

Attachment 1 to Exhibit A, Contract No. GS-OOP-06-BSD-0399

The following terms and conditions are in addition to those previously listed, form part of Exhibit A and of the Areawide Contract, and concern the interconnection of the photovoltaic system that is within the Ordering Agency's internal electric system with the Contractor's public utility electric distribution system.

Recitals

A. The Ordering Agency's property contains (or will contain) a Photovoltaic System (PV System), and the Ordering Agency will cause that PV System to be installed and to be maintained in compliance with all applicable National Electric Code requirements, building codes, and the Contractor' Tariff and Electric Line Extension & Service Standards.

B. The Ordering Agency desires to connect (or to have connected) the PV System to the Contractor' electric system.

C. The Contractor will accommodate the Ordering Agency's request under the terms and conditions of this Attachment 1 to Exhibit A to the Areawide Contract.

1. **PHOTOVOLTAIC SYSTEM DEFINED** The PV System within the Ordering Agency's property and within its electric system is a self-contained photovoltaic electric generation system comprising: photovoltaic modules, direct current disconnect apparatus, inverters for the conversion of direct current to alternating current, alternating current disconnect/lockout, over-current protective device, and all other related electrical equipment upstream of the over-current protective device (all such equipment described as the "System" within this Attachment 1 to the Authorization For Electric Service, Change In Electric Service, or Disconnection Of Electric Service, Exhibit A to the Areawide Contract, herein referred to as Attachment 1). The System begins and continues up-stream from the over-current protective device on the Ordering Agency's premises. The System also contains a separate meter to measure the outflow of energy from the System, and such meter is not a Contractor-owned Meter as described within Article 8 of the Areawide Contract, and will not be used for metering utility service provided to the Ordering Agency by the Contractor. All equipment related to this System is owned by 3 Phases Energy Services, LLC (Owner); however, the Ordering Agency is responsible for compliance with the terms of this Attachment 1 and for causing the System and the Owner to be in compliance with the terms of this Attachment 1 relating to the System.

2. **ADDITIONAL TERMINATION PROVISIONS.** Notwithstanding any other provision of the Areawide Contract, the Contractor may terminate this Attachment 1 (and not the remaining provisions of Exhibit A) at any time for any violation of this Attachment 1 by providing written notice to the Ordering Agency. Notwithstanding any other provision of the Areawide Contract, this Attachment 1 is at all times subject to the terms of, changes to, and revisions to, Contractor's Tariff, Contractor's Terms and Conditions, and other related regulatory authorizations. At the time of termination of this Attachment 1 for any reason, the Contractor will perform lock out procedures to disconnect the System that is within the Ordering Agency's property and electric system from the Contractor' electric system. The Ordering Agency will allow the Contractor reasonable access to the Ordering Agency's premises to perform the lock out procedures pursuant to Article 11.1 of the Areawide Contract. The provisions of this Attachment 1 with respect to indemnification and liability will survive the termination of this Attachment 1.

3. **INSTALLATION, PERMITTING AND AGREEMENT COMPLIANCE.** The Ordering Agency and the System must comply with (and the Ordering Agency will cause the Owner to comply with) all of this Attachment 1 and also with: a) all applicable National Electric Code (NEC) requirements, including, but not limited to NEC Articles 690 and 705; b) all building codes; and c) all applicable Underwriters Laboratories (UL) requirements and standards. At its sole expense, the Ordering Agency must: a) obtain all necessary electrical permit(s) for the installation of the System, and b) obtain and maintain any governmental authorizations or permits required for the operation of the System. The Ordering Agency must reimburse the Contractor for any and all losses, damages, claims, penalties, or liability that the Contractor incurs as a result of the Ordering Agency's failure to obtain or to maintain any governmental authorizations and permits required for construction and operation of the System.

3.1 The Ordering Agency must construct (or the Ordering Agency must cause the Owner to construct) the System as specified in the attached Drawing A.

3.2 A manual, lockable, load-break disconnect switch or breaker that provides a clear indication of the switch position must be available with the System at or near the System to provide a point of electrical separation between the Ordering Agency's internal electric System and the Contractor' electric system. The Contractor will coordinate and approve the location of the disconnect equipment. The disconnect switch must be easily visible, mounted separately from any metering equipment, readily accessible to the Contractor's personnel at all times, and capable of being locked in the open position with a Contractor-owned lock. **The Contractor may open the disconnect switch thereby isolating the System from the Contractor's electric system for any reason that the Contractor (in its sole discretion) deems necessary** (including, but not limited to, maintenance or emergency work, the System adversely affecting other customers of the Contractor, failure of the System to comply with codes/regulations, the System creating hazardous or unsafe conditions, the Ordering Agency's failure to pay any amount due under the Areawide Contract when that amount is due, failure to comply with UL Standard 1741 (Standard for Static Inverters and Charge Controllers for Use in Photovoltaic Systems), or failure to comply with UL Standard 1703 (Standard for Safety: Flat-Plate Photovoltaic Modules and Panels).

3.3 This System and its installation is **NOT** a Net Metered system under the Contractor's tariffs and is not eligible for those tariffs. At no time will the Ordering Agency be allowed to backfeed onto the Contractor' system. **The Ordering Agency must provide proof in the attached Drawing A to this Attachment 1 that the System cannot backfeed through the Primary Meter at any of the Ordering Agency's electrical distribution substations.** If the Ordering Agency cannot ensure the System cannot backfeed through the Primary Meter at any of the Ordering Agency's electrical distribution substations, or if any meter that serves the Ordering Agency from the Contractor's electric system ever runs backward, then the Ordering Agency (at its own expense) must provide Reverse Sensing Relays such that the main Breaker at the Primary Meter point will automatically open if a backfeed situation occurs.

3.4 The System must comply with all Institute of Electrical and Electronics Engineers (IEEE) Standards 929-2000 (Recommended Practice for Utility Interface of Photovoltaic Systems), as of the Effective Date, for parallel operation with The Contractor. The purpose of these IEEE Standards is to minimize custom engineering of many aspects of the interconnection. These standards allow installation in a manner that will allow the System to perform as expected and to be installed at a reasonable cost while not compromising safety or operational issues. All power quality parameters (that is, voltage, flicker, frequency, distortion) are specified at the point of common coupling (PCC) unless otherwise stated. In particular, the following requirements must be met:

3.4.1 Voltage – the System must be capable of operating within normal voltage operating limits of 106-132 volts (88-110% nominal 120V). This range results in trip points at 105 V and 133 V. Response to abnormal voltages should be as follows:

Voltage (at PCC)	Maximum trip time
V < 50%	6-cycles
50% < V < 88%	120-cycles
88% < V < 110%	normal operation
110% < V < 137%	120-cycles
137% < V	2-cycles

3.4.2 Flicker – Any voltage flicker resulting from the connection of the inverter to Springs Utility's electric system at the PCC cannot exceed the limits defined by the maximum borderline of irritation curve identified in IEEE Std. 519-1992.

3.4.3 Frequency – the System must have a fixed frequency range of 59.3-60.5 Hz.

3.4.4 Waveform Distortion – the System must have low current-distortion levels to ensure that no adverse effects are caused to other equipment connected to The Contractor's electric system. The System electrical output at the Point of Common Coupling must comply with Clause 10 of IEEE Std. 519-1992. The key requirement is that total harmonic distortion must be less than 5% of the fundamental frequency current at rated inverter output. Each individual harmonic is limited to the percentages listed in IEEE Std. 519-1992.

3.4.5 Power Factor – The System must operate at a power factor > 0.85 (leading or lagging) when output is greater than 10%.

3.4.6 Islanding Protection – The System must cease to energize the utility line when the inverter is subjected to islanding conditions. The Ordering Agency's System must immediately, completely and automatically disconnect from The Contractor's electric system in the event of a fault on the Ordering Agency's System, a fault on The Contractor's electric system or loss of source on The Contractor's electric system. The Contractor, at its own discretion and expense, may conduct periodic testing of anti-islanding.

3.5 The Ordering Agency's over-current protective device (Breaker) must be dedicated and must be capable of interrupting the maximum available fault current. The Breaker shall be clearly marked to indicate power source and connection to the Contractor's electric system. The Contractor will provide and attach an additional labeling for the manual, lockable, load-break disconnect switch or breaker which is described in Subsection 3.2 above.

3.6 The Ordering Agency, at its own expense, must pay for any additional equipment required to connect the System to The Contractor's electric system.

#### 4. WRITTEN AUTHORIZATION REQUIRED TO CONNECT SYSTEM

4.1 The Ordering Agency may not connect the System to the Contractor electric system until: 1) this Attachment 1 has been executed by the parties, 2) the System has been tested, and 3) written authorization to connect the System has been given to the Ordering Agency by the Contractor. The Contractor may have representatives present at the initial testing of the System and may perform (at its own expense) whatever testing of the System that the Contractor deems necessary.

4.2 Within 60 days after notice from the Ordering Agency that the System is ready for interconnection to the Contractor's electric system, the Contractor will inspect the System and will provide a written authorization to connect the System or a statement that the System may not be interconnected because of non-compliance with this Attachment 1.

4.3 After written authorization to connect the System to the Contractor's electric system has been given, the Ordering Agency will make no changes or modifications (and will not allow the Owner to make any changes or modifications) in the System or of its mode of operation without the prior written approval of the Contractor.

#### 5. LOCATION OF SYSTEM

The System will be installed within the Ordering Agency's premises and will be located at the Southwest corner of the intersection of Titus Street and Brown Street, on and adjacent to the Landfill 9, next to Titus Substation in the physical location specified or depicted in the attached Drawing A. The Ordering Agency cannot relocate the System to another premises or physical location without the prior written approval of the Contractor. In the event that such approval is given, any relocation and installation of the System will be at the Ordering Agency's sole expense.

#### 6. ACCESS TO PREMISES

In addition to the access provided pursuant to Article 11.1 of the Areawide Contract, the Ordering Agency also will allow reasonable access to the Ordering Agency's premises and to the System at all reasonable times by the Contractor's personnel in accordance with the City of Colorado Springs City Code and with the Contractor's Tariff: (i) to inspect the System, (ii) to open the load-break disconnect switch, and (iii) to disconnect the interconnection facilities at the Contractor's meter or transformer. The Ordering Agency will allow 24 hour access to the premises and to the System for emergency situations.

#### 7. MAINTENANCE OF EQUIPMENT

At its sole expense, the Ordering Agency will maintain and operate (or will cause the Owner to maintain and operate) the System, including but not limited to, all over-current protective equipment, in a safe and prudent manner and in conformance with all applicable laws, codes and regulations, including, but not limited to, the requirements of Section 3 above. The Ordering Agency will maintain (or will cause the Owner to maintain) records of such maintenance of the System, and these records must be available to the Contractor for inspection at all reasonable times.

#### 8. DISPUTE RESOLUTION

Notwithstanding any other provision of the Areawide Contract or Exhibit A or the FAR or DFAR Disputes Clause, should a dispute arise between the Ordering Agency the Contractor with regard to the actual physical interconnection of the System to the Contractor's electric system under this Attachment 1 or the safety of that interconnection, then any such dispute will be reviewed and determined in accordance with the Dispute Resolution Procedure as provided in the Contractor's Tariffs.

## 9. ASSIGNMENT

Notwithstanding Article 12.1 of the Areawide Contract, this Attachment 1 may not be assigned by the Ordering Agency without the prior written consent of the Contractor, which may be withheld in its sole discretion.

## 10. INDEMNITY AND LIABILITY

In addition to Article 10 of the Areawide Contract, the following special provision applies to the System and its interconnection with the Contractor's electric system: "Neither the Contractor, nor its employees or agents, shall be liable for damage or injury to any person or property, including death, occasioned by the installation, use, operation or intentional misuse of the System (or any of its appurtenant facilities) by the Government, the Ordering Agency or the Owner or by any of their employees or agents, and the Ordering Agency agrees to indemnify the Contractor for any such damages or injury. No provision of this Attachment 1 shall be deemed or construed to be a relinquishment or waiver of any kind of the applicable limitations of liability provided to the Contractor, the City of Colorado Springs, their officers, City Council, Utilities Board, directors, employees, agents and representatives by the Colorado Governmental Immunity Act, § 24-10-101, *et seq.*, C. R. S. A party to this Attachment 1 shall not have any liability whatsoever for any special, indirect, consequential or punitive damages."

## 11. SEVERABILITY

If any provision of this Attachment 1 is found to be illegal or unenforceable, then the remaining provisions of this Attachment 1 will remain in full force and effect, and such term or provision will be deemed stricken for as long as it remains illegal or unenforceable.