer’s consultant) per email dated June 6, and personal conversations during the site visit, water supply requirements for the Ridgecrest site are:

Water quantity required

The operational groundwater use at each site is about 150 acre-feet per year (afy) per solar field. So for the projects the total operational use is:

Average usage = 150 afy, or 93 gallons per minute (gpm)
Peak usage (estimated at 50% more during summer months), 140 gpm
Construction supply = 1,000 acre feet over 2 years (estimated) or 500 afy

These volumes should be considered preliminary and subject to revision as the analysis of the construction program groundwater requirements is ongoing. Construction water will be primarily used for site grading and dust suppression.

Water quality required

- Domestic supply – Federal Safe Drinking Water Act and California Title 22 requirements
- Mirror Washing – Reverse osmosis or electro-dialysis reversal followed by ion exchange
- Power cycle makeup water - Reverse osmosis or electro-dialysis reversal followed by ion exchange

PSOMAS

Tom Meagher

Page 7 of 9

July 9, 2009

Final Evaluation Letter Report – Ridgecrest Solar

- Dust suppression – desalination waste blended with raw water.
- Construction water – no treatment, raw water.

Proposed water source.

The water for the Ridgecrest project will be provided from the Indian Wells Valley Water District (Water District) via a two mile (approximately) long pipeline and booster pump station from the community of Ridgecrest to the project site. For its water supply, the Water District pumps groundwater from the Indian Valley Groundwater Basin.

On June 25, Renee Morquecho, District Engineer for the Water District, said that providing water to the project should be possible. Discussion items with the Developer will include the impacts to the water system and possible improvements required by the Developer to mitigate those impacts. These impacts include the potential for increased demands to the water system because the water line/booster station will open up additional land for development.

Information on the local groundwater conditions and impacts from proposed project pumping has not been determined. Water resource investigations have been proposed and work plans developed for consideration by the BLM. The environmental assessment (EA) documents have been reviewed and are presently being revised for resubmission to the BLM. It is anticipated that the investigation programs will be initiated within the next few weeks.

The Ridgecrest site is located within the Indian Wells Groundwater Basin. The water level in wells in the basin is decreasing by an average of 1 foot per year due to existing users pumping at a rate greater than the recharge rate.

- The level of total dissolved solids (TDS) in groundwater at the site is reported to be moderate (approximately 200-600 mg/l). This level is treatable. However, treatment will produce levels of brine (water with concentrated levels of dissolved solids), for which disposal will have to be addressed. If brine is to be blended with raw water and used for dust control, Developer must insure that California Regional Water Quality Control Board approval is obtained for this discharge.

Some have suggested that TDS levels may increase in the future as wells draw from more distant and/or deeper areas with lesser quality water.

PSOMAS

Tom Meagher

Page 8 of 9

July 9, 2009

Final Evaluation Letter Report – Ridgecrest Solar

Wastewater disposal

There is no anticipated process wastewater, only sanitary wastewater to be discharged into one or more leach fields. For the Ridgecrest facility, sanitary wastewater quantity is estimated to be 83,000 gallons per month, or 2,800 gallons per day.

Comments and Recommendations

Because formal documentation of water supply criteria has not been done, detailed evaluation of water supply issues is not possible at this time.

Probable issue of greatest concern for the Ridgecrest site is the availability of a water source. The groundwater basin is currently over-drafted by existing by existing users.

- While the water requirement for the project is small compared to total pumping from the basin, over-drafting of the basin will be aggravated (slightly) by the additional pumping required by the project (this is true whether water is purchased from Indian Wells Valley Water District or onsite wells, since the same aquifer is used in both alternatives). Developer should begin exploring agreements with current water users to offset the project's water supply by reducing other uses.
- The sustainability of the water supply to the project should be evaluated. Given the known overdraft, an evaluation should be made to determine the approximate future time when the groundwater basin will be depleted and wells will begin to fail. Analysis should include decreased quantity, increased pumping costs, and degradation of water quality as groundwater levels are lowered.
- Developer should continue discussions with the Indian Wells Valley Water District to insure an adequate water source is available when needed for construction water.

If you should have questions about this report, or require additional information please do not hesitate to contact me.

P S O M A S

Tom Meagher
Page 9 of 9
July 9, 2009
Final Evaluation Letter Report – Ridgecrest Solar

Sincerely,
P S O M A S



Michael G. Thalhamer, PE
Project Manager

MGT:ast

Attachments Enclosed:

- A. Ridgecrest Solar Power Plant Hydrology Report, May 18, 2009, AECOM
- B. Preliminary Civil Construction Plans for Ridgecrest Solar Power Project, AECOM, 30% Conceptual Engineering Plans, May 28, 2009
- C. Photographs Depicting Anticipated Change in curve number (CN)
- D. Ridgecrest Base Map with Psomas Recommendations

R-2508 COMPLEX SUSTAINABILITY OFFICE

Naval Air Systems Command Weapons Division



16 July 2009

Sustainability Office, Code 52F00ME
575 I Avenue, Suite 1
Point Mugu, California 93042-5049

Ms. Jessie Audette
Vice President of Development
Solar Millennium LLC
1625 Shattuck Avenue, Suite 270
Berkeley, CA 94709-1161

RE: Solar Millennium Proposed Ridgecrest Solar Power Project (RSPP)

Dear Ms. Audette:

Thank you for the opportunity to review the proposed Solar Millennium Ridgecrest project.

As we have discussed, the project underlies special use airspace known as the R-2506 within the R-2508 Complex, and is near the China Lake Range Complex. It could impact military testing and training conducted in that area and on the ranges. However, after evaluation, we have determined that the project will not have significant mission impacts, if the mitigation measures we discussed are adopted.

The mitigation measures address the potential for interference that could be caused by radio transmissions that may be required for operation of the facility. You provided the following language and indicated that it would be included in your permit application:

Solar Millennium will provide the information on planned use of the electronic spectrum at the project facilities to Department of Defense (DOD) representatives as soon as possible, but not later than completion of the final design. The information provided will be in sufficient detail for DOD agencies to evaluate whether project use of specific radio frequencies would cause interference with DOD activities. As needed, based on the feedback provided by DOD, Solar Millennium will modify the facility's planned frequency use, provide data on these modifications to DOD activities, and obtain written confirmation from DOD that the frequency spectrum usage for the project will not interfere with DOD activities. Solar Millennium will provide documentation to the CEC Compliance Project Manager (CPM) of the DOD's confirmation of the acceptability of the Project's planned use of radio frequencies spectrum prior to the installation of electronic systems that potentially could affect DOD activities.

Incorporation of that language into any permit for the facility would be adequate mitigation.

We in the R-2508 Complex Office (CSO) appreciate your desire to mitigate impacts on military testing and training. If we can be of any assistance to you in the future, please don't hesitate to contact us.

Sincerely

A handwritten signature in black ink, appearing to read "A. M. Parisi". The signature is fluid and cursive, with a large initial "A" and a distinct "P" for Parisi.

A. M. Parisi, PE
Complex Sustainability Officer

California State Senate

ROY ASHBURN
SENATOR, 18TH DISTRICT

RECEIVED
8/21/09
rg



August 21, 2009

Melissa Jones
Executive Director
California Energy Commission
1516 9th Street
Sacramento, CA 95814

Subject: Letter of Support for proposed Ridgecrest Solar Power Project

Dear Ms. Jones:

I would like to express my support for Solar Millennium's proposed solar power project in Ridgecrest.

This project would supply a clean and efficient energy source for California, while providing 800 short-term jobs and 85 permanent full-time skilled labor jobs. It will stimulate the economy by utilizing local services and supplies, which is critical in this time of financial crisis.

Solar Millennium is an active member of the Desert and Solar Working Group and has examined ways to develop a renewable energy source with the commitment to protect the local ecosystems and landscapes. The generation of renewable energy resources will help to clean up the bad air quality in the region.

I urge support of this solar project for the benefit of Kern County residents and California. If I may answer any questions, please do not hesitate to contact me personally.

Best regards,

A handwritten signature in blue ink that reads "Roy Ashburn".

ROY ASHBURN
Senator
18th District

Hsia, Stephanie

To: Hsia, Stephanie
Subject: FW: Shape files - Solar Millennium Blythe, Palen and Ridgecrest sites

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

From: Parisi, Tony NAVAIR [mailto:anthony.paris@navy.mil]
Sent: Thursday, July 16, 2009 11:55 AM
To: audette@solarmillennium.com
Subject: Re: Shape files - Solar Millennium Blythe, Palen and Ridgecrest sites

Jessie,

Yes, our response is based on the project description you provided, including the tower and transmission lines.

V/R,
Tony

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

From: Jessie Audette <audette@solarmillennium.com>
To: Parisi, Tony NAVAIR
Sent: Thu Jul 16 11:42:21 2009
Subject: RE: Shape files - Solar Millennium Blythe, Palen and Ridgecrest sites

Thanks so much for the quick turnaround. Can we assume that the 120' structures (cooling tower and transmission towers) within the Ridgecrest project site will not pose a problem?

Again, we greatly appreciate your responsiveness.

Jessie

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

From: Parisi, Tony NAVAIR [mailto:anthony.paris@navy.mil]
Sent: Thursday, July 16, 2009 11:08 AM
To: Jessie Audette
Subject: RE: Shape files - Solar Millennium Blythe, Palen and Ridgecrest sites

Jessie,

Letter attached. I'll get you another letter on the other two projects as soon as I get feedback from the other military stakeholders.

V/R,
Tony

Anthony M. Parisi, PE
Head, Sustainability Office
NAVAIR Ranges
(805) 989-9209
FAX: (805) 989-7418
Cell: (805) 816-0935
anthony.paris@navy.mil



520 S. China Lake Blvd
Ridgecrest, CA 93555

August 25, 2009

Nicole Tenenbaum
Sr. Project Manager
Solar Millennium, LLC
1625 Shattuck Ave, Suite 270
Berkeley, CA 94709

Re: Ridgecrest Solar Power Plant Project
Located in Ridgecrest, CA at Brown Rd.
and Hwy 395 w/o S. China Lake Bl.

Dear Ms. Tenenbaum:

Verizon has the ability to service the proposed project. This letter constitutes our intention to provide telephone facilities.

For your information, Verizon California is franchised to provide telephone service to the above referenced area. Verizon has existing telephone facilities adjacent to this area that can be extended as required.

Charges to the developer and/or individual subscribers may be applicable in accordance with our tariffs filed with the California Public Utilities Commission.

Should you need any further clarification, please feel free to contact me at 760-375-6616 or alan.bailey@verizon.com.

Thank you,

A handwritten signature in black ink, appearing to read "Alan Bailey".

Alan Bailey
Engineer/Verizon