



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
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March 22, 2013

Contract No. DOT1304-SOLAR_SYSTEM
Solar Powered Electrical System

Ladies and Gentlemen:

Enclosed is Addendum No. 1 for the referenced contract consisting of the following:

1. Five (5) pages, Questions and Answers, new, to be added to the Proposal.

Please note the revisions listed above and submit your bid based upon this information.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott S. Gottfried", is written over a light blue circular stamp.

Scott S. Gottfried
Competitively Bid Contracts Coordinator
:ssg
Enclosures

Delaware Department of Transportation
QUESTIONS AND ANSWERS
DOT1304 SOLAR_SYSTEM
SOLAR POWERED ELECTRICAL SYSTEM
Friday, March 22, 2013

Q #	Question	Answer
30	What is the geographical location of the solar kit (to know the amount of sunlight hitting the area)? This can be approximate, so if it is all over Delaware for instance that is fine...just need to know	Project will be implemented in the State of Delaware. Geographical location has already been taken into account for this project. Please provide systems based on the power requirements provided.
29	How many days of battery backup (autonomy) do they require?	Refer to the Solar Powered Electrical System Requirements of the Technical Specs.
28	How many hours per day does the load need to operate?	System 1 operates at 16 watts/hr for 24 hours/day at 12 VDC (up to 50 Amp Hours/day), System 2 operates 26 watts/hr for 24 hrs/day at 12 VDC (up to 65 Amp Hours/day), System 3 operates at 34 watts/hr for 24 hours/day at 12VDC.
27	What is the load wattage or amperage?	Refer to the Solar Powered Electrical System Requirements of the Technical Specs.
26	What is the load voltage?	Refer to Q28 response.
25	Is NEMA 3R acceptable or do you require a NEMA 4X enclosure?	Refer to the Outdoor cabinet section of the Technical Specs.
24	It looks like you are requesting and oversized enclosure for some equipment and an inverter for a 120V load, but what beyond that?	Please refer to the Technical Specs for any additional requirements.
23	What is the output voltage required?	Refer to the Solar Powered Electrical System Requirements section of the Technical Specs
22	What size of batteries are needed? And what qty of batteries are needed?	Refer to Battery & Solar Powered Electrical System Requirements sections of the Technical Specs.
21	What size of panels are needed (150W)? and what qty of panels are needed?	Refer to Solar Panel & Solar Powered Electrical System Requirements sections of the Technical Specs.
20	Can the bid be extended for another 2 weeks?	The bid date will not be extended.
19	What are the solar systems being used for? This might give a better understanding on what the State is looking for & how to construct the solar systems.	The solar systems will be used to provide power to ITS/Traffic devices installed at locations whereby hardwire power is not readily available. Power consumption of the entire system has been taken into account. Refer to response to Q23 for power requirements. Specific systems use is not the concern of the contractor.

Q #	Question	Answer
18	Communication type will play a part in the system wattage requirements. For instance, if the State was to choose communication with a cellular modem, the power consumption of the modem would use approximately 15W, not giving much availability on the 16W system being requested.	See response to Question 17.
17	Communications are referenced under the solar controller/regulator specifications, but do not specify which type of communication the State would like to or are currently using. What type of communication?	The State utilizes various means of communications. Communication type is dependent on install location and is determined on a project by project basis. Power consumption of the communication system has been taken into account in the overall system wattage. Refer to response to Q23 for power requirements.
16	And again under the battery specs, item f references the a bypass switch. Is this to be supplied in the cabinet or just be capable of shutting power off from the battery?	The bypass switch must be provided as part of the system.
15	Again under the battery specs, item e references the ability to charge the battery from a 110VAC power source. Am I to supply the charger or is this the responsibility of the State?	The charger is the responsibility of the State.
14	Under the specifications for the battery, a 129AH rated battery is required. Would a Type 31 120AH battery be acceptable?	The 129 AH rated battery is the minimum requirement.
13	With regards to the overall specifications, is there a specific manufacturer for this material that the state has in mind?	The State does not have a specific manufacturer in mind.

Q #	Question	Answer
12	<p>Technical Specifications/Outdoor Cabinet</p> <p>Line b reads: Sized to house batteries (maximum of four), charger, and solar panel controller and provide 12 inches of additional free space for ITS field interface equipment as specified by The Department.</p> <p>In question 7 the reply was “12” of open rack space is required above the ITS field components.” This response would seem to indicate that we need to provide 12 inches of standard 19” rack space, which works out to almost 7 rack units. Is this the case? If we have misinterpreted the need for rack mount space, can you tell us if a space on a vertical back panel inside the control enclosure measuring 12” x 12” will be adequate? If not exactly as such, can you provide some detail about your expectation for free space?</p>	7 rack units is correct.
11	<p>Is there intent to install a DC to AC inverter for this purpose and if so, are we required to provide that as part of the system and if so, what wattage? If no inverter is to be installed and the receptacle is needed, is it to be wired to the 50A 120VAC power inlet and share that power source with the internal battery charger? Is this requirement listed in the bid package?</p>	An inverter is required based on the battery connection and jumper configuration implemented in the field. It is the responsibility of the vendor to determine the wattage.
10	<p>In question 6 about the NEMA receptacle, the reply was “A receptacle within the cabinet shall be supplied to power field laptops (NEMA 5-15R receptacle)” Was this answer related to the NEMA 50A power inlet? If so, please explain. If it is not related, does the system in fact require an internally installed 120VAC NEMA 5-15R receptacle as stated? If we provide it, from what source will the receptacle receive 120VAC power?</p>	A NEMA 5-15R is not required.

Q #	Question	Answer
9	The NEMA 5-50P plug and 5-50R receptacle in Question 8 are for reference only. If the desired plug and receptacle combination differs from these, please indicate which configuration is correct. If we have understood the requirement correctly to supply an AC power inlet, we would not provide the mating receptacle since it would be assumed to be part of the portable generator unless otherwise indicated as a requirement. Please confirm.	The plug provided should conform to NEMA L5-30P.
8	<p>Technical Specifications/ Battery, Line e reads: Have the ability to be charged from a 110 volt, 50 amp AC outlet and shall be charged to 95% of the total output voltage in less than 24 hours and to 100% within 48 hours. Is our interpretation of this correct? A NEMA style power inlet with a weather-proof cover such as NEMA 5-50P is required on the side of the control enclosure so that a portable generator with the mating receptacle (NEMA 5-50R) can be brought on site to recharge the battery bank. Included with the system, located inside the control enclosure, will be a permanently installed battery charger with the AC input pre-wired to the AC power inlet (NEMA 5-50P) and with the DC output connected to the battery bank through proper circuit protection, to facilitate the recharge of the battery to a level of 95% full charge in 24 hours or less and to a 100% state of charge within 48 hours or less.</p>	You are correct in your interpretation.

Thursday, March 14, 2013

7	They say they what 12 inches of room to mount their ITS equipment, can they define the 12" is that 12 long or 12 square inches or 12 cubic inches? If it is 12" long what is the width and depth?	12" of open rack space is required above the ITS field components.
6	What type of Nema3 receptacle do they require on the side of the enclosure?	A receptacle within the cabinet shall be supplied to power field laptops (NEMA 5-15R receptacle)

Q #	Question	Answer
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Thursday, March 07, 2013

5	The reference the desire to use a 50 amp AC battery charger, do they want the battery charge built into the solar solution so all they would do is roll up and plug in a AC power source or do they want an AC receptacle in the side of the enclosure that they will plug the vehicle mounted 50 amp Battery charger into?	The solution should be all self-contained.
4	Is this an extension of sensor project or is this something different?	The systems are proposed to provide power to a variety of ITS applications capable of utilizing industry standard solar power (i.e., detection systems, traveler signage systems).
3	Can you provide the actual wattage of the panels?	The minimum required wattage of the panels is 150W.
2	Can you give us anticipated loads so we can verify correct sizes of solar panels and batteries?	Anticipated loads will be provided on a project-by-project basis by The Department as per the deployed system for respective projects.
1	What is the application- what are you proposing to power with these units?	The systems are proposed to provide power to a variety of ITS applications capable of utilizing industry standard solar power (i.e., detection systems, traveler signage systems).