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08-AFC-5
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# Applicant's Opening Testimony

## Application for Certification (08-AFC-5)
## **Imperial Valley Solar, LLC**

**Submitted to:**
**Bureau of Land Management**
**1661 S. 4th Street, El Centro, CA 92243**

**Submitted to:**
**California Energy Commission**
**1516 9th Street , MS 15, Sacramento, CA 95814-5504**

**Submitted by:**
**Imperial Valley Solar, LLC**
**4800 N. Scottsdale Road, Suite 5500, Scottsdale, AZ 85251**

**With Support From:**
**URS Corporation**

March 2010

URS

March 15, 2010

Mr. Christopher Meyer
Project Manager
Attn: Docket No. 08-AFC-5
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: Imperial Valley Solar (formerly Solar Two) (08-AFC-5)
Applicant's Opening Testimony
URS Project No. 27657106.00801

Dear Mr. Meyer:

On behalf of Imperial Valley Solar (formerly Solar Two), LLC, URS Corporation Americas (URS) hereby submits the Applicant's Opening Testimony. The following is included with this package, per the notice filed March 9th, 2010: Applicant's Exhibit List, Applicant's Opening Testimony, and Applicants Exhibits in Format 1, electronically.

I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge. I also certify that I am authorized to submit on behalf of Imperial Valley Solar, LLC.

Sincerely,

Angela Leiba
Project Manager

AL: ml

URS Corporation
1615 Murray Canyon Road, Suite 1000
San Diego, CA 92108
Tel: 619.294.9400
Fax: 619.293.7920

Applicant's Exhibit List – Exhibits 1 through 25

Updated 3/11/2010

| Exhibit | Description | Docket Date |
|---|---|---|
| 1 | Application for Certification, Volume I and II | June 6, 2008 |
| 2 | Air Quality Information for Data Adequacy | July 25, 2008 |
| 3 | Responses to Imperial County questions | September 3, 2008 |
| 4 | E-mail regarding school impact fees | September 10, 2008 |
| 5 | E-mail regarding property taxes | September 10, 2008 |
| 6 | Data Adequacy Supplement | September 26, 2008 |
| 7 | CEC/BLM DR Responses 1-52 | December 8, 2008 |
| 8 | SES Alternatives and Cumulative Impacts | February 8, 2009 |
| 9 | CEC/BLM DR Responses 1-3, 5-10, 14-15, 24-26, 31-32, 36-38, 44, 111-127 | March 19, 2009 |
| 10 | CEC/BLM DR Responses 53-110 | March 26, 2009 |
| 11 | Supplemental Cumulative Analysis | April 29, 2009 |
| 12 | CEC/BLM DR Responses 128-141 | June 5, 2009 |
| 13 | CURE DR Responses 1-143 | June 6, 2009 |
| 14 | Supplement to AFC | June 12, 2009 |
| 15 | CEC/BLM DR Responses 31-32 | July 2, 2009 |
| 16 | CEC/BLM DR Responses 151-155 | July 7, 2009 |
| 17 | CURE DR Responses 143-178 | August 5, 2009 |
| 18 | Additional Supportive Materials, Biology & Water | September 23, 2009 |
| 19 | CEC/BLM DR Response 142-150 | October 17, 2009 |
| 20 | Current Project Acreage | October 28, 2009 |
| 21 | Supplemental Biology and Water Information | October 30, 2009 |
| 22 | Revised page 300-1 of SWPP | December 21, 2009 |
| 23 | Corridor Conflict Analysis | January 8, 2010 |
| 24 | San Diego MTS Agreement | January 8, 2010 |
| 25 | Glint and Glare Study | (to be provided) |

PREPARED DIRECT TESTIMONY
OF
MARC VAN PATTEN

1. Q. Please state your name and employer.

My name is Marc Van Patten and I am Sr. Director of Development with Tessera Solar North America. In this position I have been involved in the management and development of the Imperial Valley Solar Project (the "Project").

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | |
|---|---|
| Exhibit 1 | Section 2 Project Objectives/Need |
| | Appendix A Memorandum of Understanding |
| | Appendix C Property Owners |
| | Appendix D Union Pacific ROW |
| | Appendix X IID Water Quality Analysis |
| | Section 4 Alternatives |
| Exhibit 6 | CEC Response 1 |
| | BLM Responses 13-18 |
| | BLM Responses 28-33 |

3. Q. Imperial Valley Solar is requesting that the Commission approve a back-up/temporary supply of water for project construction and operation. Why is this supply necessary?

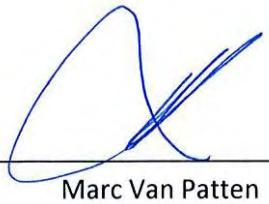
Our primary source of water, the Seeley Waste Water Treatment Facility ("SWWTF"), is undergoing permitting that will allow for the upgrade of its facility to Title 22 standards (suitable for our construction and operational needs). While it is intended and we are hopeful that this water source will be available when we begin construction later in 2010, we cannot be certain. Also, depending on how long it might take to permit and construct the SWWTF upgrades, we may also have a need for operation water for a short period of time in 2011. Our preferred back-up/temporary source of water comes from a private supplier named Dan Boyer Water Company, located in Ocotillo, CA. This is a permitted private water supply source that has been in the business of delivering water in the region since the 1950s and currently provides water to construction companies in the area for various construction water needs. There is a delivery limit of 40 acre-feet of water per year, which is sufficient for the needs of the Project.

3. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

3/11/10
Date



Marc Van Patten

PREPARED DIRECT TESTIMONY
OF
SEAN GALLAGHER

1. Q. Please state your name and employer.

My name is Sean Gallagher and I am Vice President of Market Strategy & Regulatory Affairs with Tessera Solar. In this position I am responsible for Government and Regulatory Affairs for the company, including state and federal policy and legislation.

2. Q. Are you sponsoring any exhibits in this proceeding?

No.

3. Q. What is the purpose of your testimony?

My testimony addresses whether there is a basis for the Commission to make the necessary findings if an override is required as a result of any remaining significant adverse environmental impacts or non-conformance with other legal requirements as a result of constructing and operating the Imperial Valley solar power plant.

4. Will you please summarize your conclusions?

I believe there is a basis for the Commission to support override findings and that the benefits of the project significantly outweigh the potential significant adverse impacts or LORS compliance issues remaining in this case.

5. What findings are required if the Commission approves an override?

In the case of an unavoidable significant adverse environmental impact, according to Public Resources Code 15093, the Commission must consider whether the "...specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects". If they do, the Commission may consider those impacts to be acceptable. The Commission does have to state in writing "the specific reasons to support its action based on the final EIR and/or other information in the record". The statement of overriding considerations shall be supported by substantial evidence in the record.

In the event that the project does not comply with a law, ordinance, regulation, or standard, according to Section 1752 (k) of the California Code of Regulations, the Commission must make "...findings and conclusions on whether the noncompliance can be corrected or eliminated; and if such noncompliance cannot be corrected, findings on both the following:

(1) Whether the facility is required for public convenience and necessity; and
(2) Whether there are no more prudent and feasible means of achieving such public convenience and necessity.

6. What benefits will result from the project that justify an override?

The Imperial Valley Solar Project will result in significant benefits at the local, state, and national level that justify an override. Its primary purpose is to provide clean, renewable, solar-powered electricity and to assist San Diego Gas & Electric (SDG&E) in meeting its legislatively mandated obligations under California's Renewable Portfolio Standard (RPS) Program. It will also assist SDG&E and the State of California in reducing greenhouse gas emissions as required by the California Global Warming Solutions Act (AB 32). It will further be a project funded with support of the American Recovery and Reinvestment Act of 2009 and will be part of the national program to "create new jobs and save existing ones" and to "spur economic activity and invest in long-term growth." See http://www.recovery.gov/About/Pages/The_Act.aspx.

Specific benefits of the project include the following:

1. Provide renewable energy to meet the state RPS requirements – The 2009 Integrated Energy Policy Report noted on Page 1 the importance of new renewable generation to California's electricity system. It discussed the importance of the "...loading order for electricity resources, which calls for meeting new electricity needs first with energy efficiency and demand response; second, with new generation from renewable energy and distributed generation resources..." The Renewables Portfolio Standard, established in 2002, requires retail sellers of electricity, including SDG&E, to procure 20 percent of their retail sales from renewable resources by 2010. In addition, on November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order # S-14-08 that raises California's renewable energy goals to 33 percent by 2020. Tessera Solar has a power purchase agreement with SDG&E to purchase power from this project. That Power Purchase Agreement was approved by the California Public Utilities Commission. The electricity generated by the Imperial Valley Solar Power Plant will make a substantial contribution to SDG&E's RPS goals, and a substantial contribution to the state's RPS goals.

2. Reduce greenhouse gas emissions from fossil fuel power plants – The 2009 Integrated Energy Policy Report also stated that "...reducing greenhouse gas emissions is of paramount concern." (page 1). Fossil fuel power plants represent one of the primary sources of greenhouse gasses in California and the nation. Scientists have repeatedly warned about the serious environmental and societal impacts of climate change and the need to take swift and serious action to reverse this trend. When operating, the Imperial Valley Solar Project can displace the equivalent amount power from an out-of-state coal fired power plant. The CEC staff provides a more detailed analysis on the GHG benefits of the project in Appendix Air-1 of the SA/DEIS. As part of larger state, national, and global actions, the reductions in GHG emissions from this project will have long-term secondary biological, social, and economic benefits.

3. Displace generation from coastal power plants that use once-through cooling (OTC) – The 2009 Integrated Energy Policy Report (Page 1 and 30) discussed the draft policy issued by the State Water Resources Control Board to "...phase out the use of once-through cooling in the state's 19 coastal power plants to reduce impacts on marine life from the pumping process and the discharge of heated water." The Imperial Valley Solar Project will contribute to this effort by providing power to SDG&E and be available to displace power currently generated by both the South Bay and Encina Power Plants which use OTC technology.

4. Provide jobs locally, regionally, and nationwide – During construction, the Imperial Valley Solar Project will provide up to 700 construction and building trade jobs, most of which will come from Imperial County which as of January was experiencing an unemployment rate of 27.3% The project will also result in approximately 160 full time jobs. Because most of the components used in the SunCatcher design are built in the United States, the project will also generate jobs in other regions of the country, particularly the automotive industry.

5. Reduce criteria air emissions associated with the displacement of fossil generation (see the air quality analysis in the SA/DEIS).

7. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

8/13/10
Date

Sean Gallagher

PREPARED DIRECT TESTIMONY

OF

KENNETH KOSTOK

**Project Description**

(**Including Efficiency, Reliability, Transmission System Engineering)**

1. Q. Please state your name and employer.

My name is Ken Kostok and I am a Senior Director of Engineering and Construction for Tessera Solar.

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | |
|---|---|
| Exhibit 1 | Section 3 Project Description |
| | App B Solar Stirling Engine |
| | App F Mechanical and Fire Protection |
| | App G Topographic survey |
| | App H System Impact Study |
| | App I Electric and Magnetic Field |
| | App J Water Balance |
| | App K Hydrogen System Design |
| | App L Hazardous Material Handling |
| | App M Structural Engineering |
| | App N Initial Drainage Report |
| | App O Civil Engineering Design |
| | App P Electrical Engineering Design |
| | App Q Control Systems Engineering |
| | App R Fuel Handling Design |
| | App S Material Safety |
| Exhibit 6 | Response 1 |
| | BLM Responses 19-27, 53-56 |
| Exhibit 7 | Response 6 |
| | Responses 8-11 |
| | Responses 24-27 |
| | Responses 33-38 |

| | |
|---|---|
| Exhibit 9 | Responses 8-10<br>Responses 24-26<br>Responses 33, 36-38 |
| Exhibit 10 | Response 55<br>Response 58<br>Responses 62-65<br>Response 68<br>Response 72<br>Responses 76-78<br>Response 91 |
| Exhibit 13 | Responses 1-16<br>Response 87<br>Response 96<br>Responses 124-126<br>Response 141 |
| Exhibit 14 | Section 1<br>Appendix A |
| Exhibit 20 | Project Acreage Map |
| Exhibit 21 | Hydrology Data |
| Exhibit 24 | San Diego MTS agreement |

3. Q. Do these exhibits in combination currently describe the Imperial Valley solar plant as proposed by the applicant?

Yes.

3. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

March 11, 2010
Date

Kenneth Kostok

**DRAFT March 10, 2010**
**PREPARED DIRECT TESTIMONY**
**OF**
**CAROLYN DUNMIRE**
**Cumulative Impacts**
**Alternatives**

1. Q. Please state your name and employer.

My name is Carolyn Dunmire and I am a resource economist and project manager with Ecosphere Environmental Services Inc. Ecosphere is under contract to the Applicant to provide environmental analyses.

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | | |
|---|---|---|
| Exhibit 1 | Section 4.0 | Alternatives |
| | Section 5.18 | Cumulative |
| Exhibit 6 | Data Adequacy Request 1 | |
| Exhibit 8 | Alternatives and Cumulative Analysis Workshop Presentation | |
| Exhibit 11 | Supplemental Cumulative Analysis | |
| Exhibit 12 | Data Responses 132-134 | |
| Exhibit 14 | Section 5.18 | Cumulative |
| Exhibit 23 | Corridor Conflict Analysis | |

3. Q. Will you briefly discuss the approach used in the analysis of Cumulative Impacts in the Application for Certification?

The analysis of cumulative impacts completed for the AFC was guided by both NEPA and CEQA regulations. The NEPA definition of cumulative effects is that they "result from individually minor but collectively significant actions taking place over a period of time" (CFR 1508.7). The regulations implementing NEPA require that agencies analyze direct, indirect, and cumulative effects of a proposed action and any reasonable alternatives to that proposed action (40 CFR 1502.15, 1508.25, and 1508.27[b][7]). CEQA guidelines require that the discussion of cumulative impacts be "guided by the

standards of practicability and reasonableness" (PRC 21083[b]) and that "the discussion include a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts" (CCR 15130[b][1][A]). The CEQA guidelines require that cumulative effects be discussed when they are significant, and that the discussion of cumulative effects reflects the severity of the impacts and their likelihood of occurrence.

In the AFC, the scenario used to evaluate cumulative impacts considered any projects within a 10-mile radius of the project site boundary that were under development or that had filed a development permit with local governments or for BLM ROW. The list of these potential projects is included in Table 5.18-5 in the AFC. The potential impacts to each resource type such as air, water, soils, etc were evaluated using this cumulative impact scenario.

4. Q. Will you briefly discuss the conclusions in your analysis of cumulative impacts in the Application for Certification?

In considering the potential impacts of past, present, and proposed projects within 10 miles of the project site for the AFC, the contribution of the project to cumulative impacts was found to be negligible for all resources after mitigation. Some significant beneficial cumulative impacts were anticipated for the project associated with the number of full-time employees that would be required to operate the project. The potential impact of other reasonably foreseeable future projects was unknown as mitigation measures for these projects could not be determined at the time of the analysis.

5. Q. Why did the Applicant prepare a supplemental cumulative impact analysis?

The Applicant believed that the record would benefit from an expanded discussion of cumulative impacts to show how the project would interact with other activities existing and proposed in the general vicinity.

6. Q. Will you briefly discuss the approach used in your supplemental cumulative impact analysis?

The cumulative impact supplement to the AFC (Exhibit 11) is designed to provide additional data and analysis supporting the cumulative impact assessment in the AFC. This analysis is based on discussion and findings from the workshop on alternatives and cumulative impacts held on February 10, 2009 (Exhibit 8). The supplemental cumulative impact analysis differs from the cumulative analysis in the AFC in two ways: 1) it varies the geographic scope of past, present, and reasonably foreseeable future actions by resource depending on the geographic and temporal characteristics of potential impacts; 2) it considers a set of renewable energy power projects, associated transmission lines, and urban development that are likely to be constructed in these resource impact areas by 2020.
To fill in the potential impacts associated with anticipated future development that were unknown at the time of the AFC analysis, the supplemental cumulative analysis uses forecasts developed for the Renewable Energy Transmission Initiative (RETI) Phase 1B Study (January 2009) to estimate the potential

magnitude of renewable energy development in the region and associated resource impacts. In addition, the supplemental analysis uses a forecast of urban development by the California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring (March 2009) to estimate the future extent of urban development in Imperial County including residential, industrial, commercial, and institutional facilities as well as infrastructure and recreational facilities such as wastewater treatment structures and golf courses. This scenario for anticipated future development differs from the AFC by identifying a set of likely energy resources and associated urban development using forecasts that consider the capacity and demand for future energy and infrastructure resources based on Renewable Portfolio Standard requirements and population growth. This scenario distinguishes between "potential" development and "likely" future development allowing a more detailed analysis of cumulative impacts associated with future development.

7. Q. Will you briefly discuss the findings and conclusions in the supplemental cumulative impact analysis?

The supplemental cumulative impact analysis finds that it is unlikely that there will be any significant or considerable cumulative impacts for any of the resources after mitigation except for impacts to flat-tailed horned lizard (FTHL) populations related to mortality and fragmentation of the corridor between West Mesa and Yuha Management Areas ; and to visual resources related to long-term visibility of land scars and increased structural contrast, view blockage, glare and skylining.

8. Q. Will you briefly discuss the approach used in your analysis of Alternatives?

The alternatives analysis was prepared to meet the requirements of CEQA and NEPA. Both CEQA and NEPA require an applicant to analyze a "No Action" alternative. The results of this analysis are included in the AFC. CEQA requires consideration of a range of alternatives to the project or location of the project that would "feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant impacts of the projects, and evaluate the comparative merits of t he alternatives" (14 CCR 15126.6[a]). The focus of the alternatives analysis should be on those alternatives that "feasibly attain most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects". (14 CCR 15126.6[c]). The CEQA Guidelines (14 CCR 15126.6[c]) further provide that "among the factors that may be used to eliminate alternatives from detailed consideration" are failure to meet most of the basic project objectives; infeasibility; and inability to avoid significant environmental impacts.

NEPA regulations on analysis of alternatives (Council on Environmental Quality Title 40 CFR 1502.14) state that "reasonable alternatives include those that are practical and feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant". BLM guidelines for granting a ROW permit require location of the ROW along a route "that will cause least damage to the environment taking into consideration feasibility and other relevant factors."(FPLMA Section 1765).

Using these CEQA and NEPA guidelines with the TSNA siting criteria such as solarity, topography, wind speed, site control, and proximity to infrastructure, we evaluated a No Action Alternative, two Alternative Engineering Configurations at the preferred location (300 MW and 900 MW), and three off-site Alternatives for the AFC, and responses to Data Adequacy Request 1 for Alternatives, and CEC Data Requests 132-133. We also evaluated three additional off-site alternatives identified by the CEC in Data Request 134. In addition, alternative technologies including other solar thermal and photovoltaic technologies as well as conventional technologies were evaluated and compared for the AFC. Alternatives for linear routes, water supply, and hydrogen management were also analyzed for the AFC.

9. Q. Will you briefly discuss the conclusions in your analysis of Alternatives?
The findings and conclusions of the Alternatives analysis included in the AFC, and responses to Data Adequacy Request 1 for Alternatives, and CEC Data Requests 132-134 are summarized as follows:

No Action Alternative – The environmental impacts associated with proposed action would not occur under the No Action Alternative because the project would not be constructed and the CDCA would not be amended. The No Action Alternative does not meet any of the basic project objectives and is not considered to be a feasible alternative to the project.

Alternate Engineering Configuration – 300 MW – The environmental impacts of this analysis are described in the AFC, Data Adequacy Response 1 for Alternatives, and in CEC Data Responses 132 and 133. This alternative would have impacts similar to Phase 1 of the proposed project. Generally, impacts would be lower than the 750 MW project. However, because the infrastructure for the facility such as transmission line, common facilities, access road, and water line would be required at roughly the same scale as a 750 MW project, this alternative would have proportionately larger impacts and would not maximize the use of solar resources at this location.

Alternate Engineering Configuration – 900 MW – This was the original project proposed by the applicant. During the environmental review process conducted by the applicant, the 750 MW project became the preferred project to avoid significant environmental (specifically cultural resource) impacts. The analysis included in the AFC concludes that this Alternative would have stronger potential to result in environmental impacts, especially to cultural resources than the proposed project.

The three alternate sites to the project location (Site AS1, Site AS2, and Site AS3) were considered but not carried forward for further analysis because they were unlikely to avoid or substantially reduce environmental impacts compared to the project location. More detailed findings on potential impacts for each alternate site are included in the AFC.

The comparison of alternative technologies included in the AFC found that several other alternative renewable technologies would meet the project objectives. However, the applicant has a patented solar thermal technology that is proven, reliable, and effective and these alternative technologies were considered but rejected because they were unlikely to avoid or substantially reduced environmental impacts compared to the project technology.

No alternative linear routes were proposed in the AFC. An alternative route for the water supply line was considered in the AFC because it would use BLM ROW immediately south of the proposed route. At the time that the analysis for the AFC was completed, the water supply source was expected to be from the Imperial Irrigation District (IID). However, since then, the expected water supply source for the project will be recovered wastewater from the Seeley Wastewater Treatment Facility. The potential impacts from this alternative are evaluated in the AFC and Exhibit 14. Two hydrogen gas management alternatives were described for the AFC.

In Data Request 134, CEC requested information on biological and cultural resources for three alternate sites referred to as 1)South of Hwy SR 98; 2)Mesquite Lake; and 3)Border Lands. The CEC requested these data to evaluate whether the proposed project site avoided highly pristine or biologically sensitive areas as well as to identify locations that may impact fewer cultural resources than the project site. The results from the CNDDB search for biological resources and Class 1 cultural survey for recorded sites for these three alternative locations are included in the response to DR-134.

10. Q. Will you briefly discuss the approach and findings of the Corridor Conflict Analysis?

The purpose of this analysis was to identify any conflicts between the proposed project and the designated Utility Corridor "N" Section 368 155-238 (CDCA N, 368 115-268). The proposed project site occupies the northern half of the Utility Corridor N and the Section 368 corridor as designated by BLM CDCA. The analysis found that there are no competing uses currently proposed for the site and joint use of the CDCA N, 368 115-238 is adequate to accommodate the proposed project, ancillary facilities, and current authorized and pending projects. The proposed project would not prohibit future development within the corridor of additional linear facilities.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

3/15/10
Date

C Dunmire
Carolyn Dunmire

PREPARED DIRECT TESTIMONY

OF

JULIE MITCHELL

**Air Quality**

**Public Health and Safety**

1. Q. Please state your name and employer.

My name is Julie Mitchell and I am an air quality specialist with URS Corporation

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | | |
|---|---|---|
| Exhibit 1 | Section 5.2 | Air Quality |
| | Appendix V | Air Quality data |
| | Section 5.16 | Public Health |
| | Appendix DD | Public Health & Safety |
| Exhibit 2 | Air Quality data adequacy | |
| Exhibit 3 | Response 11 | |
| Exhibit 6 | CEC Response 1, 2 | |
| Exhibit 10 | Responses 53-54, 57, 59-60, 66, 69-70, 72-75, 79-90,92-103, 106-110 | |
| Exhibit 12 | Response 128-131, 133 | |
| Exhibit 14 | Section 2.2 | Air Quality |
| | Section 2.16 | Public Health |
| Exhibit 16 | Responses 151-155 | |

3. Q. Do you believe the Imperial Valley solar power plant as described in the AFC and responses to data requests will comply with all applicable LORS and not result in any significant adverse air quality impacts?

Yes. A supplement is being prepared that addresses the potential impacts from the need to bring water via truck from either the Seeley Waste Water Treatment Facility prior to the completion of the Project

water line and an alternative back up water supply. Once the analysis has been finalized, it will be submitted as testimony.

4. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

Mar 15/10
Date

Julie Mitchell

PREPARED DIRECT TESTIMONY
OF
MICHAEL HATCH
**Geology/Soils**

1. Q. Please state your name and employer.

My name is Mike Hatch and I am a Principal Geologist for URS Corporation

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | | |
|---|---|---|
| Exhibit 1 | Section 5.3 | Geology |
| | Appendix E | Geology/Geotech |
| | Section 5.4 | Soils |
| Exhibit 14 | Section 2.3 | Geology |
| | Section 2.4 | Soil Resources |

3. Q. What is the purpose of your testimony?

To provide analysis on the conformity of applicable LORS and the potential project impacts related to Soils and Geology.

4. Q. Do you believe the Imperial Valley solar power plant will comply with all applicable LORS and not result in any significant adverse impacts to geological and soil resources?

I believe the Imperial Valley Solar Project will comply with all applicable LORS and will not result in any significant adverse impacts to geological and soil resources.

5. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

3/15/10
Date

Mike Hatch

PREPARED DIRECT TESTIMONY
OF
MATTHEW MOORE
**Water Resources**

1. Q. Please state your name and employer.

My name is Matt Moore and I am hydrology engineer with URS Corporation and a registered Civil Engineer in the State of California, a certified professional in erosion and sediment control (CPESC) and certified professional in stormwater quality ( CPSWQ).

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | | |
|---|---|---|
| Exhibit 1 | Section 5.5 | Water Resources |
| | Appendix W | Soil Loss Calculations |
| Exhibit 3 | Response 2 | Drainage/Grading |
| Exhibit 6 | CEC Response 1-4 | |
| Exhibit 7 | Responses 29-32 | |
| Exhibit 9 | Responses 31-32 | |
| Exhibit 13 | Response 95 | |
| Exhibit 14 | Section 2.5 | Water Resources |
| | Appendix B | Water characteristics |
| Exhibit 15 | Responses 31-32 | |
| Exhibit 18 | Additional materials | |
| Exhibit 21 | Water data | |
| Exhibit 22 | Revised page 300-1 of SWPPP | |

3. Q. What is the purpose of your testimony?

I wish to update the Commission on the source of water for the Imperial Valley Solar project and discuss the potential environmental consequences of using that water source. I also want to describe

the necessity of having a temporary/back-up water supply for the project and offer a description of that back-up water supply. I will also address the potable water reporting requirements and suggest changes to the Conditions of Certification. Finally, I will address soils and water quality impacts due to erosion, sedimentation and stream morphological changes.

4. Q Please update the source of water supply for the project.

As described in Exhibit 14 the applicant will be using reclaimed water from the Seeley Waste Water Treatment Facility as the source of construction and operation water for the Imperial Valley solar power plant. The Seeley Waste Water treatment facility is currently undergoing environmental review for an upgrade to its water treatment system. If the project goes forward following environmental review, construction of the upgrade and the water pipeline will take approximately 6-9 months to complete. While we are confident that there are no environmental impacts that could derail the water supply, the timing of the improvements is a bit uncertain.

5. Q. Why do you conclude that the use of Seeley Waste Water Treatment facility water will not result in adverse water supply or water quality impacts?

As described in Exhibits 14 and 21, the Seeley Wastewater Treatment Facility (SWWTF) will be upgraded to treat wastewater to Title 22 standards. The current treatment capacity is 250,000 gallons per day (per Regional Water Quality Control Board Order No. R7-2007-0036) and up to 200,000 gallons per day of treated effluent (Title 22 water) will be made available to SES if requested. Any water not needed by SES will be used by Seeley County Water District (SCWD) or discharged into the New River.

The New River carries urban runoff, untreated and partially treated municipal wastes, untreated and partially treated industrial wastes, and agricultural runoff from the Mexicali Valley, Mexico across the International Border into the United States. In addition, the River carries urban runoff, agricultural runoff, treated industrial wastes, and treated, disinfected and non-disinfected domestic wastes from the Imperial Valley. Water quality in the New River is documented to be poor due to urban, industrial, and agricultural return flows.

The flow in the New River at the International Border is about 150 to 200 cubic feet per second (cfs). The New River flow at the Salton Sea is about 600 cfs .The current contribution of the SWWTF to the New River is approximately 0.09-percent (112,000 gpd or 0.17 cfs divided by 200 cfs). It is anticipated that use of the effluent water currently discharged to the New River from SWWTF will not result in significant impacts to the New River water quality (including salinity). The diversion of up to 200,000 gpd of treated effluent from SWWTP to the Solar Two Project will result in only a 0.15% decrease in the freshwater flows to the New River at the discharge point and a decrease of approximately 0.05% at the Salton Sea. Based on this small percentage of reduction in flows, it is not anticipated that the reduction in flows, coupled with the improvement in the water quality effluent discharged to the New River will result in a significant reduction in water quality, including salinity, at or below the discharge point of SWWTF to the New River or to the Salton Sea.

6. Q. Do you believe the Imperial Valley solar power plant as described in the AFC and the water supplement will comply with all applicable LORS and not result in any significant adverse impacts to water resources?

Yes.

7. Q Why is a temporary/back-up water supply important for this project?

The staff has recommended a Condition of Certification (CofC Soil & Water-9) which requires that the project shall not operate without a long term supply of recycled water. Although we are suggesting changes to this condition, the Applicant recognizes that it is important to secure this source of project water. At the same time, it is imperative that the project be able to start construction immediately and begin operation when ready to connect to the grid. In my experience, there are many unforeseen events that can delay waste water treatment plant upgrade projects. I agree that prudence demands that the project secure an alternate source of supply so that the project can be constructed and operated pending the completion of the Seeley Waste Water Treatment Plant water source.

8. Q. Please describe the temporary/back-up water source.

A back-up water source is currently being negotiated with a licensed water purveyor in the area for construction and potable water use. The water purveyor can provide up to a maximum of 40 acre-feet/year. The Applicant is currently negotiating an agreement with the water purveyor. Construction water demand will be approximately 45,000 gallons per day with a peak of 90,000 gallons per day. This equates to approximately 6 to 7 trucks (7,000 gallon trucks) per day on average during construction and up to 13 water trucks per day during construction at peak demand. Water demand during operation is anticipated to be lower, requiring less than 6-7 trucks per day.

9. Q Please give your conclusions regarding soil erosion.

The SA/DEIS, at page ES-29 concluded that there will be significant soils impacts due to surface water quality from sedimentation. Additionally, the SA/DEIS indicates that due to the uncertainty related to "erosion, sedimentation and stream morphological changes" impacts related to these items are considered significant after implementation of the Conditions of Certification. Several reports and studies have been prepared by the Applicant to assess the potential impacts to soil and water resources including:

- AFC, Appendix N - Initial Drainage Report (Stantec)
- AFC, Appendix W - Soil Loss Equations (Wind and Water erosion caclulations)
- Draft Drainage, Erosion, and Sediment Control Plan (DESCP) and draft construction Stormwater Pollution Prevention Plan (SWPPP), July 2009, revision December 2009
- Hydrologic Assessment Report (RMT), September 2009
- Sediment Study (Chang), January 2010

With the implementation of a construction Stormwater Pollution Prevention Plan (SWPPP), a Drainage, Erosion, and Sediment Control Plan, along with the other Soil and Water Resources Conditions

of Certification provided in the Staff Assessment/Draft Environmental Impact Statement (SA/DEIS), it is my opinion that the project will comply with all applicable Laws, Ordinances, and Regulations (LORS) to mitigate for potentially significant impacts regarding soil erosion/sedimentation and water quality.

10. Q What changes are you suggesting to the soil & water conditions of certification?

The following changes are requested to be made to the soil and water conditions of certification:

a. Soil & Water 1 - Applicant requests to revise submission of the final DESCP from 90 days to 60 days prior to start of construction.

b. Soil & Water 2 - Applicant requests that the verification of installed and operational meters be modified from 60 days prior to use of any water source to the time when the water system would be used.

c. Soil & Water 4 - Applicant request to allow use of an alternate water supply for emergency backup use during construction and operation if the Seeley Wastewater Treatment Facility is not operable at the start of construction or operation.

d. Soil & Water 7 - Applicant recommends storm water monitoring after 5 year storm events (instead of every storm event).

e. Soil & Water 7 - Applicant requests to revise submission of the Stormwater Damage Monitoring and Response Plan from 90 days to 60 days prior to start of construction.

11. Q Would the revised conditions be sufficient mitigation?

Yes.

12. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

3/15/2010
Date

Matthew C. Moore
Matthew Moore

PREPARED DIRECT TESTIMONY

OF

PATRICK MOCK, PhD

**Biological Resources**

1. Q. Please state your name and employer.

My name is Patrick Mock and I am a Principal Scientist for URS Corporation.

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | | |
|---|---|---|
| Exhibit 1 | Section 5.6 | Biological Resources |
| | Appendix Y | Biology Tech Report |
| Exhibit 6 | CEC Responses 1-4 | |
| | BLM Responses 57-75 | |
| Exhibit 7 | Responses 1-5, 7, 12-15 | |
| Exhibit 9 | Responses 1-3, 5-7, 14-15, Streambed Alteration Agreement, | |
| Exhibit 12 | Responses 132, 134, | |
| Exhibit 13 | Responses 19-86, 88-94, | |
| Exhibit 14 | Section 2.6 | Biological Resources |
| | Appendix C | Biological Report |
| Exhibit 17 | CURE data request responses | |
| Exhibit 21 | Supplement | |
| | CDFG/RWQCB | |

3. Q. The SA/DEIS recommended that Fall 2010 surveys be conducted (SA/DEIS page C.2.1-3). Are these surveys necessary in your opinion?

No. I do not believe Fall surveys are necessary for the following reasons:

To my knowledge, all species on the current focal species list have typical spring blooming periods. Although a few species may also bloom in the Fall, if substantial monsoonal rains occur, it is highly unlikely that significant new information would be revealed by conducting Fall surveys. Fall rains were 70% of normal in 2007 and 1% of normal in 2008. Note that four additional species were added to the CNDDB database for the project vicinity after the 2008 surveys were completed.

Additionally, the surveys already completed on the project site provide significant information regarding the plants located there. The botanical surveys were consistent with agency guidelines in force at the time of the survey effort. Survey protocols were provided to both CEC and BLM staff prior to the 2007 and 2008 surveys. CEC approved the timing of the survey effort and neither agency requested Fall surveys in either 2007 or 2008. Nor did the agencies request additional survey effort be conducted in 2009. To our knowledge, neither BLM nor the CEC have previously requested fall botanical surveys.

All personnel utilized were qualified to participate in the surveys, as defined by agency survey guidelines and were supervised by several experienced botanists. The 2008 rare plant survey is estimated at 960 field hours. There was an estimated 75% coverage rate for the site and a 100% coverage rate for habitats that have a greater chance of special status plant species occurrences. The Surveys were conducted in the appropriate time of the year.

4. Q. What were the results of these surveys?

The surveys were negative for all state and federally listed plants species, BLM sensitive species, and CNPS list 1 and 2 species. None of the sixteen special status species with a moderate or better potential to occur are federally listed – five are BLM sensitive species and one is state listed. Most of the special status plant species (SA/DEIS Table 3) have a moderate potential to occur on the project site, although none were detected during surveys. The low potential for occurrence for other species, with the exception of chaparral sand verbena, is mainly due to the project site being below the typical elevation range for these species. Four species were added to the CNDDB vicinity list after the 2008 surveys: chaparral sand verbena, pink fairly duster, Thurber's pilostyles and dwarf germander. Only Utah vine milkweed and Thurber's pilostyles have been recorded on the site and are CNPS List 4 "watch list" species that typically are not considered sensitive as defined by CEQA guidelines.

5. Q. Please discuss the chaparral sand verbena (SA/DEIS page C.2-20).

The chaparral sand verbena (*Abronia villosa* var. *aurita*) is an annual herb found in Los Angeles, Orange and San Diego counties and the Sonoran Desert in San Bernardino, Riverside and Imperial counties. It occurs in chaparral, coastal scrub and desert dune habitats from 260 to 5,250 feet in elevation and blooms from January to September. The potential for the chaparral sand verbena to occur in the project area is considered low due to the unsuitable habitat conditions associated with elevation and it was not observed on site during the 2007 and 2008 surveys. Note that Spring 2010 botanical surveys will be conducted.

6. Q. Please discuss the Thurber's pilostyles (SA/DEIS page C.2-21).

Suitable habitat is present for three species of Psorothamnus spp., the host plants for Thurber's pilostyles, which is a parasitic plant. Three species of Psorothamnus spp., including Emory indigobush, have been observed on the project site in the past and Thurber's pilostyles was noted on site in early 2010. CNPS List 4 watch list species, such as Thurber's pilostyles, do not usually qualify as CEQA sensitive species.

7. Q. Please discuss the Utah vine milkweed (SA/DEIS page C.2-21).

Utah vine milkweed is a perennial herb that is native to southwestern North America. There are no recorded observations in the CNDDB (CDFG 2010), but it is represented in conserved habitats in the project vicinity (e.g., Anza Borrego SP). This species is common in Utah and Arizona, but is considered uncommon in eastern California deserts. It is found in dry, sandy or gravelly areas in the Mojave Desert at elevations of below 1000 meters. The blooming period for this species occurs from April until June. It is a CNPS List 4 "watch list" species. Utah vine milkweed is distributed throughout the project site.

8. Q. Please discuss the presence of the Peninsular Bighorn Sheep (SA/DEIS page C.2-24).

While no Peninsular Bighorn Sheep or sign were observed during any of our prior survey work, a group of five ewes and/or juveniles were sighted in an ephemeral wash on the project site in March 2009. Bighorn sheep specialists from USFWS, CDFG and BLM are in agreement that the sighting of these sheep was an unusual and unexpected occurrence. I agree with their conclusion. The site provides only marginal forage habitat for these animals. The provisions of BIO-8 will adequately protect the Peninsular Bighorn Sheep and that impacts will be reduced to a level less than significant. During project construction, the sheep are not likely to approach the area due to the daily presence of humans.

9. Q. Please discuss the presence and mitigation for the Flat-Tailed Horned Lizard (SA/DEIS page C.2-22)

Habitat surveys for the Flat-Tailed Horned Lizard were conducted in both 2007 and 2008. For the 2008 survey BLM requested that the transect survey protocol be applied to off-site linear features, and four parallel transects on each side of the linear were performed. Two live and two deceased flat-tailed horned lizards were detected along the eastern site boundary in the project area in the 2007 survey. Although only two FTHLs were encountered during field surveys on the project site, BLM staff has estimated that approximately 2,100 FTHLs may inhabit the project site based on extrapolation of density estimates from optimal habitat in the West Mesa and Yuha Desert Management Areas. While we believe that this extrapolation is likely to have resulted in an artificially high estimate given the site conditions, we do not object to the conservative estimate suggested by BLM. It should be noted that movement between the FTHL Yuha Desert Management Area south of the Interstate-8 highway and the project site is unlikely as there is only a single culvert that offers potential access, the extended distance through the culvert between these areas, and the lack of access to all of the remaining culverts.

Construction noise will not be an issue for the FTHL as all lizards detected during construction monitoring will be translocated off site and they are not considered to be noise sensitive. Mitigation measures BIO 9, BIO 10 and BIO 11 will ensure that impacts to the FTHL are mitigated to a less than significant level.

10. Q. Please discuss the presence of Burrowing Owls (SA/DEIS pages C.2-37,38).

Burrowing Owls are known to occupy habitats adjacent to the project site and linear components. Pre-construction surveys for owl are required and any owls are detected onsite would be passively excluded from the site prior to construction. Appropriate construction BMPs shall be implemented as indicated in BIO-8 and BIO-16. These conditions of certification will mitigate owl impacts to less than significant.

Q. Please discuss the Desert Kit Fox (SA/DEIS

The desert subspecies of kit fox is not listed as a protected species. Staff's reference to Title 14, Section 460 of the California code is misplaced as this code section deals with trapping of fur-bearing species. State definition of "take" is not applicable to this subspecies of kit fox. Desert kit fox is not a species that requires special attention under CEQA. Nevertheless, desert kit fox have been found on site and the site offers suitable habitat for this species. Construction of the project could kill or injure kit fox. Staff Condition of Certification BIO-15 reduces the potential for mortality of this species during construction.

11. Q. Please comment on the American Badger (SA/DEIS page C.2-39)

Title 14 sections 670.2 and 670.5 are not applicable to the American Badger. Note that "species of special concern" is an administrative designation and carries no formal legal status (See CDFG website). There is no need for active relocation as passive removal will be sufficient to protect the badger. Badgers are not likely to remain on the site due to the increased human activity during construction. Additionally, biological monitoring will allow for detection and passive exclusion of badgers during construction as necessary.

12. Q. Please update the status of biological impacts anticipated with construction of the reclaimed water line and the upgrade of the existing waste water treatment facility.

Based on existing, available information, it is assumed that surface water is supplied to the wetland by agricultural return flows and underdrain flow from a separate drinking water treatment plant, and that this water will supply adequate water to maintain the wetland after water supply from the SWWRF is discontinued (Dudek 2009). A hydrological study is necessary to quantify how withholding water from the emergent wetland will affect the wetland habitat and any listed species that

may occupy the affected habitat. The additional hydrologic studies are being conducted as part of the studies associated with the SWWTF upgrades.

Focused surveys for sensitive bird species Yuma clapper rail, black rail, least Bell's vireo, and southwestern willow flycatcher, and surveys for vermillion flycatcher and burrowing owl will be completed during the appropriate spring/summer survey periods to determine whether the emergent wetland is occupied by these sensitive species as part of the studies associated with the SWWRF upgrades. The results of these evaluations are not currently available. Existing, available information indicates that no sensitive species would be affected (Dudek 2009).

13. Q. Please describe anticipated ground disturbance (SA/DEIS page C.2-36).

Approximately one-third of the site will not be directly disturbed and another third will have shrub vegetation initially mowed. There will be some opportunity for annual plants and certain terrestrial wildlife species to remain extant after construction is completed.

14. Q. The SA/DEIS notes that the applicant has not proposed avoidance measures to reduce impacts to rare plants (SA/DEIS page C.2-36). Please comment.

No specific avoidance measures have been proposed because no special status plant considered sensitive under CEQA guidelines were observed during the 2007 or 2008 spring surveys. If the results of the 2010 spring surveys indicate the presence of special status plant species (listed species or CNPS List 1B or 2), appropriate mitigation should then be determined.

15. Q. In your opinion, do the conditions of certification contained in the SA/DEIS adequately protect plant and animal species of concern?

Yes. I believe implementation of the conditions of certification will reduce potential impacts to levels less than significance, and ensure compliance with LORS.

Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

March 15, 2010

Date

Patrick Mock, PhD

PREPARED DIRECT TESTIMONY
OF
REBECCA APPLE
**Cultural Resources**

1. Q. Please state your name and employer.

My name is Rebecca Apple and I am a senior archaeologist with AECOM, an environmental and engineering services company. AECOM is under contract to Tessera and URS to provide cultural resources analysis.

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | | |
|---|---|---|
| Exhibit 1 | Section 5.7 | Cultural Resources |
| | Appendix Z | Cultural Tech Report |
| Exhibit 6 | Cultural Resources Responses 1-22 | |
| | BLM Responses 75-147 | |
| Exhibit 9 | Responses 111-127 | |
| Exhibit 13 | Response 104-126 | |
| Exhibit 14 | Section 2.7 | Cultural Resources |
| | Appendix D | Cultural Report |
| Exhibit 19 | Data Request Responses 142-150 | |

3. Q. What is the purpose of your testimony?

I am testifying to the cultural and cumulative analysis that has been performed on the project site. The analysis of the Project indicates that there is the potential for significant impacts to eligible cultural resources. Some of these impacts can be addressed through mitigation measures and may be brought to a level less than significant under CEQA and NEPA. A Programmatic Agreement (PA) is being prepared to address these impacts and to resolve adverse effects under Section 106 of the National Historic Preservation Act. Mitigation under the PA may not reduce the impacts to less than significant. Therefore, the Project may have a significant impact on eligible resources (cultural resources eligible for the California Register of Historical Resources and the National Register of Historic Places).

Based on the cumulative impact analysis it has been determined that construction and operation of the Project will result in a cumulative significant adverse impacts upon eligible resources.

4. Q. Please discuss the expected impacts and mitigation measures.

Cultural resource investigations and Native American consultation are on-going. As indicated in CUL-1, the PA will provide mitigation measures to address impacts to significant cultural resources. Although the PA is not complete, anticipated mitigation measures include avoidance and data recovery. The PA will include all feasible mitigation measures. Even with feasible mitigation, some potential impacts (e.g., to sites with qualities that cannot be mitigated through data retrieval) may not be reduced below a level of significance.

5. Q Will the project impact the De Anza Trail (SA/DEIS page C.2 [sic 3]-132)

Within the project limits the Juan Bautista de Anza National Historic Trail is defined by an approximately 1.5-mile-wide corridor. To date no evidence of physical remains of the trail has been identified in the project area. Although the trail has not been identified, the project would impact the trail corridor. Mitigating this impact to less than significant may be difficult and therefore the Project could have a significant impact.

6. Q. Do you believe that Condition of Certification (CoC)-1 is sufficient to meet CEQA standards?

I have provided revised wording in my review comments of the SA/DEIS to add increased specificity to Condition of Certification CUL-1 as follows:

> BLM will consult with SHPO, ACHP, and invited and concurring parties to execute a PA under 36 CFR 800.14(b)(3) prior to the ROD. The PA will specify that the Applicant will prepare a Historic Properties Treatment Plan (HPTP) subject to BLM and CEC review and approval. The HPTP will require compliance with the treatment standards set forth in this condition. In the event that the PA covers substantially the same requirements as set forth in this condition, with approval of the Compliance Project Manager (CMP), the applicant may satisfy such requirements in lieu of this condition. The HPTP will:
>
> (1) Identify all eligible resources in the Project's Area of Potential Effects (APE)
> (2) Identify the resources that the Project will avoid
> (3) Specify how the Applicant will avoid, minimize, or mitigate impacts that the Project may have on eligible resources
>  a. Avoidance measures may include, but not be limited to, temporary or permanent fencing, flagging, staking, or monitoring.
>  b. Measures to minimize or mitigate impacts may include, but not be limited to, placement of construction within portions of eligible properties that do not contribute to the qualities that make the resources eligible, data recovery, or off-site mitigations such as public interpretation or interpretive materials or displays
> (4) Include provisions for additional cultural resources inventory and evaluation procedures

(5) Include an unanticipated discoveries plan
(6) Provide for the disposition of recovered materials and records

The HPTP will be implemented prior to issuance of a Notice to Proceed for those portions of the Project addressed in the HPTP.

In the event that Native American human remains or funerary objects found in association with such human remains are encountered on private or state land, the Applicant will treat the remains and objects in accordance with California Public Resources Code 5097.98

Verification: The HPTP will be submitted to the CPM for review and approval. In the event that the PA covers substantially the same requirements as set forth in this condition, with approval of the CPM, the Applicant may satisfy such requirements in lieu of this condition.

With these changes, I believe that CUL-I is sufficient to meet CEQA standards as it ensures that all feasible mitigation will be implemented.

7. Q. The SA/DEIS states on page C.2(sic 3)-133 that "Stakeholders in the PA process will discuss a requirement that the known cremation zone be resurveyed to more firmly establish a zone boundary, to reach stakeholder consensus on the width of a visual buffer for the zone, and to set aside the area that encompasses the zone and the buffer as a no-build zone, perhaps as a part of a formal BLM special designation area that would continue to the north and south of the project area along the lateral contact between the Fan Aprons and Beach Zone landforms. The actual resolution of effects to resources in this category will be determined in consultation with all the consulting parties and incorporated into the Programmatic Agreement." Do you feel this is appropriate or needed?

Stakeholder consensus on this issue may not be reached and therefore it is not appropriate to include it as a requirement. As stated in the last sentence of the quotation, the details of the mitigation requirements will be determined through consultation and the PA process.

8. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

March 15, 2010
Date

Rebecca Apple
Rebecca Apple

PREPARED DIRECT TESTIMONY

OF

LANNY FISK

**Paleontology**

1. Q. Please state your name and employer.

My name is Lanny Fisk and I am the Principal Paleontologist with PaleoResource Consultants and a consultant to URS Corporation.

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | |
|---|---|
| Exhibit 1 | Section 5.8 Paleontological Resources<br>Appendix AA Paleontological Resources Technical Report |
| Exhibit 6 | CEC Response 1 |
| Exhibit 14 | Section 2.8 |

3. Q. Do you believe the Imperial Valley solar power plant as described in the AFC and responses to data requests will comply with all applicable LORS and not result in any significant adverse impacts to paleontological resources?

4. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

11 March 2010
Date

Lanny A. Fisk, PhD
Lanny Fisk

PREPARED DIRECT TESTIMONY

OF

SETH HOPKINS

**Land Use/Socioeconomics/Visual Resources**

1. Q. Please state your name and employer.

My name is Seth Hopkins and I am an Environmental Planner with URS Corporation.

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | | |
|---|---|---|
| Exhibit 1 | Section 5.9 | Land Use |
| | Section 5.10 | Socioeconomics |
| | Section 5.13 | Visual Resources |
| Exhibit 3 | Response 8 | Socioeconomics |
| Exhibit 4 | School impact fees | Socioeconomics |
| Exhibit 5 | Property taxes | Socioeconomics |
| Exhibit 6 | CEC Response 1-5 | Socioeconomics |
| | CEC Response 1-2 | Visual |
| | BLM Response 34-38 | Land Use |
| | BLM Response 39-47 | Visual |
| Exhibit 7 | Response 16-23 | Land Use |
| | Response 28 | Socioeconomics |
| | Response 42- 45 | Visual |
| Exhibit 9 | Response 44 | Visual |
| Exhibit 12 | Responses 135-137 | Land Use |
| Exhibit 13 | Responses 127, 129, 130 | Visual |
| Exhibit 14 | Section 2.9 | Land Use |
| | Section 2.10 | Socioeconomics |
| | Section 2.13 | Visual |

3. Q. What is the purpose of your testimony?

I have a few suggested changes to the visual conditions of certification and some comments on land use.

4. Q. Please address the visual impacts of the Imperial Valley Solar project.

The impacts to area visual resources arising from project development are a direct result of the size of the project features, the contrast of the industrial project with the surrounding landscape, and the scale of the overall development. The applicant agrees that impacts to visual resources are significant impacts and cannot be avoided due to the nature of the project. These effects cannot be mitigated by minimal alterations in the placement of SunCatchers. Based, in part, on the testimony of Steven Ross of the National Park Service and John Johnson of the BLM El Centro adding visually dominant features such as a twenty foot tall fence would not accomplish the goal of reducing impacts related to visual dominance. Additionally, I understand that Power Engineers is performing a glint & glare study utilizing the recently-completed Maricopa project. While we do not yet have the results of that study, it may be that neither VIS-4 or VIS-6 would accomplish the goal of reducing impacts related to visual dominance and both of these conditions should be deleted. We anticipate that an override will be necessary for potential visual impacts caused by the Imperial Valley Solar project.

5. Q Do you have any comment on VIS-3?

Yes. The transmission line segment no longer parallels Highway I-8. That alignment was changed in October 28, 2009 on the Project Overview Acreage Map to the alignment identified in the SA/DEIS. As a result, this condition is no longer necessary and should be deleted.

6. Q Please comment on the Land Use section of the SA/DEIS.

The applicant does not have any problem with the one Land Use condition of certification that was inserted into the section. However, we do not agree with the comment made at page C.8-1 of the SA/DEIS that states the project will "disrupt current recreational activities". The proposed project will not directly affect any established federal, state, or local recreation areas. The Project site is not currently designated as a recreational use area in any resource management plan, there are no marked campgrounds, and OHV use is limited to designated routes. The established recreational areas near the project (YUHA ACEC and the Plaster City Open Area) would not be significantly affected by the project

7. Q Will the Imperial Valley Solar project conform to all applicable laws, ordinances, rules and regulations?

The project complies with all LORS related to Socioeconomics. The Project will comply with the conditions of certification for the resource areas of Land Use, and Visual Resources. The project will

most likely have some unmitigable significant impacts to visual resources and require a statement of overriding concern.

8. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

3/15/10
Date

Seth Hopkins

PREPARED DIRECT TESTIMONY

OF

JASON PFAFF

**Visual Resources – Glint & Glare**

1. Q. Please state your name and employer.

My name is Jason Pfaff and I am the Visualization Department Manager with Power Engineers. Power Engineers is under contract to the Applicant, providing engineering support services.

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | |
|---|---|
| Exhibit 13 | Response 128 |
| Exhibit 25 | Glint & Glare Study (to be provided) |

3. Q. Are you currently conducting a Glint and Glare study for Tessera Solar?

Yes. Tessera Solar has requested Power Engineers to perform a study on the glint and glare that can be expected from SunCatcher projects. Fortunately we are able to utilize the recently-completed Maricopa project for this purpose.

4. Q. Will you briefly discuss the approach used in your analysis?

The visualization technology products POWER will develop are summarized below. Products will be used to help qualify the previously completed visual analysis, determine the potential effectiveness of a 20 foot tall slatted chain-link fence as a mitigation measure, and aid the public and regulatory agencies in understanding potential glint/glare impacts associated with the project.

The visualization technology products will consist of photo-simulations. The photo-simulations will be used to demonstrate the visual impacts of glint/glare produced by the Suncatchers to key observation points (KOP's ) during different lighting conditions throughout the year. Glint/glare will be demonstrated through computer modeled specular reflections shown on 3D parabolic surface models for each proposed Suncatcher. The photo-simulations will be completed for a full-day cycle during the summer and winter solstices and the spring and fall equinoxes. The proposed project will be simulated with and without a 20 foot high, "slatted" chain-link fence, which will be analyzed for potential glint/glare reduction. The Photosimulations will be delivered as both print and animation.

5. Q. What products will you be delivering?

We will be producing products in four separate areas using the development phases outlined below:

**Step 1 – 3D Development:** The following 3D models will be developed and included in the photo-simulations

- *Suncatcher 3D Model* - A 3D Model of the Suncatcher was provided by Tessera Solar. The 3D Model will be converted into a 3D MAX (by Autodesk) format for the Glint/Glare analysis. Simplification of the model will be necessary due to the volume of Suncatchers analyzed (approximately 30,000). Areas of simplification will be focused on the supporting structures. The mirrors, which generally are the primary source of potential glint/glare, will not be simplified. Placement of the Suncatchers will be referenced from a site plan developed by RMT.

- *Terrain Model* – POWER will use existing information provided by Tessera to create a 3D terrain of the project study area. Data Sets to be used include:
  - USGS 30meter DEM
  - LIDAR
- *20' Slatted Chain-link fence.* – Location of fence and material specification will be provided by Tessera Solar.

**Step 2 – KOP – Photo Collection:** Two visualization specialists will collect photography from six established KOPs that were previously analyzed for visual impacts. During the field visit the following information will be documented for each photograph:

- *GPS location of the KOP*
- *Lens length*
- *Date and time of day for each photo*
- *Atmospheric conditions*

**Step 3 – Photo-simulation development**

- *Material Application* – Suncatcher 3D Models will receive materials as per Tessera specifications. Terrain models will have an aerial photography overlay.
- *Sun System* – A sun system will be developed to match the date, time of day and atmospheric conditions for each KOP photograph. The sun system will include a full day of sunlight at the summer and winter solstices and the spring and fall equinoxes.
- *Photomatching and virtual camera placement*– KOP photography will be brought into the 3D program and matched to a virtual camera. The GPS location, target angle and supplemental control points will be used to align the photography with the virtual camera. This step will result in a 3D scene properly aligned with the photography.
- *Photography/3D Composite* – 3D information will be "rendered" and combined with photographic information to develop the photo-simulations. A total of 8 time of day composites will be developed for each location, depicting the time of day conditions.

- *Verification* – POWER will verify results through the following methods:
- *Tessera Solar Review* – Tessera Solar will review all 3Dsuncatcher information for accuracy
- *Field Verification* – POWER will visit the Maricopa project (currently in operation) and take photos from similar view angles and times of day.

**Step 4 – Product Delivery**

- *Print* - Each KOP photo-simulation will include 8 time of day examples with and without the 20' slatted chain-link fence. This will be completed for the summer and winter solstices and the spring and fall equinoxes.
- *Animation* – Each KOP will have a corresponding animation, showing the movement of the sun throughout a day during the summer and winter solstice and the spring and fall equinoxes.

6. Q. Do you have any conclusions from this study?

No, because the study is on-going. POWER will conduct a glint/glare visual analysis study based on review of previous visual analysis of the project completed by others and development and review of visualization technology products. Based on the visualization technology products, the validity of the impact conclusions made in the CEC AFC PSA/DEIS will be determined. The effectiveness of the proposed mitigation measures and conditions of certification/approval will be determined and alternative recommendations will be made where warranted.

Conclusions regarding potential glint/glare impacts to aesthetics and transportation safety and potential mitigation measures that may reduce identified glint/glare impacts will be developed. The results of the glint/glare visual impact study and the previous findings from the SA/DEIS will be documented in a technical summary memorandum.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

3/15/10
Date

Jason Pfaff

PREPARED DIRECT TESTIMONY

OF

NOEL CASIL

**Traffic and Transportation**

1. Q. Please state your name and employer.

My name is Noel Casil and I am a Senior Transportation Engineer with URS Corporation.

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | | |
|---|---|---|
| Exhibit 1 | Section 5.11 | Traffic/Transportation |
| | Appendix BB | Traffic counts |
| Exhibit 3 | Responses 1, 3, 4, 5, 6, 9 | |
| Exhibit 7 | Responses 30-41 | |
| Exhibit 13 | Responses 17-18, 40 | |
| Exhibit 14 | Section 2.11 | |

3. Q. Do you believe the Imperial Valley solar power plant as described in the AFC and responses to data requests will comply with all applicable LORS and not result in any significant adverse traffic or transportation impacts?

Yes.

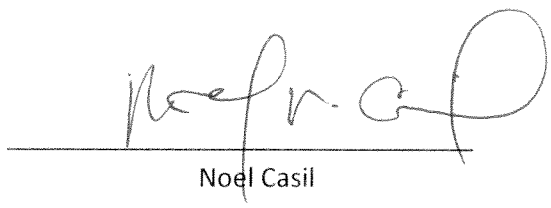
4. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above and this testimony is true and correct to the best of my knowledge.

3/15/2010

Date



Noel Casil

PREPARED DIRECT TESTIMONY
OF
MARK STORM
**Noise**

1. Q. Please state your name and employer.

My name is Mark Storm and I am an INCE Board-Certified Noise Control Engineer with URS Corporation.

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | | |
|---|---|---|
| Exhibit 1 | Section 5.12 | Noise |
| | Appendix CC | Noise measurements |
| Exhibit 12 | Responses 138-139 | |
| Exhibit 14 | Section 2.12 | Noise |

3. Q. What is the purpose of your testimony?

I am proposing two changes to the conditions of certification, one to the method of sound measurement and the other to the work hours.

4. Q. What changes are you suggesting for sound measurement?

The SA/DEIS proposed a 25-hour community noise study (Condition NOISE-4) which includes a monitoring location at 1510 Painted Gorge Road. The daytime ambient pre-project noise level is 49 dBA Leq (See Noise table 4) at this location. As this measured level is 4 dBa higher than the threshold for noise produced by project operations, it may be impossible to quantitatively distinguish project operation noise from other sound generators that comprise the ambient noise environment. For this reason, we suggest the following:

> Add the following to the end of the condition: "The measurement of power plant noise for the purposes of demonstrating compliance with this condition may alternatively be made at a location, acceptable to the CPM, closer to the plant (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the potentially affected residence. This extrapolation will include the affects of sound propogation with distance, acoustical absorption due to air (e.g., temperature and relative

humidity) and ground conditions, and the presence of terrain features per applicable methods as detailed in the International Organization of Standardization (ISO) 9613-2:1996(E) "Acoustics – Attenuation of sound during propagation outdoors – Part 2: general method of calculation."

5. Q. What changes do you believe are necessary to work hours?

I suggest deleting NOISE-6, or revising it in a manner that helps the project to meet its optimum construction schedule.

6. Q. Does the County have any noise restrictions that would relate to this project?

Normal allowable construction period for Imperial Valley is Monday through Friday, 7 to 7, and Saturday, 8 to 5. However, according to personal communication with Jim Minnick of Imeprial County, a variance may be obtained for construction beyond these times, depending on the construction needs. Typically, this would be handled through a condition of the CUP that would allow for variance beyond the normal construction period with prior approval of the Imperial County planning department.

7. Q. Do you believe the Imperial Valley solar power plant as described in the AFC and responses to data requests will comply with all applicable LORS and not result in any significant adverse noise impacts?

Yes

8. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

03/15/10
Date


Mark Storm

PREPARED DIRECT TESTIMONY

OF

TRICIA WINTERBAUER

**Waste Management/Hazardous Waste/Worker Safety**

1. Q. Please state your name and employer.

My name is Tricia Winterbauer and I am an Senior Environmental Specialist with URS Corporation.

2. Q. Are you sponsoring any exhibits in this proceeding?

Yes. I am sponsoring the following:

| | | |
|---|---|---|
| Exhibit 1 | Section 5.14 | Waste Management |
| | Section 5.15 | Hazardous Materials |
| | Appendix L | Haz Mat Handling |
| | Section 5.17 | Worker Safety |
| Exhibit 3 | Response 10 | |
| Exhibit 7 | Responses 46-52 | |
| Exhibit 13 | Responses 131-143 | |
| Exhibit 14 | Section 2.14 | Waste Management |
| | Section 2.15 | Hazardous Waste |
| | Section 2.17 | Worker Safety |

3. Q. Do you believe the Imperial Valley solar power plant as described in the AFC and responses to data requests will comply with all applicable LORS and not result in any significant adverse impacts regarding waste management, hazardous waste, or worker safety?

Yes.

3. Q. Does that complete your direct testimony?

Yes.

I swear under penalty of perjury that the above testimony is true and correct to the best of my knowledge.

March 14, 2010

Date

Tricia Winterbauer

Tricia Winterbauer

**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA**
**1516 NINTH STREET, SACRAMENTO, CA 95814**
**1-800-822-6228 – WWW.ENERGY.CA.GOV**

***APPLICATION FOR CERTIFICATION FOR THE***
**IMPERIAL VALLEY SOLAR PROJECT**
(formerly known as SES Solar Two Project)
***IMPERIAL VALLEY SOLAR, LLC***

**Docket No. 08-AFC-5**
**PROOF OF SERVICE**
**(Revised 3/9/10)**

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# DECLARATION OF SERVICE

I, Corinne Lytle, declare that on March 15, 2010, I served and filed copies of the attached, Applicant's Opening Testimony, dated, March 15, 2010.
The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
[http://www.energy.ca.gov/sitingcases/solartwo/index.html].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

## FOR SERVICE TO ALL OTHER PARTIES:

__X__ sent electronically to all email addresses on the Proof of Service list;

_____ by personal delivery;

__X__ by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses NOT marked "email preferred."

*AND*

## FOR FILING WITH THE ENERGY COMMISSION:

__X__ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (*preferred method*);

*OR*

_____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-5
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

*Original Signed By:* _____
CORINNE LYTLE

*indicates change