

**REQUEST FOR PROPOSALS**

**RENEWABLE ENERGY SUPPLY**

**FOR**

**ANTELOPE VALLEY WATER BANKING PROJECT**

**ANTELOPE VALLEY WATER STORAGE, LLC.**

**Filing Deadline:  
March 31, 2008 – 5:00 P.M.**

**Antelope Valley Water Storage, LLC  
Attention: Lloys Frates, Program Manager  
lfrates@renewablegroup.com**

**Mailing Address:  
5700 Wilshire Boulevard, Suite 330  
Los Angeles, California 90036**

**CONFIDENTIAL INFORMATION**

# REQUEST FOR PROPOSAL

## RENEWABLE ENERGY SUPPLY FOR ANTELOPE VALLEY WATER BANKING PROJECT

### I. Introduction

Antelope Valley Water Storage, LLC (AVWS) is seeking proposals from renewable energy generating facilities to provide economical power to its Antelope Valley Water Bank (AVWB) project. The renewable energy supplier shall provide AVWB a proposal that includes a schedule for meeting AVWB's power needs, the price for supplied power, and demonstrates the capacity and reliability of the proposer's power project.

This RFP describes the product being sought and the proposal requirements. The information presented in this Request for Proposal (RFP) is of a confidential nature. The facilities described herein and shown on the attached exhibits are conceptual and for costing purposes only. The majority of wells in the Recovery Area are not on AVWS property. AVWS is in the process of negotiations with individual landowners. The actual layout of wells will vary as a function of discussions with landowners. We ask that you not contact individual property owners.

### II. Calendar of Events

The proposed schedule of key events and target dates for this RFP is as follows:

| <u>Event</u>                 | <u>Target Dates</u> |
|------------------------------|---------------------|
| Issuance of RFP              | February 29, 2008   |
| Proposal Due Date            | March 31, 2008      |
| Proposal Selection           | April 8, 2008       |
| Purchase Agreement Execution | May 29, 2008        |
| Power Purchase Commences     | April 1, 2010       |

Any questions regarding this RFP should be submitted via e-mail to [lfrates@renewablegroup.com](mailto:lfrates@renewablegroup.com).

Three (3) bound copies of the proposal must be mailed, sent by courier, or hand-delivered so that they are received by 5:00 p.m. Pacific Standard Time on March 31, 2008 at the following address:

Antelope Valley Water Storage, LLC  
5700 Wilshire Boulevard, Suite 330  
Los Angeles, California 90036

Attn: Lloys Frates, Program Manager

Proposals received after the Proposal Due Date will not be considered, nor will faxed or e-mailed proposals, whenever received.

### III. Contract Period

The term of the contract will be for a period of twenty (20) years commencing on or about April 1, 2010.

### IV. Renewable Energy

In accordance with this RFP, AVWB is seeking to purchase Renewable Energy from proposers with experience in owning and operating eligible Renewable Generating Facilities (“RGFs”), as follows:

- A. Generation and Fuel Type:** RGF(s) should meet the generation type and fuel source eligibility requirements of the California Renewable Portfolio Standard, including biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, and tidal current.
- B. Date of Commercial Operation:** RGF(s) must demonstrate its ability to achieve commercial operation prior to April 1, 2010.
- C. Energy Delivery Points:** Energy should be delivered to the closest intertie to the property with sufficient capacity.
- D. RGF Energy Delivery Costs:** Proposers are responsible for all applicable losses and congestion costs to the Delivery Point;
- E. Renewable Energy Quantities:** Renewable Energy will be in sufficient quantities to provide power for yearly farming operations as well as water bank recovery operations every three years.
- F. Renewable Energy Pricing:** Proposals should include a fixed annual price (\$/MWh) for all energy delivered to the delivery point each month for the term during (a) peak and (b) non-peak hours. Prices may be subject to an annual escalator (non-fuel, price index or specified number). Proposals with either no escalator or an escalator with a specified number will be given more favorable consideration.

### V. Project Background

AVWB is located at the west end of the Antelope Valley and is generally bounded by Rosamond Boulevard to the North, Avenue A to the South, 170<sup>th</sup> Street West to the West and 150<sup>th</sup> Street to the East. See Exhibit 1, Vicinity Map attached. The purpose of the water bank is to recharge water from the East Branch of the State Water Project (SWP), thereby storing water in the ground during wet seasons when supply is in excess. During dry seasons, water will be recovered from underground storage and pumped back into the SWP as needed. An Environmental Impact Report (EIR) has been prepared and was approved in September 2006. That document explains AVWB in further detail and is available at your request.

At full build-out, AVWB will have the following operational capacities:

- Up to 100,000 acre-feet per year (AF/year) of recharge at up to approximately 350 cubic feet per second (cfs);
- Up to 100,000 AF/year of recovery at approximately 250 cfs;

- Up to 500,000 AF of storage space; and
- 10% leave behind of recharged water to aid in recovery of pre-existing aquifer overdraft.

Project build-out is currently estimated to include:

- 1,280 acres of recharge basins;
- A 2.5 mile long, 2-way, 48-inch to 60-inch pipeline from/to the Antelope Valley East Kern Water Agency (AVEK) West Feeder;
- A 8.25 mile long 2-way, 72-inch pipeline from/to the California Aqueduct, SWP;
- Forty-three (43) recovery wells using a mix of upgraded existing wells and new wells ranging from 250-HP pumps to 400-HP pumps;
- An 11,600 HP booster pump station; and
- Various distribution/collection pipelines, controls and meters.

Farming will take place on approximately 13,600 acres annually.

## VI. Assumptions for Operation of Facilities and Timing of Facility Construction

On average, every third year, electrical power will be required to operate the well pumps and booster pump station for approximately 6 months (April 1<sup>st</sup> through September 30<sup>th</sup>). Pumps could operate 24 hrs a day, 7 days a week during recovery operations. This timeframe could increase or decrease by one month on either end of the recovery period, depending on a member agency's dependence on the water bank during a dry year. The frequency of recovery operations will be dependent on available allotments of water from the SWP California Aqueduct, which in turn affects the amount of water that is recharged into the water bank and later recovered.

### A. From a Water Banking Perspective:

- 1) Best Case Scenario (expected condition) - Recovery operations occur once every three years for a duration of five months.
- 2) Dry Year Scenario - Recovery operations occur twice every three years for a duration of six months.
- 3) Drought (worst) Case Scenario - Groundwater Recovery operations occur every year in a three-year period for a duration of seven months.

**B. Pumps Will Also Be Used Approximately 48 Hours/Week for Six Months of the Year for Irrigation Purposes:** The irrigation pumping will be in all years, regardless of whether or not recovery pumping operations are occurring that particular year. Pumps will be used for irrigation purposes during recharge periods as well because the farmers will likely rotate their land usage around the recharge ponds.

- 1) It is assumed that 21 of the new/existing wells would be used for irrigation purposes, when not being used for recovery pumping.

**C. System Reliability:** It should be at the same level it would be for agricultural purposes (i.e. not as critical as it would be if it was for municipal use).

**D. The Following Timeline for Facilities Construction Should Be Used for the Proposal:**

- 1) Approximately 6 new recovery wells will be constructed per year, starting in 2010 and ending in 2014.
- 2) It is expected that the booster station will be constructed and operational by 2012.

## VII. Load Requirements During Recovery Operations

The expected load during recovery operations includes the booster station and well pumps located both on and off of AVWS's contiguous property. Wells not located on the property will be leased by AVWS from the property owners. Exhibit 2, Recovery Area, shows the location of the pump station and the conceptual well sites, contingent upon discussions with property owners. The motor loads that are expected at the booster pump station and wells are shown in Tables 1 and 3. The expected power required during recovery operations at booster pump station and wells are shown in Tables 2 and 4.

**Table 1 – Motor List/Expected Load for Well Pumps**

| <b>Pump</b> | <b>Horsepower</b> | <b>FLA@480V</b> | <b>Starting Method</b> | <b>Expected Inrush @ 480V</b> | <b>12KV Amperage</b> |
|-------------|-------------------|-----------------|------------------------|-------------------------------|----------------------|
| A-1         | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-2         | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-3         | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-4         | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-5         | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-6         | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-7         | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-8         | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-9         | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-10        | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-11        | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-12        | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-13        | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-14        | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-15        | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-16        | 300               | 351             | SSRV                   | 1053                          | 14                   |
| A-17        | 300               | 351             | SSRV                   | 1053                          | 14                   |
| B-1         | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-2         | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-3         | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-4         | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-5         | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-6         | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-7         | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-8         | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-9         | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-10        | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-11        | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-12        | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-13        | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-14        | 350               | 410             | SSRV                   | 1229                          | 16                   |
| B-15        | 350               | 410             | SSRV                   | 1229                          | 16                   |
| C-1         | 400               | 468             | SSRV                   | 1404                          | 19                   |
|             |                   | 12585           |                        | <b>Total</b>                  | <b>503</b>           |

**12 KV Amps 503**

**KVA 10,849**

SSRV to be reduced voltage solid state starter with bypass. Starter to have current limit and adjustable ramp start time.

**Table 2 – Power Required for Well Pumps During Recovery Operations**

| Duration of Use (hours) |          |                      | Total Power in KiloWatt-Hours |            |                      |
|-------------------------|----------|----------------------|-------------------------------|------------|----------------------|
| Best Case               | Dry Year | Drought (worst case) | Best Case                     | Dry Year   | Drought (worst case) |
| 3600                    | 4320     | 5040                 | 28,870,200                    | 34,644,240 | 40,418,280           |

**Table 3 – Motor List/Expected Load for Booster Pumps**

| Pump  | Horsepower | FLA@4160V | Starting Method | Expected Inrush @ 4160V | 12KV Amperage |
|-------|------------|-----------|-----------------|-------------------------|---------------|
| BP-1  | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-2  | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-3  | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-4  | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-5  | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-6  | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-7  | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-8  | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-9  | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-10 | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-11 | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-12 | 1200       | 160       | SSRV            | 479                     | 55            |
| BP-13 | 500        | 67        | SSRV            | 200                     | 23            |
| BP-14 | 500        | 67        | SSRV            | 200                     | 23            |
|       |            | 2048      |                 | <b>Total</b>            | <b>710</b>    |

**12 KV Amps 710**  
**KVA 15,301**

**Table 4 – Power Required for Booster Station During Recovery Operations**

| Duration of Use (hours) |          |                      | Total Power in KiloWatt-Hours |            |                      |
|-------------------------|----------|----------------------|-------------------------------|------------|----------------------|
| Best Case               | Dry Year | Drought (worst case) | Best Case                     | Dry Year   | Drought (worst case) |
| 3600                    | 4320     | 5040                 | 34,912,800                    | 41,895,360 | 48,877,920           |

## VIII. Load Requirements During Irrigation Operations

The expected load during irrigation or non-recovery operations includes approximately 21 wells operating 48 hours per week on approximately 13,600 acres annually. The booster station will not be utilized during this period. The motor loads that are expected at the wells are shown in Table 5 and the expected power usage is shown on Table 6, both on the next page.

**Table 5 – Motor List/Expected Load for Well Pumps Used During Irrigation Operations**

| Pump | Horsepower | FLA@480V | Starting Method | Expected Inrush @ 480V | 12KV Amperage |
|------|------------|----------|-----------------|------------------------|---------------|
| A-1  | 300        | 351      | SSRV            | 1053                   | 14            |
| A-2  | 300        | 351      | SSRV            | 1053                   | 14            |
| A-3  | 300        | 351      | SSRV            | 1053                   | 14            |
| A-4  | 300        | 351      | SSRV            | 1053                   | 14            |
| A-5  | 300        | 351      | SSRV            | 1053                   | 14            |
| A-6  | 300        | 351      | SSRV            | 1053                   | 14            |
| A-7  | 300        | 351      | SSRV            | 1053                   | 14            |
| A-8  | 300        | 351      | SSRV            | 1053                   | 14            |
| A-9  | 300        | 351      | SSRV            | 1053                   | 14            |
| A-10 | 300        | 351      | SSRV            | 1053                   | 14            |
| A-11 | 300        | 351      | SSRV            | 1053                   | 14            |
| B-1  | 350        | 410      | SSRV            | 1229                   | 16            |
| B-2  | 350        | 410      | SSRV            | 1229                   | 16            |
| B-3  | 350        | 410      | SSRV            | 1229                   | 16            |
| B-4  | 350        | 410      | SSRV            | 1229                   | 16            |
| B-5  | 350        | 410      | SSRV            | 1229                   | 16            |
| B-6  | 350        | 410      | SSRV            | 1229                   | 16            |
| B-7  | 350        | 410      | SSRV            | 1229                   | 16            |
| B-8  | 350        | 410      | SSRV            | 1229                   | 16            |
| B-9  | 350        | 410      | SSRV            | 1229                   | 16            |
| B-10 | 350        | 410      | SSRV            | 1229                   | 16            |
|      |            | 7961     |                 | <b>Total</b>           | <b>318</b>    |

**12 KV Amps 318  
KVA 6,863**

SSRV to be reduced voltage solid state starter with bypass. Starter to have current limit and adjustable ramp start time.

**Table 6 – Power Required for Well Pumps During Irrigation Operations**

| Duration of Use (hours) |          |                      | Total Power in KiloWatt-Hours |           |                      |
|-------------------------|----------|----------------------|-------------------------------|-----------|----------------------|
| Best Case               | Dry Year | Drought (worst case) | Best Case                     | Dry Year  | Drought (worst case) |
| 1248                    | 1248     | 1248                 | 6,330,854                     | 6,330,854 | 6,330,854            |

## IX. Proposal Requirements

The following is a listing of the information to be provided in the proposal. A proposal that does not include all the information required below may be deemed non-responsive and subject to rejection. **Proposals must respond to all the items listed below, in the order listed.** Proposers are required to prepare their double-sided proposals on 8-1/2 X 11-inch paper using at least 12-point type with standard margins.

The following information is required in the proposal:

- A. Cover Letter:** A cover letter, which shall be considered an integral part of the proposal, and should include the name, title, address, telephone number, e-mail address, and fax number of the individual AVWB should contact with respect to your proposal. The letter shall be signed by the individual or individuals authorized to bind the proposer contractually. In signing the cover letter, the proposer agrees to be bound by the terms of this RFP and its submission hereunder through July 1, 2008.

## **B. Proposal:**

- I. Table of Contents
- II. Project Understanding – A clear statement of the project.
- III. Project Approach – The project approach shall include a discussion on how to meet the required demands, and should include the following:
  - a. Description of each RGF, including capacity size (MW), fuel type, and date of commercial operation (or expected commercial operation);
  - b. Detailed status of development and permitting, including a list of all permits received and any permits needed prior to achieving commercial operation (for any RGF not in commercial operation);
  - c. Description of qualification or certification of RGF(s) by third parties;
  - d. Confirmation that the RGF(s) meet the generation type and fuel source eligibility requirements of this RFP;
  - e. Historical hourly energy production for the past three years, to the extent it exists. If such data does not exist, provide an estimate of what the historical hourly energy production would have been and describe the basis of this estimate;
  - f. Projected RGF Energy deliveries at the Delivery Point(s) for sale to AVWB for each hour of each month of the delivery term.
- IV. Pricing — Provide a full and complete description of the Renewable Energy proposed for purchase by the AVWB, including:
  - a. The fixed annual price (\$/MWh) for all energy delivered each month during (a) peak hours and (b) non-peak hours.
  - b. The applicable annual escalator, if any.
- V. Qualifications – Summarization describing proposer's business and history, including its experience in the areas of owning and operating RGF(s); list of licenses and certificates; resumes of key personnel; three references;

## **X. Selection Process**

The Selection Committee will evaluate all qualified and responsive proposals based on the evaluation criteria set forth in the RFP. The Selection Committee may afford proposers the opportunity to clarify proposals for the purpose of assuring a full understanding of their response to the RFP.

AVWB will conduct interviews of the proposers found to be the most qualified to perform the required services. Proposers selected for an interview will be notified in advance of the proposed interview date.

Prior to award of any contract, the Selection Committee will conduct diligence and may require proposers to answer questions and provide additional information to supplement the information provided in the RFP and/or interview.

All proposers will be notified, in writing, once the successful proposer(s) has been selected.

## XI. Proposal Instructions

Three (3) bound copies of the proposal must be mailed, sent by courier, or hand-delivered so that they are received by 5:00 p.m. Pacific Standard Time on March 31, 2008 at the following address:

Antelope Valley Water Storage, LLC  
5700 Wilshire Boulevard, Suite 330  
Los Angeles, California 90036

Attn: Lloys Frates, Program Manager

## XII. Questions and Answers

Questions regarding this RFP shall be submitted in writing and directed to Lloys Frates by e-mail only at [lfrates@renewablegroup.com](mailto:lfrates@renewablegroup.com).



