**Hingtgen, Robert J**

**From:** Donna Tisdale <tisdale.donna@gmail.com>
**Sent:** Monday, January 26, 2015 12:03 PM
**To:** Bennett, Jim; Hingtgen, Robert J; Gungle, Ashley
**Subject:** Re: FW: Borrego - Soitec Desert Green
**Attachments:** Desert Green Contruction water.pdf; Pages from PDS2012-3301-09-012-01-PDS-PLN-Project Description.pdf

Jim

I was just about to send you an e-mail about seeing your messages to me posted on the Soitec FEIR AR page that I had not received.

Now I have them and will be responding to the new information.

Soitec should also be asked to provide the amount of water used for panel washing based on their existing CPV projects in Newberry Springs and Borrego Springs.

Newberry Springs has been in operation for several years and their Desert Green project went into commercial operation last month.

Soitec knows the frequency of panel washing required to retain production rates, the amount of water being used for washing, and they should be required to produce it.

Thank you,

Donna

On Mon, Jan 26, 2015 at 11:51 AM, Bennett, Jim <Jim.Bennett@sdcounty.ca.gov> wrote:

Hi Donna,

I tried to send this to you on Friday but it bounced back due to size of file. I shrank the project description down to the applicable pages. Please confirm receipt.

Thank you,

Jim Bennett, P.G. #7707; C.Hg.#854

Groundwater Geologist

County of San Diego

Planning & Development Services

5510 Overland Avenue, Third Floor, San Diego, CA 92123

Phone: 858-694-3820 Fax: 858-694-3373

PDS Website http://www.sdcounty.ca.gov/pds/index.html

**From:** Bennett, Jim
**Sent:** Friday, January 23, 2015 12:34 PM
**To:** Donna Tisdale (tisdale.donna@gmail.com)
**Cc:** Hingtgen, Robert J; Gungle, Ashley
**Subject:** Borrego - Soitec Desert Green

Hi Donna,

I received the attached record from Jerry Rolwing with the Borrego Water District on the amount of construction water that was used for the Desert Green Solar project. The total was 16.15 acre-feet for construction. Jerry Rolwing also indicated that there was an additional 1,500 gallons of water (0.005 acre-feet) that was not accounted for in addition to the numbers they reported on the sheets. The second attachment is the project description which indicated the amount of water they were going to use for construction was 14.86 acre-feet.

Thanks,

Jim Bennett, P.G. #7707, C.Hg.#854

Groundwater Geologist

County of San Diego

Planning & Development Services

FUNCTION: INQUIRE ON ACCOUNT# 04-5015-0 1 OLD ACCOUNT# 0.00

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | NAME BLATTNER ENERGY | | | 16 | BALANCE | 0.00 | 33 TEN DEP 0.00 |
| 3 | NAME JACOB MCCLURE | | | 17 | CREDIT | 0.00 | 34 RCPT # 0 |
| 4 | ADDR 392 COUNTY ROAD 50 | | | 18 | CURRENT | 0.00 | 35 RCVD DT |
| 5 | CT,STAVON, MN | | | 19 | PAST1 | 0.00 | 36 RFND DT |
| 6 | ZIP 56310 DP 92 CR | | | 20 | PAST2 | 0.00 | 37 DLQ DEP 0.00 |
| 7 | TELE#320.248.4712 | | | 21 | BEG DT | 041514 | 38 RCPT # 0 |
| 8 | SERV: | | | 22 | END DT | | 39 RCVD DT |
| | ADDR: HOUSE# 0 & | | | 23 | .. | | 40 RFND DT |
| | DIR STREET | | | 24 | FREQ | M | 41 SHUTOFF |
| | EXTRA BULK CN | | | 25 | # MTRS | 0 | 42 .. |
| | CITY CODE ZIP | | | 26 | FIRE SV | | |
| 9 | NAME ID (OWn/TEn/AGt) 2nd ID | | | 27 | DELQ CD | | DATE OF LAST: |
| 10 | 2NAM | | | 28 | #DELNOT | 1 | ACH |
| 11 | 2NAM | | | 29 | #SOFNOT | 0 | PAYMENT 121714 |
| 12 | 2ADR | | | 30 | AGE | A | BILL 112114 |
| 13 | 2CTST | | | 31 | STATUS | OP | MAINT 100214 |
| 14 | 2ZIP DP CR | | | 32 | AUTOADJ | | DELQ NOT 102314 |
| 15 | 2TELE | | | | | | .. |
| | | | | | | | AGEING 122914 |

USAGE HISTORY DISPLAY

ACCOUNT#: 04-5015-0 SERVICE ADDRESS:

| FISC YEAR | 201415 | 201314 | 0 | 0 | 0 |
|---|---|---|---|---|---|
| JULY | 0 | 0 | 0 | 0 | 0 |
| AUGUST | 411 | 0 | 0 | 0 | 0 |
| SEPTEMBER | 470 | 0 | 0 | 0 | 0 |
| OCTOBER | 930 | 0 | 0 | 0 | 0 |
| NOVEMBER | 668 | 0 | 0 | 0 | 0 |
| DECEMBER | 0 | 0 | 0 | 0 | 0 |
| JANUARY | 0 | 0 | 0 | 0 | 0 |
| FEBRUARY | 0 | 0 | 0 | 0 | 0 |
| MARCH | 0 | 0 | 0 | 0 | 0 |
| APRIL | 0 | 898 | 0 | 0 | 0 |
| MAY | 0 | 1935 | 0 | 0 | 0 |
| JUNE | 0 | 1721 | 0 | 0 | 0 |
| TOTAL HCF | 2479 | 4554 | 0 | 0 | 0 |
| ACRE FEET | 5.69 | 10.46 | 0.00 | 0.00 | 0.00 |

pursuant to a demolition permit to the satisfaction of the Director, the security may be released to the operator of the Solar Energy System.

Financial responsibility for decommissioning would be an obligation of the owner of the Project. There are several options to consider, but the preferred method would be for a specific amount of funding (the "Decommissioning Fund") to be set aside by the end of Year 25 in an amount equal to the estimated cost of decommissioning (the "Decommissioning Cost"), less the salvage value for equipment to be decommissioned and the sales proceeds from sale of the property once decommissioning is complete. Ideally, the cost of decommissioning should equal the amount of money gained from the scrap value and land value of the Project. If additional funds are needed, they would be provided by the owner of the Project and deposited into a dedicated account. Funds would be provided in an amount that would enable the sum of the Decommissioning Fund, salvage value, and land sales proceeds to cover the cost of decommissioning.

## 1.8 Water Usage

The following is an estimate of the amount of water that would be needed for the Project during construction and site preparation, ongoing panel washing, and decommissioning and dismantling activities. The Project would not use groundwater. Water for construction and maintenance would be obtained from the Borrego Water District (BWD).

### 1.8.1 Construction and Application of Soil Binding Agents

During construction, the Project would use water to suppress fugitive dust during grubbing, clearing, grading, trenching, and soil compaction, and to apply a non-toxic soil binding agent for soil stabilization during construction.

For site preparation and grading, it is assumed that approximately 0.16 acre-feet (52,400 gallons) of water per acre would be used during the first two months, or 40 work days, of site construction. For fugitive dust control, it is estimated that approximately 0.01 acre-feet (3,300 gallons) of water per acre would be used for the application of the soil-binding agent during construction. Water would not be used for concrete hydration because the concrete is expected to be delivered to the site already hydrated. A 30 percent contingency has been added to the calculation. In total, the Project would require approximately 14.86 acre-feet (4,843,505 gallons) of water during construction. Less water-intensive methods of dust suppression are under review, including use of soil stabilizers, tightly phasing construction activities, staging grading and other dust-creating activities, and/or compressing the entire construction schedule to reduce the

time period over which dust-suppression measures would be required. Table 1-2 summarizes construction water usage.

**Table 1-2**
**Total Estimated Water for Temporary Project Construction**

| Activity | Time Frame (work days)[1] | Water Use (gallons) | Acres | Total Estimated Water Demand (gallons) | Total Estimated Water Demand (acre-feet)[4] |
|---|---|---|---|---|---|
| Site Preparation[2] (clearing, grading) | 40 | 52,400 | 66.89 | 3,505,036 | 10.76 |
| Application of Water/Soil Binding Agent[3] | 156 | 3,300 | 66.89 | 220,737 | 0.63 |
| Concrete Hydration | -- | NA | -- | NA | NA |
| 30% Contingency | -- | -- | -- | 1,117,732 | 3.43 |
| **Total Construction Water** | **--** | **--** | **--** | **4,843,505** | **14.86** |

1 Assumes 20 work days per month.

2 Assumes 52,400 gallons of water per acre (gal/ac) would be used for site preparation (4,000 gal/ac for brushing and clearing and 48,400 gal/ac for grading). Total acreage includes all options for access, water line, and Gen-tie line routes.

3 Assumes 3,300 gal/acre would be used for application of soil binding agent. Total acreage includes all options for access, water line, and Gen-tie line routes.

4 One acre-foot = 325,851 gallons

## 1.8.2 Ongoing Panel Washing and Soil Stabilization

Water would be used for operational purposes for cleaning the solar modules and for reapplication of the non-toxic permeable soils stabilizers as follows:

*Solar Module Washing:* It is anticipated that in-place panel washing would occur every six weeks or nine times/year by mobile crews who would also be available for dispatch whenever onsite repairs or other maintenance are required. Panel washing would be undertaken using a tanker truck and smaller "satellite" panel washing trucks. Each panel washing truck would carry water treatment equipment and truck-mounted panel washing booms. Water would be treated to ensure a hardness level of seven or less and to remove impurities. Wastewater not used for panel washing would be captured and disposed of offsite. As a conservative (i.e., high) estimate, approximately 24 gallons of water would be required to wash each set of tracker modules, thus requiring approximately 7,392 gallons or 0.02 acre-feet of water per wash. The trackers would be washed approximately nine times per year. The amount of water needed to wash the trackers would total an estimated 66,528 gallons or 0.20 acre-feet/year.

*Soil Binding Agent Application:* It is anticipated that the soil stabilizer chosen for the Project would need to be reapplied bi-annually. The Project would utilize a soil binding stabilization agent that is non-toxic and permeable. The purpose of the soil stabilizer is to prevent erosion and to reduce fugitive dust. To reapply the soil stabilizer agent would require approximately 3,300 gallons of water per acre. The Project area that would require soil stabilization is approximately 66.89 acres. Therefore, the total amount of water needed to reapply the soil stabilization agent is 220,737 gallons/year. Table 1-3 summarizes the operational water usage for the Project.

**Table 1-3**
**Total Estimated Water Use for Project Operation/Year**

| **Dust Suppression *(if required)*** | |
|---|---|
| Number of gallons/acre[1] | 3,300 |
| Acres[2] | 66.89 |
| Water use/year (gallons) | 220,737 |
| Water use/year (acre-feet[3]) | 0.68 |
| **Panel Washing** | |
| Washes/year | 9 |
| Number of trackers | 308 |
| Gallons/tracker/wash (maximum) | 24 |
| Total water use/year (gallons) | 66,528 |
| Total water use/year (acre-feet) | 0.2 |
| **Total Potable Water Usage** | |
| **Water use (gallons/year)** | **287,265** |
| **30% Contingency** | **86,180** |
| **Total water use (gallons/year) w/ 30% Contingency** | **373,445** |
| **Total water use (acre-feet) w/30% Contingency** | **1.15** |

1 Based on suppression activities of 3,300 gallons every year.
2 Based on constructed acres within the Project site and for Project access. Open space areas are not included in estimates for dust suppression.
3 1 acre-foot = 325,851 gallons

## 1.8.3 Decommissioning and Dismantling

It is anticipated that the amount of water (4,843,505 gallons or 14.86 acre-feet) used for construction above in Section 1.8.1 would be the equivalent amount of water needed to decommission and dismantle the Project.

## 1.8.4 Annual Project Water Usage (30 year period)

The Project's total water usage including construction activities (4,843,505 gallons or 14.86 acre-feet); ongoing maintenance and Project operation for 30 years (373,445

gallons or 1.15 acre-feet times 30 years = 11,203,350 gallons or 34.38 acre-feet); and, 4,843,505 gallons, or 14.86 acre-feet, for decommissioning and dismantling totals 20,890,360 gallons or 64.11 acre-feet. This results in an annual water use of approximately 2.14 acre-feet per year over a 30-year period (64.11 acre-feet / 30 years = 2.14 acre feet/year).

## 1.9 Matrix of Project Approvals/Permits

This section includes a table (Table 1-4) of all approvals/permits that are expected to be obtained during the decision-making process. Table 1-4 is organized by agency/jurisdiction. In the case where multiple approvals are necessary from a single agency, the approvals are listed in the order they are believed to occur.

**Table 1-4**
**Approvals/Permits Expected to be Obtained**

| Government Agency | Action/Permit |
|---|---|
| County of San Diego | • MUP – Compliance with Sections 1350, 2705, and 2926 of the County Zoning Ordinance<br>• Compliance Finding - Resource Protection Ordinance<br>• Plot Plans – Compliance with the County's Form #90<br>• Preliminary Grading Plan - Compliance with County grading limitations<br>• Utilizing the previously-adopted Mitigated Negative Declaration (MND), 15162 findings<br>• Grading Permit - Department of Public Works<br>• Improvement Plans and Permits - Department of Public Works |
| State of California Water Resources Control Board | N/A |