

INFORMATION BRIEF

BOARD OF DIRECTORS



Agenda Number 5.

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MEETING DATE: Thursday, February 21, 2019

AGENDA ITEM: Discussion on Potential Solar Phase II Power Purchasing Agreement (*Power: Generation Resources*^) - Young

LINKAGE TO STRATEGIC PLAN, POLICY, STATUTE OR GUIDING PRINCIPLE:

- Effectively communicate financial issues to the Board, customers and stakeholders
- Maintain existing generation resources until appropriate alternatives are available
- Prepare for eventual replacement of NGS through implementation of the Post-NGS Power Strategy

PREVIOUS BOARD ACTION/ACTIVITY:

April 5, 2018 Board reviewed options for a post-NGS portfolio developed from CAP Power RFP and directed staff to proceed with negotiations on a power purchase agreement (PPA) for unfirmed solar power

June 3, 2018 Board approved a 20-year PPA for unfirmed solar project with AZ Solar 1, LLC (a subsidiary of Origis Energy USA, Inc) for 30 megawatts (MW) of solar generation capacity and associated energy.

ISSUE SUMMARY/DESCRIPTION:

Background

At the June 3, 2018 Board meeting, the Board approved a 20-year PPA with AZ Solar 1, LLC (a subsidiary of Origis Energy USA, Inc) for 30 MW of solar generation capacity and associated energy. The PPA was executed on June 8, 2018 and will commence upon completion of the solar project in 2020. The agreement provides for an estimated average of 85,300 megawatt-hours (MWh) annually delivered to a new point of interconnection on the CAP 115-kV Harcuvar to Little Harquahala Transmission Line. The price of energy is a fixed at \$24.99 per MWh for the full term of the agreement.

The site purchased by Origis Energy for the 30 MW solar project was sized for a larger project and they have approached us about another PPA for a second project for 20 MW of solar generation with energy storage to complete development of the site with an in-service date in late 2023. Energy storage would be required as CAWCD does not have sufficient Hoover capacity and energy to firm up solar generation beyond the existing 30 MW PPA.

Solar Phase II Proposal

The proposal is for a 20-year PPA for 20 MW of solar generation capacity with 60 MWh of battery storage. This storage provides the ability to flatten the solar output across the on-peak hours, eliminating the need for a firming resource. The energy price would be fixed in the low \$30's per MWh and is below comparable forward firm energy prices and far below any solar project to date with a comparable amount of energy storage. There are several elements of the proposed project that provide unique advantages and benefits to CAWCD over any other potential solar projects:

- All of the developmental, environmental, and interconnection costs for the full site have already been priced into the initial 30 MW PPA, but would also allow for the second phase additional project. These savings would enable Origis Energy to produce solar energy (exclusive of the battery storage) at a cost several dollars per MWh less than the first solar PPA (which was already about 20% lower than any other solar only proposal received under our RFP earlier this year).
- The site is the most advantageous location proposed under our previous RFP process. It was the only site proposed that would not require any additional transmission service or transmission loss costs because of the direct connection to the CAP transmission line that enables the solar generation to be utilized by the CAP pump loads in the vicinity.
- The first phase solar project is in progress with the environmental assessment to be completed in the first half of 2019 and construction will begin in the second half of 2019. This schedule would allow a portion of the second phase solar to be initiated in 2019, which would qualify the second project for the full investment tax credits (ITC) that decline after 2019. The PPA would need to be executed by the summer of 2019. No other new project could be developed in this timeframe, due the time required for the RFP, contracting, permitting, and environmental processes, and would therefore lead to higher costs absent the full ITC.

Summary

The solar phase II project would result in a very large savings to CAWCD, relative to other potential solar projects with storage, and at a 20-year fixed price that is less than expected prices for firm energy purchases that it would replace. The preliminary pricing for this Origis Energy second solar project is at least 40% lower than the pricing from the other solar with energy storage proposals we received in our RFP in 2018. There would also be additional transmission costs savings associated with the second solar project, as discussed above. Staff believes this project will lead to lower energy costs for CAP water rates than we would be able to obtain from any other resource.

ATTACHMENTS:

1. Solar Phase II Typical Profile

Solar Phase II Typical Clear Day Profile (MW)

Hr Ending	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	5	11	12	8	5	0	0	0	0
8	0	0	11	20	20	20	18	17	15	11	4	0
9	10	15	18	20	20	20	18	17	16	15	12	0
10	11	15	18	20	20	20	18	17	16	15	11	10
11	11	15	18	20	20	20	18	17	16	15	11	10
12	11	15	18	20	20	20	18	17	16	15	11	10
13	11	15	18	20	20	20	18	17	16	15	11	10
14	11	15	18	20	20	20	18	17	16	15	11	10
15	11	15	18	20	20	20	18	17	16	15	11	10
16	11	15	18	20	20	20	18	17	16	15	11	10
17	11	15	18	20	20	20	18	17	16	15	11	10
18	11	12	16	20	20	20	18	17	16	14	11	10
19	11	12	16	17	20	20	18	17	15	14	10	10
20	11	12	16	17	17	19	18	17	15	14	10	10
21	10	12	16	17	17	17	17	17	15	14	10	10
22	10	11	14	15	17	17	17	15	14	10	10	10
23	9	10	0	0	0	0	0	0	0	0	10	10
24	0	0	0	0	0	0	0	0	0	0	0	0
Total	160	204	251	291	302	305	276	258	234	212	165	140