

DRAFT DOCUMENT

RESPONSE AND COMMENTS TO SOITEC SOLAR DEVELOPMENT DRAFT EIR REPORT

The Soitec PEIR construction water estimates are defined in the PEIR Chapter One, page 41, table 1-6. These estimates use a construction work breakdown activity based estimating method. The PEIR Construction Water estimates for all four sub-project locations total: 42,851,000 gallons.

We (the report team) were astonished by the very significant construction water activities construction water estimates missing in Table-6. Some of our identified missing work activities are, however, reflected in the "Construction Schedule" shown in PEIR Chapter One, tables - 8 and 9, page 43. Our identified missing construction water work activities are shown below. The missing construction water estimate activities that are also shown in the Construction Schedule Table are identified below with the PEIR elapsed time estimate in days for the Tierra Del Sol and the Rugged Projects These are shown after the missing work item (Tierra Del Sol first separated by a dash and then Rugged). The **totally missing** construction water work activity estimates are:

- Road building , (shown in construction schedule, but mixed with other activities)
- Underground Electric, 70-100 days
- Site Substation Construction, 25-35 days
- Operations and Maintenance Buildings, 60-80 days
- Punch list and cleanup, 20 – 60 days
- Fencing, drainage and culvert construction, missing from both water and schedule tables
- Electrical Equipment foundations other than Trackers and Substation (such as transformers, invertors, electrical pole foundations), missing from both water and schedule tables.
- 10 acre cement and rock crushing plant on Rugged site operating 6 days a week over a 2 year period, missing from both water and schedule tables. **This is a huge amount of water, not estimated.**
- 14 acre cement plant and rock crusher, about a mile from the 10 acre plant, shared with Tule Wind for gen tie line. Missing from both water and schedule table. **Huge amount of water, not estimated.**
- Seven mile gen tie line between Boulevard SS and Tierra Del Sol site, missing from both water and schedule tables. **A major water use**
- Gen Tie Line between Rugged and Boulevard Substations, missing from both water and schedule tables.

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- Increased Construction for Lan West and Lan East scaled to Rugged and TDS. The missing construction items above for other two projects must be projected to Lan East and West, missing from both water and schedule tables.

We have difficulty in assigning gallons of water estimates to the “Missing construction water work activities” shown above. Given the magnitude impact of these missing activities **we also, therefore suspect major under estimating for the water gallonage estimates for the included work activities shown in the PEIR and as referenced above.**

We therefore, to measure the water usage, have developed a reasonable total project construction water estimating method. This method uses SDG&E’s published 10/11/13 water usage projections to complete the Eco/Boulevard substation project (Tule Wind) with Gen Tie Line. This SDG&E document with “projected water to complete” data is included as Exhibit A. This method and our new revised project wide construction water estimate is shown below in our section C.

C. Alternate total construction water usage method and poor estimating record on water usage

The two substations (Eco, Boulevard) and the gen-tie between them are an integral part of the Soitec electrical delivery system as pointed out in the Soitec PEIR. This Eco/Boulevard substation and gen-tie project are midway towards completion and the heavy early water using activities of the project are drawing to a close. **We therefore can use the actual water history for the Eco/Boulevard project in projecting a total Soitec project water construction estimate.** A comprehensive Work (activity) Breakdown is always best for estimating, but as shown above in our Water Section B we don’t have a good or reasonably accurate work (activity) breakdown estimate.

The official SDG&E work change form for the Eco/Boulevard is attached as Exhibit A. It shows an initial water estimate from the Eco/Boulevard project EIR of **30 million gallons of water**. After construction was well along and actual water use was compiled, The 10/11/2013 SDG&E change order records a new projection of **90-95 million gallons of water to complete**. It is instructive, to determine the reasons for the over three times increase in construction water. This will be done later. We, however, will use the Eco/Boulevard Project actual construction water usage in the Eco/Boulevard and project these to a NEW Soitec Construction water estimate. This new estimate is based on the following elements:

- Every one of the five construction activities reflected in the Soitec PEIR table 1-6 plus 10 of the twelve “missing” activities reported in our Section B are also reflected in the mostly complete Eco/Buolevard construction effort, including gen-tie lines. The two “missing” activities not seen in the Eco/Boulevard project are the two cement batch plants planned on site for The Soitec Project whereas the Eco/Boulevard Project purchased their cement.

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- The Eco/Boulevard Project roughly totals 100 acres. The projected construction water usage based on actuals to date is 100 million gallons (100,000,000).
- **Therefore, the total projected construction water use for the 1500 acre Soitec Project (without two cement batch plants) = 1,500,000,000 (One billion five hundred million) gallons.**
- The water usage of two cement and rock crushing plants covering 25 acres on the Tule/Walker Creek watershed aquifers both operating an estimated 15 hours a day for two years must be in the **multiple hundreds of millions of gallons of water**. This estimate must also be added to the over a billion gallons total above.

The question of why the SDGE Eco/Boulevard project water use **jumped by over three hundred percent** after actual experience was discovered is instructive for the Soitec Project construction water estimates Both Eco/Tule and Soitec projects used the same consultants/ engineers (Dudek and Aecom) and the County Engineering/hydrology teams . The SDG&E change document says that errors in judging the depth and the dryness of the alluvial ground of the project were at fault. This does not speak well to the carefulness or the experience level of the consultant/county construction water estimating team on the Soitec Project PEIR. Another reason to not believe the construction water PEIR.

The huge increase in construction water usage estimates and the surrounding facts bring the PEIR estimates further in to question and cause us to insist that the Soitec PEIR team move the Water and Hydrology section of the PEIR from “Not Significant to the Environment” to the “Significant to the Environment” category.

D. Estimated operational water usage and analysis

The Soitec PEIR in table 1-7 projects a total of 5,698,267 gallons of operational water a year. We believe that the operational estimates are also grossly underestimated and therefore will cause further depletion and environmental damage to our aquifers and therefore to our local environment and to our water supplies.

We question the PEIR Table 1-7 estimates for nine tracker washings a year. We provide the following factors to show that the true CPV washing interval estimates should be closer to 52 times a year because of the following reasons:

- The absence of any other operational Soitec CVP farms mean that all estimates are also “experimental” and judgemental by the Soitec Marketing team.
- The 2014 Soitec website under Soitec CPV Operations and Maintenance says “ The modules must be cleaned periodically” also it continues “Module cleaning frequency depends very much on the amount of dust and humidity”

Table 1-4
Construction Equipment Associated with Solar Project Development

Equipment	
Mini-mast fixtures	Welders
Module suction lifters (electric)	
Personnel transport vehicles	
Plate compactors	
Pressure washers	
Pumps	

Table 1-5
Full-Time Employees By Project

Project	Approximate Number of Full-Time Employees
Tierra del Sol	7
Rugged	20
LanEast	3
LanWest	3
Total (Proposed Project)	33

Table 1-6
Construction Water Demand By Project

Activity	Total Estimated Water Demand (gallons)	Total Estimated Water Demand (acre-feet) ¹
<i>Tierra del Sol</i>		
Site Preparation (clearing, grubbing, grinding, and dust control) ²	10,165,680	31.2
Mass Grading	464,896	1.4
Tracker Mast Installation Dust Abatement ³	810,000	2.5
Other Dust Control	4,482,000	13.8
Tracker Installation (concrete foundation)	254,520	0.8
Total Tierra del Sol Construction Water	16,133,000	50
<i>Rugged</i>		
Site Preparation (clearing, grubbing, grinding, and dust control) ²	11,133,840	34.2
Mass Grading	1,569,024	4.8
Tracker Mast Installation Dust Abatement ³	976,000	3.0
Other Dust Control	5,400,000	16.6

Table 1-6
Construction Water Demand By Project

Activity	Total Estimated Water Demand (gallons)	Total Estimated Water Demand (acre-feet) ¹
Tracker Installation (concrete foundation)	363,600	1.1
Total Rugged Construction Water	19,361,000	59
<i>LanEast and LanWest⁷</i>		
Total LanEast and LanWest Construction Water⁴	7,357,000	23

Notes:

- ¹ One (1) acre-foot equals 325,851 gallons.
- ² Assumes 20% of the site consists of low-lying grass and land already cleared for Sunrise Powerlink project.
- ³ To be used when winds are higher than 15 miles per hour (mph). Based on data recorded at Campo Station in 2012, there were 22 days where the average wind speed was higher than 15 mph. The number of days where average wind speeds would be higher than 15 mph was estimated based on the frequency of high wind days observed in 2012 and the total number of construction days for each solar farm. This equates to approximately 20 wind days for Tierra del Sol and 24 wind days for Rugged over the proposed construction schedules.
- ⁴ Because the LanEast and LanWest solar farms are at a programmatic level, detailed information on schedule, site preparation, grading and dust control are unavailable. Water use was estimated by scaling to the Rugged site by size, due to similar soils and project type.

Table 1-7
Total Estimated Water Use for Operation of Solar Projects

Activity	Rate of Water Usage	Variable	Total Estimated Water Demand (gallons/year)	Total Estimated Water Demand (acre-feet/year) ³
<i>Tierra del Sol</i>				
Application of soil binder (if required)	3,300 gallons/acre/year ¹	183 acres ²	603,900	1.85
Tracker Washing	24 gallons/tracker/wash	2,538 trackers 9 washes/year	548,208	1.68
Potable Water Needs	10,472 gallons/month ⁴	12 months	125,664	0.38
Landscape Vegetative Screen			508,328	1.56
Total Water Use / Year	—	—	1,786,100	5.5
<i>Rugged</i>				
Application of soil binder (if required)	3,300 gallons/acre/year	254 acres ²	838,200	2.57
Tracker Washing	24 gallons/tracker/wash	3,588 trackers 9 washes/year	775,008	2.38
Potable Water Needs	10,472 gallons/month ⁴	12 months	125,664	0.38
Landscape Vegetative Screen			508,328	1.56
Contingency			587,704	1.8
Total Water Use / Year	—	—	2,834,904	8.7
<i>LanEast and LanWest⁵</i>				
Total Water Use / Year	—	—	1,077,263	3.3

Notes:

- ¹ Based on application of nontoxic permeable soil binding agent 3,300 gallons per acre annually.
- ² Based on constructed degraded granite surfaces within the project site consisting of O&M building areas, substation, and fire and service roads.
- ³ One acre-foot = 325,851 gallons
- ⁴ Average monthly water usage is 10,472 gallons, according to the City of San Diego (2012).
- ⁵ Because the LanEast and LanWest solar farms are at a programmatic level, detailed information on constructed degraded granite surfaces is unavailable. Water use was estimated by scaling to the Rugged site by size, due to similar soils and project type/configuration.

Table 1-8
Tierra del Sol Construction Schedule

Project Activity	Working Days ¹	Start	End
Mobilization	5	9/24/2014	10/3/2014
Clear and Grub/Grading/Roads	60	10/4/2014	12/12/2014
Gen-Tie	60	7/10/2014	9/17/2014
Substation	25	10/10/2014	11/7/2014
Underground Electrical	100	11/1/2014	2/25/2015
O&M Building	80	4/22/2015	7/23/2015
Total Months	10		
30 MW			
Tracker Installation	120	11/8/2014	3/27/15
Phase 1 (10 MW)	40	11/8/2014	12/24/2014
Phase 2 (10 MW)	40	12/25/2014	2/9/2015
Phase 3 (10 MW)	40	2/10/2015	3/27/2015
Punch List and Cleanup	20	3/28/2015	4/20/2015
Total Months (30 MW)	7		
15 MW			
Tracker Installation	40	7/27/2015	9/20/2015
Total Months (15 MW)	2		
15 MW			
Tracker Installation	40	10/12/2015	11/26/2015
Total Months (15 MW)	2		
Total Months (60 MW + Gen-Tie)	16		

Note: Working days during construction period = 6 days/week.

Table 1-9
Rugged Construction Schedule

Project Activity	Working Days ¹	Start	End
80 MW			
Mobilization	7	7/1/2014	7/8/2014
Clear & Grub/Grading/Roads	70	7/10/2014	9/29/2014
Underground Electric	100	10/2/2014	1/26/2015
Substation	35	7/17/2014	8/26/2014
O&M Building	60	11/28/2014	2/5/2015
Tracker Installation	200	8/27/2014	4/16/2015
Phase 1 (24 MW)	60	8/27/2014	11/4/2014
Phase 2 (16 MW)	40	11/5/2014	12/20/2014
Phase 3 (24 MW)	60	12/22/2014	2/28/2015
Phase 4 (16 MW)	40	3/2/2015	4/16/2015
Punch List and Cleanup	60	4/22/2015	6/30/2015
Total Months (80 MW)		12	

Note: Working days during construction period = 6 days per week



**EAST COUNTY SUBSTATION PROJECT
MINOR PROJECT REFINEMENT
REQUEST FORM**

Date Submitted:	09-20-13 (Originally Submitted) 10-01-13 (Resubmitted)	Request #:	8
Date Approval Required:	10-01-13	Landowner:	Not Applicable (N/A)
APN:	N/A		
Refinement from (check all that apply):			
<input type="checkbox"/> Mitigation Measure	<input type="checkbox"/> APM	<input checked="" type="checkbox"/> Project Description	<input type="checkbox"/> Drawing <input type="checkbox"/> Other
Identify source (mitigation measure, project description, etc.):			
<p>Pages B-3 and B-37 of Section B Project Description of the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) and the Construction Water Supply Plan, which was approved by the California Public Utilities Commission on January 31, 2013, for the East County (ECO) Substation Project (Project) describe the water usage required during construction of the Project. The information in this Minor Project Refinement (MPR) request describes a change in the amount of construction water consumption that was previously estimated in the Final EIR/EIS and the Construction Water Supply Plan. A description of and justification for the requested refinement are provided on pages 1 and 2 of this MPR request.</p>			
Attachments (check all that apply):			
<input checked="" type="checkbox"/> Refinement Screening Form (provided as Attachment A: Minor Project Refinement Request Screening Form)			
Under Order 3 of the Decision Granting SDG&E Permit to Construct the East County Substation Project (D.12-04-022), the CPUC may approve minor project refinements under certain circumstances. In accordance with Order 3 of the Decision, respond "yes" or "no" to the following questions (a) through (d).			
<p>(a) Is the proposed refinement outside the geographic boundary of the EIR/EIS study area? No. The proposed refinement requests a change to the Project description than what was presented in the Final EIR/EIS, which provided an estimated volume of water to be used during construction, and will not result in any change in geographic location.</p>			
<p>(b) Will the proposed refinement result in a new significant impact or a substantial increase in the severity of a previously identified significant impact based on the criteria used in the EIR/EIS? No. No change in impacts to any resource area evaluated in the Final EIR/EIS is anticipated to result from the requested refinement. The following resource areas apply to the Project's construction water usage and are discussed in detail in Attachment A: Minor Project Refinement Request Screening Form: air quality, climate change, water resources, public services and utilities, and transportation and traffic.</p>			
<p>(c) Does the proposed refinement conflict with any mitigation measure or applicable law or policy? No.</p>			
<p>(d) Does the proposed refinement trigger an additional permit requirement? No. Construction water usage was contemplated in Section B. Project Description of the Final EIR/EIS. No additional permits will be required.</p>			
Describe refinement being requested (attach drawings and photos as needed):			
<p>SDG&E is requesting an increase in the total water usage that will be needed throughout construction of the Project. This MPR request proposes that the total construction water usage be increased to an estimated 90 million gallons. While the Final EIR/EIS included an estimate of 30 million gallons for total construction water use, SDG&E increased this estimate to 50 million gallons prior to the start of construction as part of its January 2013 Construction</p>			

Water Supply Plan. This increase was found to be consistent with the language in the Final EIR/EIS in light of the selection of the ECO Partial Underground 138 kV Transmission Route Alternative (UG Alternative).

Provide need for refinement (attach drawings and photos as needed):

This MPR request has been prepared as a result of the necessity to increase the Project's overall construction water usage in order to continue to meet soil compaction standards and dust control requirements associated with the Project's Mitigation Monitoring, Compliance, and Reporting Program. The conditions at the ECO Substation site, which is currently under construction, have differed from what was originally anticipated, resulting in a higher Project demand for construction water. Based on the geotechnical report, the contractor estimated that remedial removal and recompaction of alluvial soil at the ECO Substation site was expected to reach a maximum depth of 10 feet. However, during mass-grading of the ECO Substation site, remedial removal and recompaction of alluvium in excess of 20 feet in depth across most of the site was necessary to reach the formational, hard pan soils under the 230/138 kilovolt (kV) and 500 kV pad areas. The deeper than expected alluvial removal also triggered the need to construct a buttress slope outside of the grading limits on the south side of 500 kV pad to accommodate proper compaction of the soils within the grading limits.

In addition, the moisture content of the in-situ soils were lower than anticipated, resulting in higher water usage for recompaction and dust control. The anticipated amount of water to provide the optimum moisture content for compaction prior to the start of construction was estimated at 30 gallons per cubic yard, based on a typical project at this elevation with similar soils and climate, but the actual water required to achieve the optimum moisture content for compaction has been approximately 45 gallons per cubic yard. In total, SDG&E's construction contractor now estimates handling approximately 50 percent more material than was originally planned in order to complete grading at the ECO Substation site. These differing site conditions will result in the use of approximately 50 to 55 million gallons of water during mass grading of the ECO Substation site alone.

Accordingly, an increase in the water needed to complete construction of the ECO Substation along with the other Project components is necessary. SDG&E's construction contractor estimates that approximately 40 to 45 million additional gallons of water will be needed to complete construction of the ECO Substation following mass grading and for construction activities at the Boulevard Substation, the underground and overhead portions of the transmission line, the SWPL Loop-in, and the other associated Project components, such as the construction yards. At the end of August 2013, the Project had used approximately 42 million gallons of water. Therefore, approximately 40 million gallons of water, in addition to the 50 million gallons already approved through the January 2013 Construction Water Supply Plan, will be needed to complete construction of the Project.

Date refinement is expected to be implemented:

10-02-13

SDG&E Approvals

Title	Name	Approval Initials	Date	Conditions (see attached)	
Environmental Project Manager	Don Houston	DH	09/19/13	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Environmental Compliance Lead	Kirstie Reynolds	KR	09/19/13	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Substation Project Manager	Matt Huber	MH	09/19/13	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Environmental Field Supervisor	Jeffry Coward	JC	09/19/13	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Landowner Approval (if required)

Landowner Name	Signature or Other Consent
No landowner approvals are required as a result of the requested refinement.	