



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
600 Fifth Street, NW, Washington, DC 20001-2651

AMENDMENT OF SOLICITATION / MODIFICATION OF CONTRACT

1. AMENDMENT/MODIFICATION A002	2. EFFECTIVE DATE (Same as block 17)
3. ISSUED BY PURCHASING SECTION Robert Dixon 600 5 th Street NW Washington D.C. 20001 Department of Procurement	4. ADMINISTERED BY (If other than block 3)
5. CONTRACTOR NAME AND ADDRESS (Street, city, county, state, and Zip Code)	6. FORM TYPE (Check only one) <input checked="" type="checkbox"/> AMENDMENT OF SOLICITATION NO. FQ18165 DATE _____ (See block 7) <input type="checkbox"/> MODIFICATION OF CONTRACT/ORDER NO. _____ DATE _____ (See block 9)

7. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in block 10. The hour and date specified for receipt of Offers is extended, is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods; (a) By signing and returning 1 copy of this amendment; (b) by acknowledging receipt of this amendment on each copy of the offer submitted; or (c) by separate letter or telegram which includes a reference to the solicitation and amendment numbers. **FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER.** If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

8. ACCOUNTING AND APPROPRIATION DATA (If required)

9. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS

(1) This Change Order is issued pursuant to _____
The Changes set forth in block 10 are made to the above numbered contract/order.

(b) The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 10.

(c) This Supplemental Agreement is entered into pursuant to authority of _____
It modifies the above numbered contract as set forth in block 10.

10. DESCRIPTION OF AMENDMENT/MODIFICATION

The purpose of Amendment 002 is answer questions from the vendor community which were submitted prior to the closing of the open questions period (see attachment #1) and update the scope of work (see attachment #2). The bid opening date has not changed and will take place on June 6, 2018 at 2:00 pm EST.

Except as provided herein, all terms and conditions of the document referenced in block 6, as heretofore changed, remain unchanged and in full force and effect.

11. <input type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS MODIFICATION AND RETURN _____ COPIES TO ISSUING OFFICE.	<input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT		
12. NAME OF CONTRACTOR/OFFICE BY _____ (Signature of person authorized to sign)	15. WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY BY <u>F.R. Voellm</u> (Signature of Contracting Officer)		
13. NAME AND TITLE OF SIGNER (Type or print)	14. DATE SIGNED	16. NAME OF CONTRACTING OFFICER (Type or print) Fred Voellm	17. DATE SIGNED 5/25/2018

Attachment #1

FQ18165: SOLAR LIGHT TOWERS – VENDOR QUESTIONS:

1. 1200W solar collector – our uses 750W – Unit needs to meet technical specifications for lighting from collected solar energy. If this is can be achieved using a 750W collector this is acceptable. REF – Pg. 104 – Power Generation and Storage
2. Electric tilt collector – ours our manual tilt using a hand crank lever to set any angle for maximum sun exposure – This is acceptable
3. Folding tower – we use a vertical tower that extends to 18' – Dimensions in existing technical specifications require 15+'. Proposed height is acceptable. †
4. Our tower uses three, 250W collectors. One of the collectors pulls out on slides. The tower will easily run 50 hours on one charge without any help from the collectors. Can you tell me if this would be acceptable? –This is acceptable. Specifications require lighting that should be able to run while unit is being charged.
5. Our systems operate at 55 VDC (not the specified 24VDC). This is done to achieve the greatest system efficiency possible. Coupled to our solar array and custom on-board DC generator, we achieve charging efficiencies above 95%.

This is acceptable REF – Pg. 104 – Power Generation and Storage

6. We only use advanced lithium ion battery banks (not the specified AGM batteries). Lithium ion batteries are capable of far greater charging efficiencies, have superior cycle life (average life = 8 yrs.), and are much lighter and smaller, allowing for a smaller footprint for the machine and making replacement much, much easier. Our battery banks are equipped with microprocessor controlled battery management systems that not only protect the batteries and maximize cycle life, but also ensure the safety of the user.

This is acceptable REF – Pg. 104 – Power Generation and Storage

7. Is the 50,000 initial lumen output per lamp, or, a total for the entire machine?

Approximately 50,000 lumens from entire unit REF – Pg. 105 – 4.4. Lighting and Charge Control

8. 50 hours of runtime on a single charge would require a massive battery bank. We design systems with balance in mind and therefore our standard hybrid unit can operate on the battery bank alone for 10 hours, at which point the onboard diesel engine will auto-start and run for 2 hours to replenish the battery bank. The unit consumes approximately .25 gallons of diesel fuel per night and is fully autonomous. It requires zero daily user input after it is setup, and requires refueling every 50 days.

Minimum requirement of 50 hours defined in specifications. Metro wishes to minimize labor required for re-fueling

9. We also offer a full solar unit that is capable of 50 hours of runtime on a single charge, but the system is 100% self-sustaining and therefore does not have as much light output as our Solar Hybrid models.

Minimum requirement for diesel backup in the event of low charge weather conditions.

10. Please clarify which one best meets your needs? 800aH/24VDC battery bank at up to 3,800LBs or 1200aH/24VDC battery bank at up to 4,200LBs.

The 1200aH/24VDC battery bank at up to 4,200LBs will meet the minimum requirements of this solicitation. – REF – Pg. 105 – Equipment Housing and Trailer/Towing

Attachment #2

1. Introduction

1.1. Metro currently uses diesel powered portable light towers to provide temporary lighting. The diesel units are used in conjunction with generators for applications such as temporary exterior lighting at stations, to improve safety in public spaces, to support night maintenance work, and for additional lighting at periodic special events.

2. Current Scope of Work

2.1. Metro wishes to acquire) portable, off grid, solar powered light towers that can be deployed on an as needed basis to improve lighting throughout the Metro system. It is anticipated that the use of solar powered units will enable the use of diesel generators providing temporary lighting to be reduced and will significantly reduce the labor resources required to re-fuel, operate, and maintain the current diesel units.

3. Deliverables

3.1. The contract shall deliver portable, off grid, solar powered light towers.

3.2. Upon delivery, contractor must provide set-up and preventive maintenance specifications and schedules. All equipment shall include standard safety features. Contractor must include model # and manufacturer of all equipment.

3.3. Contractor shall provide two sets of training manuals to accompany equipment

3.4. Contractor shall provide a one (1) year warranty, which shall cover parts and labor.

4. Technical Specifications:

4.1. Metro wishes to purchase off-grid solar light tower units. The solar light towers shall meet or exceed all required specifications outlined below:

4.2. Power Generation and Storage:

- A 24 volt direct current (DC) system housed on a single customized towable trailer. **Systems operating at 55 VDC will meet his requirement.**
- A minimum of 1200W of solar power generated from monocrystalline solar array wings housed on solar wings that maximize power per square foot. **A system that uses 750W will be deemed acceptable as long as it meets all other technical requirements.**
- Automated, adjustable solar wings that can be raised, lowered, and stabilized at differing angles to allow Metro staff to optimize the solar wings in a particular location and travel between locations.
Maximum power point tracking (MPPT) charge controllers to maximize solar power gained and to prevent overcharging or over discharging batteries.
- Power storage in a sealed deep cycle bank of Absorbed Glass Matt (AGM) batteries that require no maintenance other than replacement at the end of their lifespan. **Lithium ion battery banks will meet this requirement.**
- A battery state-of-charge meter with incremental visual display of battery capacity with 50 feet and a 20 amp electrical cord to use with an alternating current (AC) battery charger.
Diesel fuel backup generator with an internal fuel tank for use in the event of low battery

charge.

Backup AC power shall support 115VAC/20amp, 50/60Hz dual AC rapid-charger capable of charging up to 40aH to 24VDC dual battery bank using a generator or any other standard 115VAC/20amp commercial electrical source. Lighting should be able to be operated while batteries are being charged.

- Circuit breakers to protect service personnel, solar wings, lights, and electrical systems.
- Approximately 50 hours of run time on a single charge. A low voltage disconnect feature is required in the charge controllers to prevent over discharge of the batteries.

4.3. Equipment Housing and Trailer/Towing:

- Durable housing customized to store and protect the power generation, power storage, and light tower components.
- Four outriggers with jacks for stability when solar wings are deployed.
Internal temperature controlled cooling fans to maintain optimal component operating conditions
- A vertical, folding light tower that can expand up to approximately 15'.
- A towing weight less than ~~3,500~~ 4200 lbs. with a tongue weight of approximately 185 lbs.
- A wheel base of approximately 55.
- A wheel jack on tow bar for easy maneuverability.
- Pintle Lunette Ring or 2 ball connector
- Forklift pockets at bottom of unit.
Four (4) D rings in corners used to secure unit during transportation
- Lockable battery and generator compartment within unit housing with access doors.

4.4. Lighting and Charge Control :

- Four (4) light-emitting diode (LED) floodlights, Ingress Protection (IP) 67 with approximately 50,000 initial lumens. **The output must be Approximately 50,000 lumens from the entire unit.**
- Light timer(s) to enable automated, timed interval, or manual lighting start/stop times (operating independently from solar panels).
- Charge controllers that store monthly downloadable history of performance data
- *The light towers shall be brand new. Discontinued and demonstration models will not be accepted.*
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5. Performance Schedules:

- 5.1. All solar tower units' equipment shall be delivered within 30 calendar days after being issued a notice to proceed by WMATA.

6. Location of work and any constraints:

- 6.1. All equipment shall be delivered F.O.B. destination to Metro's Carmen Tuner Facility (3500 Penny Drive, Landover, Maryland 20785) with delivery charges included.