Leveraging Tribal Renewable Energy Resources to Support Military Energy Goals

May 31-31, 2013

Wild Horse Pass
Chandler, AZ

Sacred Power Corporation
<table>
<thead>
<tr>
<th><strong>Sacred Power Corporation?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Longevity</strong></td>
</tr>
<tr>
<td><strong>Diversity</strong></td>
</tr>
<tr>
<td><strong>Experience</strong></td>
</tr>
<tr>
<td><strong>Products</strong></td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
</tr>
<tr>
<td><strong>Reputation</strong></td>
</tr>
<tr>
<td><strong>Awards</strong></td>
</tr>
<tr>
<td><strong>Flexibility</strong></td>
</tr>
</tbody>
</table>
About Sacred Power

- Design / Manufacturer

- 8A Contractor

- Distribution

- Training
Employees

- Over 51% Native American
Facilities

SPC has two 58,000 sq. ft. facilities to allow for growth and expansion effective 5/1/13.

- 1501 12th St. NW Albu. NM
- 815 Bellamah NW Albu. NM
Awards / Honors

- **2011**
  - New Mexico Native American Business & Enterprise Center
  - Outstanding Company of the Year
  - Green Jobs Award - Citi Foundation, New York City

- **2009-2011**
  - Initiative for a Competitive Inner City (ICIC)
  - Fortune Magazine
  - 100 Fastest Growing Inner City Businesses in the US

- **2011**
  - Indian Business of the Year
  - National Center for American Indian Enterprise Development

- **2010**
  - National Retail Energy Company of the Year
  - Minority Business Development Agency
  - Department of Commerce

- **2007-2011**
  - NM Flying 40
  - Lockheed Martin’s Technologies Ventures Corporation
  - 40 fastest growing Tech firms

- **2006**
  - SBA Small Business Person of the Year

- **2005**
  - Minority Business Development Agency Regional Directors Award

- **2001**
  - UNM Anderson School of Management
  - American Indian Business Association
  - Entrepreneurial Leadership Award

6/24/2013  Sacred Power Corporation
### The SP SOL-Park™ Patent

#### Patent Information
- **Patent No.:** US 7,531,741 B1
- **Date of Patent:** May 12, 2009
- **Inventor:** Melton et al.

#### Device Description
The SP SOL-Park™ is our patented Solar Carport. It provides electricity to the building and shade for parked cars.

#### References Cited
- U.S. Patent Documents:
  - 4,047,952 A * 1977-09-13
  - 4,057,523 A * 1977-12-13
  - 4,077,365 A * 1977-12-13
  - 4,099,137 A * 1978-11-07
  - 4,132,778 A * 1978-01-02
  - 4,205,577 A * 1980-06-02
  - 4,248,539 A * 1981-02-02

#### ABSTRACT
The present invention comprises a tracking solar power array that provides electrical power to the building and shade for parked cars.

#### Claims
26 Claims, 12 Drawing Sheets

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6/24/2013 Sacred Power Corporation
**SP SOL-Park™ EV Specifications**

**Sol-Park™ EV Station**

Provides Shade, Shelter and Power

---

### Electrical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SP-6A/LFT</th>
<th>SP-5K/WST</th>
<th>SP-5K/LFT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Configuration</strong></td>
<td>Linear Fixed Tilt</td>
<td>Linear Single-axis Tracking</td>
<td>N-S Axis (0° Tilt)</td>
</tr>
<tr>
<td><strong>Orientation</strong></td>
<td>South Facing (20° Tilt)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Solar Photovoltaic Array**

- **Rated Power per Section**: 5000 W DC
- **Number of 250W Modules**: 24
- **DC Operating Voltage**: 30.3 V Nominal
- **Current @ Operating Voltage**: 16.5 A
- **AC Output**: 4300 W AC
- **Continuous Current**: 21.6A, 15 or 14A, 30°
- **Refrigerant**: 134A, 13 or 12A, 30°

**Expected Annual Performance**

- **Annual Energy in Albuquerque**: 10,240 kWh/yr
- **Annual Energy in Phoenix**: 9,910 kWh/yr
- **Annual Energy in San Diego**: 9,210 kWh/yr
- **Annual Energy in Houston**: 7,590 kWh/yr
- **Annual Energy in Austin**: 7,820 kWh/yr

**Solar Photovoltaic Array**

- **Length**: 20 ft
- **Width**: 22 ft
- **Height (Center/Edge)**: 12 ft 8 ft
- **Typical Wind Rating**: 100 mph

**Warranty**

- 2 Year Limited Warranty

**Electric Vehicle Charger**

- **Charging Type**: Dual: Level 1 and Level 2
- **Voltage and Current**: Level 1: 120V, 16A max; Level 2: 240V, 30A max
- **Level 1 Capacity**: 4.8kW Winter, 5.2kW Summer
- **Level 2 Capacity**: 7.8kW Winter, 8.3kW Summer

* Based on SP Hybrid Rated Load above and typical power usage for each EV Charger with no generator support and used exclusively for charging. Generator support will extend charging time, but will require refilling tank every few days.

**Notes:**

1. Using microinverters or AC Modules
2. Tracking array stores horizontal. All capture structures will be certified to local wind codes.

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www.SacredPowerCorp.com
505-242-2292

Sacred Power Corporation
New EV Solar Charging Systems
SP Hybrid™ Specifications

### Hybrid 1000™

**Self-Contained Portable Solar System**

**Remote Locations**

**Emergency Power**

---

**Options**

- Wind Turbine
- EV Charger
- Gas Generator

---

**SP Hybrid™ Specifications**

- **Model**: SP 10000 or SP 10000-2

---

**Electrical**

- **Solar Photovoltaics Array**
  - Rated Power: 1000 W
  - DC Operating Voltage: 18 V
  - Current @ Operating Voltage: 56.5 A
  - Nominal Voltage & Number: 24 V, 6 batteries
  - Capacity @ 100hr Discharge: 120 W
- **AC Output**
  - Rated Power: 1200 W
  - Voltage and Frequency: 120 V, 60 Hz
  - Surge Current: 25 A
- **AC Load Capacity**
  - Rated Load (w/o generator): 800 W
  - Surge Load: 1500 W

---

**Solar Scavenging**

- **Battery Capacity**: 2.5 kWh
- **Run Time at Full Load**: 15 hours

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**Batteries**

- **Type**: Deep Cycle Lead Acid
  - Rating: 12V, 200 Ah
- **Capacity**: 2.5 kWh

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**Inverter**

- **Input Voltage**: 12V DC
  - Efficiency: 95%
- **Output Voltage & Frequency**: 120/240 VAC, 60Hz
  - Surge Current: 25 A

---

**Additional Notes**

- Options for 5,000 W and 3,000 W output with dual inverters.
- Includes 12V deep cycle lead acid battery, but output voltage can be increased with higher numbers.
- 3-Year limited warranty.

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**Contact**

www.SacredPowerCorp.com
505-242-2292

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Sacred Power Corporation
6/24/2013
Our patented SP Hybrids are portable, self contained power systems incorporating the use of Photovoltaic's, Wind and or back-up Generators.
# SP Hybrid™ Trailer Specifications

**SELF CONTAINED PORTABLE SOLAR SYSTEM**
- Remote Locations
- Emergency Power
- Easy Transported

---

## Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrical</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solar Photovoltaic Array</td>
<td>1000 W</td>
<td></td>
</tr>
<tr>
<td>DC Operating Voltage</td>
<td>90 V Normal</td>
<td></td>
</tr>
<tr>
<td>Current @ Operating Voltage</td>
<td>17 A</td>
<td></td>
</tr>
<tr>
<td>Nominal Voltage</td>
<td>24 V DC</td>
<td>150 hour charge rate</td>
</tr>
<tr>
<td><strong>Inverter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated Power</td>
<td>2.500 W</td>
<td>Continuous</td>
</tr>
<tr>
<td>Voltage and Frequency</td>
<td>120 V, 60 Hz</td>
<td></td>
</tr>
<tr>
<td>Continuous Current</td>
<td>30 A, RMS</td>
<td></td>
</tr>
<tr>
<td>Surge Current (1)</td>
<td>25 A</td>
<td>Limited by Circuit Breaker</td>
</tr>
<tr>
<td><strong>Battery</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated Load (2)</td>
<td>4000 W/40°/Day</td>
<td>Alkaline Winter</td>
</tr>
<tr>
<td>Rated Load (3)</td>
<td>3500 W/40°/Day</td>
<td>Alkaline Summer</td>
</tr>
<tr>
<td>Days of Autonomy (4)</td>
<td>5-7 Days</td>
<td>Rated Winter Load</td>
</tr>
<tr>
<td><strong>Mechanical</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solar Photovoltaic Array</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>5.5 ft</td>
<td>North-South</td>
</tr>
<tr>
<td>Width</td>
<td>11 ft</td>
<td>East-West</td>
</tr>
<tr>
<td>Height</td>
<td>8 ft</td>
<td>40° 15° on Trailer</td>
</tr>
<tr>
<td>Overall Array &amp; Trailer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Towed Length</td>
<td>15 ft</td>
<td>Plug-Hitch</td>
</tr>
<tr>
<td>Trailer Width</td>
<td>5.5 ft</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>1,000 lbs</td>
<td>Approximate</td>
</tr>
</tbody>
</table>

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### Notes:
1. Inverter is capable of higher output, but limited by circuit breaker.
2. Rated Load (2) is based on average sunlight per day without generator support.
3. Autonomy is number of days system will operate under rated load without sunlight.

## Batteries

<table>
<thead>
<tr>
<th>Model Number</th>
<th>East Penn</th>
<th>Delco R24D6MT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery Type</td>
<td>Valve Riser Lead Acid, Gelled Electrolyte</td>
<td></td>
</tr>
<tr>
<td>Nominal DC voltage</td>
<td>12V</td>
<td></td>
</tr>
<tr>
<td>Capacity (Ah)</td>
<td>250 * 11 * 10</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>160 lbs</td>
<td></td>
</tr>
</tbody>
</table>

---

### Inverter

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Outback FX8048T</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Operating Voltage</td>
<td>24V</td>
</tr>
<tr>
<td>Rated AC Power</td>
<td>1800 W</td>
</tr>
<tr>
<td>Voltage and Frequency</td>
<td>220V, 50Hz</td>
</tr>
<tr>
<td>Continuous Output Current</td>
<td>1300 W</td>
</tr>
<tr>
<td>Peak Power</td>
<td>1800 W</td>
</tr>
<tr>
<td>Battery Charging Efficiency</td>
<td>90%</td>
</tr>
<tr>
<td>Surge Power</td>
<td>3000 W</td>
</tr>
<tr>
<td>Battery Charging Capability</td>
<td>14400 W, 35A DC</td>
</tr>
</tbody>
</table>

---

*Specifications for SP Hybrid™ Trailer are subject to change without notice. Performance and efficiency values are based on standard test conditions. Actual performance may vary due to site-specific factors.*

---

*Designed and manufactured by Sacred Power Corporation, 505-242-2292, www.SacredPowerCorp.com*
The SP TEL-Sol™ is our patented Heated & Cooled communication equipment shelter.
Plug & Play Power Supplies
Remote Utility Service
SP GT-Sol™

- Self Ballasted
- Flush Mounted
- Fixed Mount
**SP GT SoI™**

```
GRID TIED SOLAR KITS
Easy To Install
Easy Expandability
Qualifies for 30% Federal Tax Credit
```

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**Sacred Power Corporation**

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**SP GT AC 1000™**

---

**SP 1 kW GT**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>ELECTRICAL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar Photovoltaic Array</td>
<td>1000 W DC</td>
<td></td>
</tr>
<tr>
<td>Rated Power per System</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>AC Operating Voltage</td>
<td>30.3 V Nominal</td>
<td></td>
</tr>
<tr>
<td>Number of 250W PV Modules</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>DC Operating Voltage</td>
<td>16.5 A</td>
<td></td>
</tr>
<tr>
<td>AC Output</td>
<td>860 W AC</td>
<td></td>
</tr>
<tr>
<td>Voltage</td>
<td>120/240V, 180 or 120/208V, 3Ø</td>
<td></td>
</tr>
<tr>
<td>Continuous Current</td>
<td>3.6A, 10 or 2.7A, 3Ø</td>
<td></td>
</tr>
</tbody>
</table>

**Expected Annual Energy Performance**

| Energy w/20° Sloped Roof | 1,710 kWh/yr |  |
| Energy w/30° Tilt on Flat Roof | 1,780 kWh/yr |  |

**MECHANICAL**

**Solar Photovoltaic Array**

| Length | 13 ft |  |
| Depth | 5.5 ft |  |

| Warranty / PV Modules | 25 Year Limited Warranty |  |

---

**Part**

<table>
<thead>
<tr>
<th>Description</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>SolSimple Helios-AC PV Modules</td>
<td>4</td>
</tr>
<tr>
<td>Ground Ring</td>
<td>2</td>
</tr>
<tr>
<td>Ground Lug</td>
<td>2</td>
</tr>
<tr>
<td>Frame</td>
<td>3/16-12 x 5 Hinges</td>
</tr>
<tr>
<td>Solar Post</td>
<td>14</td>
</tr>
<tr>
<td>ACO</td>
<td>4</td>
</tr>
<tr>
<td>ACMP Cable Clamp</td>
<td>9</td>
</tr>
<tr>
<td>Cable</td>
<td>Helios Home Run Cable</td>
</tr>
<tr>
<td>L-Nut Aluminum/Alloy</td>
<td>10</td>
</tr>
<tr>
<td>Machine Screws</td>
<td>10</td>
</tr>
<tr>
<td>Hanger Bolt</td>
<td>3/8 x 1-1/2</td>
</tr>
<tr>
<td>Hex Nut</td>
<td>3/8-16 UNC</td>
</tr>
<tr>
<td>Flat Washer</td>
<td>5/8 x 18</td>
</tr>
<tr>
<td>Lock Washer</td>
<td>5/8 x 18</td>
</tr>
<tr>
<td>Split Bolts</td>
<td>2</td>
</tr>
</tbody>
</table>

Option: Helios Sentry Data Monitoring can display performance of system and individual inverters on computer and Internet.

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Notes:

1. Sold in 1 kW Kits. Systems larger than 4 kW will require addition of breaker panel to combine outputs. Call for quote.

2. Using Helios SolSimple-AC Modules consists of 250W PV module integrated with Exeltech inverter

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Exeltech Inverter Specifications:

- **AC Voltage**: 120V, 60 Hz
- **Output Power & Current**: 2,920 VA, 1.9A
- **Efficiency**: 99.99%
- **Input Factor**: <0.6%
- **Total Harmonic Distortion**: <0.5%
- **Certification**: UL 1741, UL 1703

---

Disclaimer for SP 1 kW Grid Tied Kit

Annual performance is not guaranteed. Performance will vary somewhat from year to year depending on normal weather climb, temperature, wind variations as well as catastrophic effects (hurricanes, tornadoes, earthquakes, power surges, etc.).

SPC strongly recommends modifications be performed by certified and licensed installers. SPC is not responsible for modifications made in violation of national and local codes (NEC, OSHA, etc.).

SP GT-AC sold in 1 kW kits. Kits may be combined by paralleling output to make larger arrays up to 4 kW. Systems larger than 4 kW will require addition of breaker panel to combine AC outputs.

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6/24/2013 Sacred Power Corporation
Federal Communications
Energy Targets

• **EPAct 2005**
  7.5% Electricity from Renewables

• **Executive Order 13423**
  7.5% Renewables by 2013

• **National Defense Authorization Act**
  25% RE Electricity by 2025

• **Energy Independence/Security Act**
  30% of Hot Water Demand / Solar
  All New Construction

• **Executive Order 13514**
  Reduction in Greenhouse Emissions
  By 2020

← That’s us!

“Section 246 of the Energy Independence and Security Act (EISA) requires that Federal agencies install at least one renewable fuel pump at each Federal fleet fueling centers, including ethanol blend, biodiesel blend, or electric charging station.”
To Whom It May Concern:

Sacred Power Corporation recently completed a 35 kW Photovoltaic Array for a U.S. Customers and Border Patrol facility in El Paso, Texas. The performance was exceptional for exceeding expectations. They completed the necessary manpower and resources needed to meet the Government's aggressive completion schedule. Sacred Power's pricing was within budget, and their workmanship was exceptional and safety was paramount.

I have worked directly with Odes Armijo-Carrión and David Melton on numerous projects during the past several years. I found both Odes and David to be very knowledgeable with superb management skills and forward thinking. Their technically ability and communication skills have proven invaluable to both the Government and the construction contractor by identifying potential problems and recommending alternatives.

Sacred Power's ethics are impeccable and their staff holds in high regard the project delivery team and project stakeholders. Sacred Power will be a valuable asset to any project and I highly recommend them. If you have any questions regarding Sacred Power or this recommendation, please contact me at (575) 415-0532.

Sincerely,

John R. Brown
Project Engineer

Sacred Power Corporation
ATTN: Mr. Odes Armijo-Carrión, Principal
2401 15th Street, NE (Suite 304-269)
Albuquerque, NM 87104

May 18, 2009

Dear Mr. Armijo-Carrión,

I am honored to recommend Sacred Power Corporation, a certified 8a vendor, as a trusted vendor for potential Government contracts. Sacred Power is welcome to see this letter for the next year as a letter of recommendation. I must be clear that I am not asking for reference or special consideration from Sacred Power Corporation in exchange for this letter. I am writing this letter because Mr. Armijo-Carrión asked me if I would be willing to document Sacred Power's performance on three previous Government contracts I have managed. I am able to endorse Sacred Power without reservation.

Sacred Power Corporation has exceeded my expectations on three Government contracts concerning all three projects as enclosed. I 1) a January 2006 official renewable energy project at the National Training Center, Fort Irwin, CA; 2) a July 2009 Fort Belvoir, VA solar demonstration project, and 3) an April 2009 solar/LED light project at Sandia National Laboratory, Albuquerque, NM. On all three projects, Sacred Power Corporation provided a quick, complete proposal and delivered a superior product on time and on budget. Both their customer officers and onsite engineers were easy to work with and displayed the highest standards of professionalism and ethical conduct. To illustrate this point, I discovered a small installation problem with the Fort Belvoir solar project. The onsite engineer, Mr. Michael Elliott, had departed Virginia, but he worked with me during several phone calls and followed-through to troubleshoot the issue. Mr. Elliott volunteered to return to Virginia if company expressed to “make it right.” I decided that a more reasonable solution would be to call the local equipment manufacturer to the worksite to remedy the small issue. Mr. Elliott called the local equipment manufacturer to coordinate the details and paid the service call bill. This is “old school” customer service that kept me from having to seek additional funding or delay a small amount of funding, but still is a lot of paperwork and authorizations to secure. I appreciate a vendor that is going to “make it right” and work the details to provide the Government a quality product.

I am unable to discuss further, as directed (305) 794-2168 or john.spiller@us.army.mil

Respectfully Submitted,

John M. Spiller
Lt. Colonel (Retired), U.S. Army
Executive Consultant, Soltech, Inc.
Project Manager, 2050 Power Stratus Task Force
“Warriors in Transition Complex” Ft. Bliss

FORT BLISS 104.88KW CARPORT
3.68kW 1 Axis Array Building Block
15 Carport Sections 5.52kW
5.52kW Fixed Carport Array
9 Fixed Carport Array = 49.88kW

Sacred Power Corporation
Base Electrification (Fort Bliss) 220kW
Forward Operating Bases – Ft. Irwin

6/24/2013  Sacred Power Corporation
Communications (Ft. Monmouth, Laguna)
Rapid Deployment (West Point)
Building Integrated Solar Roofing Systems, Camp Pendleton
Building Integrated Solar Roofing (NAVFAC, Camp Pendleton)
Solar Demonstration - NASA, JSC

6/24/2013  Sacred Power Corporation
Border Security (Army Corp Eng)
Solar Lighting (NM National Guard)
Security Lighting (Rapid Equip. Force)
Solar Farms (NM National Guard)
Solar Hot Water (NM National Guard)
Efficient Military Housing (Ft. Belvoir)
Concentrated Solar (NM Schools)
Solar Pool Heating (Artesia Natatorium)
Energy Efficient Solar Homes (HUD, Santa Ana)
NASCAR Ownership = Marketing
For More Information

Contact:
David S. Melton
Sacred Power Corporation
505-242-2292
info@sacredpowercorp.com

Thank You!