# Mississippi State UniversityNotice of Proposed Sole Source Purchase

234-66

## Mississippi State University anticipates purchasing the item(s) listed below as a sole source purchase. Anyone objecting to this purchase shall follow the procedures outlined below.

### **Commodity or commodities to be purchased (make, model, description):**

### The MWRRI anticipates purchasing the items listed below as a sole source purchase:

### **Photovoltaic (PV) Power Systems:** The off-grid PV system primarily consists of solar panels, customized battery enclosures, pre-configured system assemblies, BOS cables, customized ground mounts. The following are the make, model, and description of the parts:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SN** | **Category** | **Part#** | **Description** | **Qty** |
| 1 | Enclosures/chest-style | 4BS2000BP | Enclosure, 43"x18"x12", MILL ALUM FITS 6 BATTERIES SIDE BY SIDE | 6 |
| 2 | Systems /Assemblies | ASSEM-BlueSolar PWM-LCD&USB 12/24V-30A | ASSEMBLY: Pre-wired back plate Assy w/ controller and breakers | 6 |
| 3 | BOS / Cables | #4-1x20"-B-B | CABLE - #4-1X20 INCH BATTERY - BLACK | 5 |
| 4 | BOS / Cables | #4-1x20"-B-R | CABLE - #4-1X20 INCH BATTERY - RED | 5 |
| 5 | Solar Panels / LAM | JKM410M-72HL-V | SOLAR PANEL- 410 WATT-144 CELL-MONO-SILVER FRAME | 12 |
| 6 | BOS / Cables | WB24-0070 | WA/10 FT/10 AWG/2/MC 4MM/1/2" CORD GRIP - RED&BLK | 12 |
| 7 | Mounting / Ground mount | 2X-GM-410 | Fits 2-410 W module in portrait | 6 |

### **Explanation of the need to be fulfilled by this item(s), how is it unique from all other options, and why it is the only one that can meet the specific needs of the department:**

### We are planning to install EC towers to measure evapotranspiration and greenhouse gas fluxes at farmers field and agronomic research plots in Mississippi. The EC tower will house a series of instruments, notably open-path CO2 and CH4 flux analyzers, sonic anemometer, soil heal flux plate, relative humidity and temperature sensor, soil moisture/temperature probe, automated rain gauge, net radiometer, and data storage and processing modules. All these sensors will operate with certain amount of power, typically measured in Watt. A typical open-path gas analyzer consumes about 8W of energy every half an hour. Similarly, all other instruments normally consume 2 to 8W of power at a time. Since these instruments are going to be deployed in remote locations without access to grid power, off-grid power sources must be used at these locations. For that, an off-grid PV systems are highly important to supply the required energy. The PV system consists of solar panels, batteries, electronics, enclosures, and a supporting structure. We are carefully designing the PV system that is specific to our need and working with a company that can engineer the required parts. Since the enclosures, cables, and controllers are going to custom built, there are no other companies that sells them with the same specifications.

Because of the weight and the need of frequent maintenance, we sourced the batteries from the local vendor, whereas the other parts are going to be engineered by the company that we consider the only possible source. Based on total power supply required to operate the EC towers, PV systems with 820W peak capacity, 12V and 500 Ah power generation will be deployed to the field that can also accommodate 4 to 5 days of continuous cloudy days.

Battery box enclosures made of Aluminum that can accommodate up to 6 SRM-31 batteries will be customized by the supplier and Exclusive to the Ameresco company. The enclosure will be assembled with charge controller, breakers, wiring, and back panel. Additionally, door latch, drains, heat stripping, sun shield, and insulation will be assembled with the enclosure.

Two 410-Watt solar panels will be enough to supply 820-Watt power to the tower and quickly recharge the deep cycle batteries. The panel consists of 144 monocrystalline cells with 50.12V output and 22% rated efficiency.

Power cables and controllers are going to be assembled with the enclosures and solar panels. A metallic ground support customized by the company will hold the panels and battery enclosures and withstand strong wind power.

### **Name of company/individual selling the item and why that source is the only possible source that can provide the required item(s):**

### Ameresco Solar is the only source that can design the required PV system. Enclosures, solar panels, cables, controllers, and ground mount are exclusive to Ameresco Solar.

### Ameresco, Inc. address:

Local supplier

Jonny Rogers

PO Box 849720

Dallas, TX 75284-9720

Phone: (985) 532 8810

Ameresco, Inc. main office address:

202 South Live Oak Street, Suite B

Tomball, TX 77375

Solar inquiries: (855) 43-SOLAR

7929 Brookriver Drive, Suite 250

Phone: (508) 598-4550

### **Estimated cost of item(s) and an explanation why the amount to be expended is considered reasonable:**

### The estimated cost for all the items listed above is U.S. $9,012 including enclosures, BOS cables, ground mounting kit, solar panels, and controller/breakers. Given that a single stainless-steel enclosure cost $525, solar panels of 410W cost $239 per panel, and ground mount cost $285 per unit, the PV systems for six stations undoubtedly cost the amount listed above. We found the estimate very close to the material cost needed to manufacture the frames and enclosures in our university shop, excluding the expertise and labor. The estimated cost is highly competitive and reasonable.

### **Explanation of the efforts taken by the department to determine this is the only source and the efforts used to obtain the best possible price:**

We reached out to Ameresco Solar located in Texas to request for the quote. They were able to understand and agreed to develop the PV design we need. The enclosure and panel mount systems are totally different that suits our field crop condition than the residential and industrial conditions. We also reached out to at least 10 other solar companies but neither of them was willing to design specific PV system and were mostly the residential and commercial-based solar companies. Based on Ameresco’s capacity to assemble and design the parts of the proposed PV, we determined that they are the sole source for the equipment listed above.

As part of the price negotiation, Ameresco was able to match the USDA general service administration (GSA) price for each listed item. Also, they offered free shipping for the items that could potentially cost hundreds of dollars due to size and weight.

Any person or entity that objects and proposes that the commodity listed is not sole source and can be provided by another person or entity shall submit a written notice to:

Jennifer Mayfield, CPPO
Interim Deputy Director of Procurement & Contracts
jmayfield@procurement.msstate.edu
Subject Line must read “Sole Source Objection”

The notice shall contain a detailed explanation of why the commodity is not a sole source procurement. Appropriate documentation shall also be submitted if applicable.

If after a review of the submitted notice and documents, MSU determines that the commodity in the proposed sole source request can be provided by another person or entity, then MSU will withdraw the sole source request publication from the procurement portal website and submit the procurement of the commodity to an advertised competitive bid or selection process.

If MSU determines after review that there is only one (1) source for the required commodity, then MSU will appeal to the Public Procurement Review Board. MSU will have the burden of proving that the commodity is only provided by one (1) source.