

**The Philadelphia Parking Authority  
Mellon Independence Center  
701 Market Street, Suite 5400  
Philadelphia, PA 19106**

**Bid No. 16-19  
Install Electric Substation Meters  
Philadelphia International Airport  
Addendum One**

To: See Email Distribution List  
From: Mary Wheeler  
Manager of Contract Administration  
Date: August 29, 2016  
No Pages: 1

This addendum is issued on August 29, 2016 prior to the due date to add, delete, modify, clarify and/or to respond to questions submitted by prospective bidders regarding the work included in the above referenced solicitation.

**CLARIFICATIONS, CHANGES AND ADDITIONS TO THE BID DOCUMENTS**

1. Requests for site visits should be emailed to Frank Ragozzino at [fragozzino@philapark.org](mailto:fragozzino@philapark.org). Please copy Mary Wheeler at [mwheeler@philapark.org](mailto:mwheeler@philapark.org). Appointments can be scheduled for Tuesday, August 30<sup>th</sup>.
2. Bidders' employees shall have completed or be currently participating in a State Certified Apprenticeship program.
3. Please see the attached *Memo on Critical Electrical Systems*.
4. Please see the revised bid form attached, page 00 41 00 – 2.

**QUESTIONS**

1. **Question:** The shut downs, there's going to be a shutdown when we transfer to the generator. That's something we have to coordinate? Is it off peak or during the day?

**Response:** See the attached *Memo on Critical Systems*, dated August 26, 2016.  
Yes, the contractor has to coordinate all shutdowns with the PHL Division of Aviation.

Work will be performed during the day. All shutdowns must be planned and scheduled to maintain lighting and at least one elevator operating in the garages at all time. Consider the following:

Garage A West – The normal unit substation and the emergency unit substation cannot be shut down at the same time.

Garage A East – The 40 KW Generator in the electrical room will be addressed in a later addendum.

Garage B - The normal unit substation and the emergency unit substation cannot be shut down at the same time. Because the meters are not being replaced, shutdowns may not be required in Garage B.

Garage C - The normal unit substation and the emergency unit substation cannot be shut down at the same time. Also, Garage C normal cannot be shut down at the same time as Garage D Normal in order to maintain one elevator in operation.

Garage D - The normal unit substation and the emergency unit substation cannot be shut down at the same time. Also, Garage D normal cannot be shut down at the same time as Garage C Normal in order to maintain one elevator in operation.

Garages E/F - The normal unit substation and the emergency unit substation cannot be shut down at the same time. The generator at Garage F will turn on when the Garages E/F normal unit substation is shut down.

Outdoor Pad Mounted Transformers can only be shut down when there is sufficient sun light and outdoor lighting is not required. Generators at the toll booths and Island Ave will operate when the pad mounted transformer connected to their automatic transfer switches are shut down.

Shut downs should not exceed 6 hours in length during any given day, unless approved by the resident PPA engineer.

2. **Question:** How will the shutdown affect your revenue control system?

**Response:** See the attached *Memo on Critical Systems*, dated August 26, 2016.

The revenue control system has 10 minute UPS power and is fed from Normal/Emergency Panel EP-2B in the Garage E/F that is fed from the generator at Garage E/F. This generator will provide power to the revenue control system when the Garage E/F Normal Units Sub Station is shut down.

3. **Question:** First page of the drawings, you have a table and it's a drawing, which is an alternate. One, two, three, four, five meters. However, on the big form it did not mention anything about an alternate.

**Response:**

- Provide a price deduction for not replacing the electric meters 2016-05, 2016-06, 2016-07 and 2016-08 in section 2.2 part A in the bid form. If this deduct is accepted, the four existing Cutler Hammer meters will need to be checked and certified by the manufacturer and nameplates will need to be installed on each of them.
- Provide a price deduction for not installing an electric meter 2016-19 in the Garage A East Electrical Room. Please use the revised bid form attached (page 00 41 00 – 2).

4. **Question:** Do you list other acceptable manufacturers in spec with the meters? When they say substitutions or do I have to submit it?

**Response:**

- The Electric Metering Specification 26 27 13 does not list a manufacturer. Ideally, all of the meters will be the same but consideration will be given to having different meters if the Price Deduct A warrants not installing E-mon D-mon Class 5000 meters in Garage C and D.

- Garage B already has E-mon D-Mon Class 5000 meters which meets the specification.
- The bill of material on Drawing E-19 is incorrect. It should list E-mon D-mon Class 5000, not Class 2000. Class 2000 meters do not meet the specification.
- All meters, whether new or existing must be checked and certified by their manufacturer.

Bidders can propose an “or-equal” alternative substitution, which must comply with Specifications Section 26 27 13. Proposed substitutions must be pre-approved before the submittal of bids.

5. **Question:** The basis of design, make, model and manufactures is in there, but you can we propose an equal alternate?

**Response:** Yes. But please carefully read Article 16 in the Instructions to Bidders. Your proposed substitution must be submitted for review by the deadline for questions.

6. **Question:** The deadline for material substitutions is August 31, 2016 correct?

**Response:** Yes, August 31, 2016 at 2:00 PM.

7. **Question:** Is all of the work taking place in the City of Philadelphia?

**Response:** Yes.

8. **Question:** In two places it looks like you put the current sensors on two different panels and the lines go through one meter. Is that correct?

**Response:**

- The E-mon D-mon Class 5000 meters will accept multiple current sensors and will add or subtract the current measured from each based on how the sensors are connected to the meter.
- In all locations, the junction box shown on drawing E 19 must be located so that the voltage leads for the meter does not exceed ten feet in length.
- The current leads provided with the sensor are 3 feet in length and may be too short to reach the junction box or, in the case where there are two current sensors, the electric meter. The contractor shall extend the current sensors leads as required using a slice that is acceptable to the meter manufacturer when the sensors leads are too short to reach the junction box.

9. **Question:** It looks like we will put in a new panel, HLP?

**Response:** The (N) shown in this drawing is not defined on the drawing and does not indicate that the panel or other equipment are new. The (N) should be ignored.

10. **Question:** You will clarify who is responsible in an emergency set-up?

**Response:** The contractor.

11. **Question:** Do you have generators at all sites?

**Response:** Yes - as follows:

- Garages have normal 13.2 KV power sources and emergency 4.16 KV power sources which serve the normal unit substations and the emergency unit substations, respectively.

- Garage A East has a 40 KW Generator.
- Garage E/F has a generator that serves the toll collection systems and gates
- The Administration Building has a 400 KW Emergency Generator which will serve the majority of the loads currently served by the 500 KVA padmounted transformer.
- Island Avenue Toll Plaza has a 60 KW Emergency Generator which will serve the indoor loads currently served by the 300 KVA padmounted transformer
- RPL Toll Plaza has a 50 KW Emergency Generator which will serve the all of the loads currently served by the 45 KVA pad-mounted transformer.

**END OF ADDENDUM ONE**

Philadelphia Parking Authority  
PPA Airport Facilities Electric Substation Metering Project  
Bid # 16-19

**Memo on Critical Electrical Systems**

Date: August 26, 2016

The following comments were made during the pre-bid meeting on August 19, 2016:

- a. The contractor will have to coordinate with the PHL Airport Division of Aviation Operations Department in order to schedule the shutdown of the primary circuits.
- b. The work will be done during the day, with some necessary exceptions.
- c. Certain critical electrical systems need to stay on when the transformer is de-energized. This might require the contractor to supply temporary power. There are four of these systems: Revenue Collection, Parking Guidance, Fire Alarm, and Elevators.

**Revenue Collection System**

The revenue collection system consists of the entrance and exit toll plaza controllers and gate arms, ticket machines, and license plate recognition cameras. The toll plaza controllers and gates are all backed up by Uninterruptable Power Supplies (UPSs) for 10 minutes, and then by emergency generators.

In the eastern garages, these toll locations are powered from Panel EP-2B in Garage E which gets normal power from Garage E/F Normal Switchboard and emergency power from the PPA owned generator located at grade, just outside the Garage EF electrical room helix. The following page contains pictures of the generator and of the panel schedule in Panel EP-2B.

Assuming that all of the power for the revenue collection systems, the toll plaza controllers and gates come from branch circuits in Panel EP-2B, this equipment will automatically remain operational when the new electric meters are installed.

A similar configuration exists for the western garages, with the PPA owned emergency generator located in the Garage A East electrical room, feeding panel EM-1.

The contractor will need to confirm that similar generators serve the Economy Lot's two entry tolls (Departures Road and Ramp F), and the entry/exit toll plaza on Island Avenue.



Garage E/F Normal Power Electrical Room  
ATS, 120/208 V Transformer & Panel EP-2B



Panel EP-2B  
Circuit Directory Card

The following are pictures of the 40 KW Generator in Garage A East Electrical Room.



A East Electrical Room  
Generator, ATS, 120/208 V Transformer



Panel EM-1

## **Parking Guidance System**

The Parking Guidance System consists of sensors in the ceilings of the garages which detect when a car drives into or out of a row of spaces. These sensors connect to a computer which calculates how many cars have entered or left, thereby determining how many total spaces are left in the garage. This information is provided to visitors on a variable message sign on the approach roadway, and on the PHL Airport's website.

The system has numerous control boxes in each garage, i.e 10 boxes in Garages A and B. Each of the boxes has 30 minute backup power. After 30 minutes, the parking Guidance System will revert back to zero, and the actual number of parked cars will need to be re-entered into the system manually. This is a time consuming process.

It is possible that the Parking Guidance System is fed off of the same generators and panels as the Revenue Collection System. If it is, it will also stay on.

If the Parking Guidance System is not fed from the same generators and panels as the Revenue Collection System, then power shutdowns will need to be performed between the hours of say 10:00 PM and 4:00 AM on either a Friday or Saturday night. This is when there are the least number of parked cars in the garages. The parking Guidance System cannot be shut down at all from Sunday through Tuesday.

## **Fire Alarm System**

Some of the boxes for the fire alarm system were seen in Garage E/F Emergency Electrical Room. The manufacture is Simplex/Grinell, and the PHL Airport has a service contract with Elliott Lewis. The internal backup battery power is supposed to last 24 hours, in addition to being powered from the emergency circuit. This needs to be verified and coordinated with Elliot Lewis prior to the power being shut down.

## **Elevators**

The shutting down of the Garage Unit Substations should be scheduled to always have at least one elevator in each garage operational.

The following distribution of power is based on a review of the One Line Diagrams:

- Garage A West Normal - No Elevator Loads
- Garage A West Emerg. - No Elevator Loads
- Garage A East Normal - No Elevator Loads
- Garage B Normal - No Elevator Loads
- Garage B Emergency - No Elevator Loads
- Garage C Normal - Elevator 2 and Elevator 3
- Garage C Emergency - No Elevator Loads
- Garage D Normal - Elevator 5 and Elevator 6
- Garage D Emergency - No Elevator Loads
- Garage E/F Normal - 3 Elevators in Bank 1, and 1 Elevator in Bank 2
- Garage E/F Emergency - 1 Elevator in Bank 1, and 1 Elevator in Bank 2

Based on the distribution of power to the elevators, it appears that at least one elevator will be operational in each garage as long as the Normal Unit Substations and the Emergency Unit Substations in each garage are not shut down at the same time.

Notes prepared by  
Joseph F Maida, PE



Name of Bidder: \_\_\_\_\_

2.2 Bid Detail

*Total Combined Extension Cost to Equal Base Bid Lump Sum (Note: Apparent Low Bid Contractor Will be Required to Provide Full Bid Breakdown for De-Scope Review)*

Work Item	Description	Contract Quantity	Unit	Unit Price	Extension Cost
General					
1.1	Permitting	1	LS	NA	\$
1.2	Payment & Performance Bonds	1	LS	NA	\$
1.3	General Conditions/Mobilization	1	LS	NA	\$
1.4	Site Protections & Coordination	1	LS	NA	\$
Electrical					
2.1	Install Electric Meters				
A	Furnish and Install Electric Meters with Nameplates				\$
B	Identify Power Source in Garage A East Electrical Room				\$
C	Fix Panelboard Cover Plate at RPL2				\$
D	Electric Meter Manufacturer's Certification				\$
E	Additional Corrective Work (Allowance)				\$ 50,000
	Total Base Bid				\$
2.2	Price Deducts				
A	Replace four (4) Electric Meters - Garage C and D – with "existing" Cutler Hammer IQ 150				\$
B	Eliminate one (1) Electric Meters – Garage A East				\$

2.3 Extra Work

The undersigned agrees that extra or additional work other than as included in unit quantity work items may be compensated on the basis of actual cost plus:

Profit and Overhead for work provided by own forces= \_\_\_\_\_

Profit and Overhead for work provided by subcontractors= \_\_\_\_\_

Profit and Overhead for materials= \_\_\_\_\_