

**IFB VA701-16-B-0099 - MEMPHIS CHP PLANT TECHNICAL QUESTIONS AND VA RESPONSE TRACKING SHEET**

ITEM NO.	DATE QUESTION RECEIVED	DATE QUESTION ANSWERED	QUESTION	GOVERNMENT RESPONSE
1.	8/10/2016	8/11/2016	I am investigating the Memphis CHP job and would like to reach out to the EPC groups for utilizing our CHP systems. I spoke with the design engineering firm and they stated that the site is based on CAT, but the recent RFQ states a design build request. Are there any preliminary designs for this system that is accessible? Also is there a way to obtain a list of possible contractors or EPC groups?	Please look at <a href="http://FBO.gov">FBO.gov</a> under Solicitation VA701-16-B-0099 for the specs and drawings.
2.	8/17/2016	8/18/2016	The specifications for this project say that the owner will engage the Commissioning Agent under a separate contract. We are interested in providing any building commissioning that might be required, but I'm unsure about how to go about doing that.	The VA has already retained a Cx agent for this project, since the design. Thank you for your interest.
3.	8/22/2016	8/24/16	How will this project impact parking for the facility? Will there be an impact on pedestrian traffic?	The single row of parking between the cooling tower and the clinic building where the CHP building is to be located can be blocked off during construction as required. The drive between Building 1 where the existing boiler plant is located and the clinic must remain open to continually service the underground tanks, loading docks, and clinic drop off. The row of handicap parking nearest the new storm drain line may be blocked only for the minimum amount of time to perform the work. Phase all work in the parking lot including fencing and trenching covers as required. Coordinate plan with COR.

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4.	8/22/2016	8/24/16	Is there a water treatment center behind the cooling towers?	Yes. There is a room on the back of the electrical building at the cooling towers that has a domestic water backflow preventer and condenser water treatment. This is the location that domestic water for the CHP building will be provided from. See sheet PS101.
5.	8/22/2016	8/24/16	Are there fencing requirements for the project?	Fencing requirements are noted in spec section 01 00 00 1.6 I. Fencing shall be the minimum area required to perform the work and secure the worksite and coordinated with the COR.
6.	8/22/2016	8/24/16	We can't find specifics on the granular fill under the slab; thickness or specified material?	See spec section 31 20 11 2.1 B.
7.	8/22/2016	8/24/16	The foundation excavation will require removal of asphalt greater than the building's footprint. What is the spec on base and asphalt to go back in?	See spec section 32 12 16.
8.	8/29/2016	9/2/2016	Please clarify the intent of the conduits on EP103 note 2, EP102, Reference Note 2, and the 2" communication conduit on ES101.	The 2" conduit on EP103 is for tying the building security system into the campus security system.
9.	8/29/2016	9/2/2016	After looking at MCC, "GN-1", it does not look as if it would be feasibly, or meet code to connect the three sets of 750 phase conductors and the neutrals, from the new gen set into the existing MCC line up. Possible best method would be to add a new vertical Main Lug section to the right of the existing MCC line-up. The new 450/3 breaker for "CHPHV" could also be installed in this section. If Siemens can't provide the neutral buss and lugs in that section, a junction box to the right of the new section could be added for the neutral connections. Please advise.	See Revised sheet EP101. Posted in Amendment A00003. See attached - EP101.

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10.	8/29/2016	9/2/2016	The breaker in “SB-V1” for MCC GN-1” does not have a neutral buss assembly or neutral CT’s in that section. Siemens would need to add the neutral assembly to this section. Will ground fault protection be required with the addition of the back feeding neutrals?	A neutral will be required. A ground fault will not be required.
11.	8/29/2016	9/2/2016	Please verify with the hospital how the shutdowns to “SB-V1” will need to be handled. The gear will need total outages to install the new equipment.	Shutdown times and durations will need to be coordinated with the VA. Use of the existing emergency generators may be required to keep life safety systems on-line. This work will need to be done “after hours”.
12.	8/29/2016	9/2/2016	Will any fire alarm devices be required for the CHP plant?	No.
13.	8/29/2016	9/2/2016	Will lightning protection be required for the CHP plant?	Yes, See Added sheet EP104 and Facility Lightning Protection Specification. Posted in Amendment A00003. See attached - EP104 and 264100 - FACILITY LIGHTNING PROTECTION.
14.	8/29/2016	9/2/2016	Will all of the security wiring noted on EP102, Reference Note 2, be required to be installed in a raceway?	Yes.
15.	8/29/2016	9/6/2016	Where is the existing AUMS system noted on EP102, Reference Note 5, located? What does AUMS stand for? Please provide Specifications.	See the attached As-built plans for the existing AUMS system. Posted in Amendment A00003, see attached - 29489782-027 (Memphis) and AS-BUILT Memphis Network Drawing.
16.	8/29/2016	9/2/2016	Is the Building Energy Management System communications coming from the cooling tower electrical room in one of the 2” conduits installed in the control duct bank, or is it one of the conduits from the CHP plant to the boiler room?	The point of connection to the existing building energy management system is at the option of the contractor. Our thought was at the boiler plant due to a larger amount of spare points in the control system.

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17.	8/29/2016	9/2/2016	What are the status inputs and alarm inputs required in the CHP plant on the Building Energy Management System?	The status points from the CHP plant controls to the building energy management system are noted on sheet MI101 Combined Heat and Power Plant Mechanical Sequence of Operations 1.c. No alarms are required to be communicated between the two control systems.
18.	8/29/2016	9/2/2016	One of the existing chillers is on emergency power at this time. If possible, would it be better to remote trip and close the breaker in "SB-V1" for MCC "GN-3"? This scenario would eliminate the shutdown of the gen set, thus keeping some or all of the cooling towers and cooling pumps on.	Due to various regulations it is not possible to run this generator during loss of normal utility power.
19.	8/29/2016	9/2/2016	I cannot find section 07 22 00 in the specification. Can this be supplied?	See attached Spec Section - 072200 ROOF AND DECK INSULATION, posted in Amendment A00003.
20.	8/29/2016	9/6/2016	Is the project subject to sales tax?	The contractor is to provide all pricing to include all applicable taxes. Please refer to FAR Clause (By Reference) 52.229-3 "Federal, State and Local Taxes."
21.	8/29/2016	9/2/2016	Is a construction fence needed on this project? It is listed in the specification, but I cannot find the extents of the fence on the drawings?	Fencing requirements are noted in spec section 01 00 00 1.6 I. Fencing shall be the minimum area required to perform the work and secure the worksite and coordinated with the COR.

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22.	8/29/2016	9/2/2016	Will the parking lot be closed during construction?	<p>The single row of parking between the cooling tower and the clinic building where the CHP building is to be located can be blocked off during construction as required. The drive between Building 1 where the existing boiler plant is located and the clinic must remain open to continually service the underground tanks, loading docks, and clinic drop off. The row of handicap parking nearest the new storm drain line may be blocked only for the minimum amount of time to perform the work. Phase all work in the parking lot including fencing and trenching covers as required. Coordinate plan with COR.</p>

23.	8/29/2016	9/6/2016	Section 1.24 of the general conditions calls for pictures to be taken by a professional photographer. Can the pictures be taken by our foreman if they have the proper camera?	Yes, if the photographer can capture the general conditions clearly and concise.
24.	8/29/2016	9/6/2016	On drawing EP102, Reference Note #5, What does AUMS stand for? What is the type and performance of the existing AUMS? Who is the preferred manufacture of the electrical meter? Is this referenced meter to be part of the Caterpillar Circuit Breaker Panel?	AUMS stands for Advanced Utility Metering System. See the attached As-built plans for the existing AUMS system. Referenced meter shall connect to the nearest exiting AUMS panel with sufficient spare capacity. Posted in Amendment A00003, see attached - 29489782-027 (Memphis) and AS-BUILT Memphis Network Drawing.
25.	8/29/2016	9/2/2016	In spec section 26.32.00 page 1, paragraph 1.3A, the statement is made that this generator set is designed for parallel operation with utility "and as emergency power". Please clarify or delete the phrase "and as emergency power".	Delete "and as emergency power" from section 26 32 00 1.3 A.
26.	8/29/2016	9/2/2016	On drawing MP106 the gas requirement is sized at 6,910 MBH @ 2 PSI. Spec section 26.32.00, page 1, states the fuel consumption is to be designed for 7450 MBTU/HR, + or - 5%. Please consider changing those values to read 9,600 cubic feet per hour which includes a 20% "safety margin".	The spec sheet provided from the manufacturer for the basis of design states the fuel consumption as 6581 MBH ±5% which yields 6910 MBH as a maximum. If the submitted unit varies from this value the contractor is responsible for coordinating all necessary changes.
27.	8/29/2016	9/2/2016	Drawing EP101 shows the generator breaker and a load side fuse, yet specification 26.32.00, page 4, paragraph 2.3, does not include a fuse. Is this fuse required? If so, please advise the specification of the breaker and fuse.	The fuse is not required. See revised sheet EP101. Posted in Amendment A00003. See attached - EP101.
28.	8/29/2016	9/2/2016	Drawing EP102 requires a generator annunciator panel under general notes #1. There is no description of this panel in the specifications. Caterpillar's (Thompson Power) proposal will include an operating computer in the boiler room which can act as a remote annunciator if desired. Will this operating computer suffice as the remote annunciator?	This Computer will suffice.

29.	8/29/2016	9/2/2016	Drawing EP102, under Controls Circuitry Schedule, statement 4, requests 40 #14's and 4- #10's, stranded. The attached P and ID, (piping and instrumentation diagram), drawing 16272, shows approximately 30 external devices, (level switches, pressure switches and other control devices), that are to be installed as shown in the piping of the 4 water circuits and exhaust circuit. Each device requires 3 #-14 wires going from the device to the Caterpillar HAS control panel. Each device is provided by Caterpillar. Please revise circuit schedule to state quantity of 90 #14 wires in a properly sized conduit.	See Revised sheet EP102. Posted in Amendment A00003, see attached - EP102.
30.	8/29/2016	9/2/2016	Drawing EP102, "Building 11 Floor Plan Power", "Reference Notes #3", shows 2- #3 arrows on the drawing. Arrow #3, pointing to the TEM Engine Control Panel, should be referenced as Note #4.	See Revised sheet EP102. Posted in Amendment A00003, see attached - EP102.
31.	8/29/2016	9/2/2016	In specification 26.32.00 page 12, paragraph 2.5D, remove this paragraph and replace with "Expansion Tank Schedule" on drawing MS601. Note: all expansion tanks are to operate at 150 psig.	26 32 00 2.5 D shall be replaced in its entirety to read: "Expansion tanks: All of the 3 separate water cooling circuits require and expansion tank of sufficient capacity. See Expansion Tank Schedule on sheet MS601." Posted in Amendment A00003, see attached - MS601.
32.	8/29/2016	9/2/2016	In specification 26.32.00 page 10, 11, paragraph 2.5, please change bottom line to read, "There are 4 distinct circuits of coolant / water flow: and Add just before paragraph A,: "Circuit #4 (dump circuit or excess heat circuit) to be as shown on drawing MI 101 and expanded on P and ID drawing #16272 (attached). Note the 3 different working pressures of the 4 circuits: Engine circuit #1, 3 BAR; CHP circuit #2, 10 BAR; A/C (Aftercooler) circuit #3, 3 BAR; Dump or Excess Heat Circuit #4, 6 BAR.	The sentence in the first paragraph of section 26 32 00 2.5 that reads "there are 3 distinct Circuits of coolant /water flow:" shall be modified to read as follows: "there are 4 distinct Circuits of coolant /water flow:" Add the following at the end of the same paragraph: "Circuit #4 (dump circuit or excess heat circuit) to be as shown on drawing MI 101 and expanded on P and ID drawing #16272 (attached). Note the 3 different working pressures of the 4 circuits: Engine circuit #1, 3 BAR; CHP circuit #2, 10 BAR; A/C (Aftercooler) circuit #3, 3 BAR; Dump or Excess Heat Circuit #4, 6 BAR."

33.	8/29/2016	9/2/2016	Drawing MI 101, Mechanical Sequence of Operations: Add as paragraph 4g. "During all normal and emergency shut downs, the pump time delay is to be 8 minutes (adjustable) as noted in the specifications. Without utility power available, an immediate shut down of generator and pumps will occur."	The pump time delay is already in the project documents. The immediate shut down of the generator is noted in the Electrical Sequence of Operations on sheet EP101 and the pumps will shut down as a result of generator shutdown based on the Mechanical Sequence of Operations as written on MI101.
34.	8/29/2016	9/2/2016	Specifications 26.32.00, page 11, paragraph 2.5B describes the two (2) roof mounted remote radiators. The approved Guentner radiators have different characteristics than the specifications. The Guentner radiators have riveted steel frame, are galvanized, and painted light grey, and are designed for 94 MPH wind load. They have a plenum chamber with lifting holes. These radiators (called "table top") do not use core guards as the bottom of the fin core is "under the table". The fans have induced draft and have OSHA guards on the top. Both radiators have horizontal core with vertical air discharge. Both radiators have aluminum fins. The round tubes are mechanically expanded into the fins for best heat transfer. Fan is driven by a 60 HZ, 3 phase, 480 volt external rotor motor which meets IP54.	26 32 00 2.5 B shall be replaced in its entirety to read: Remote Air Cooled Radiator: Guntner Model GFH or approved equal aircooled fluid cooler. Radiator shall include welded and bolted or riveted steel frame, galvanized, suitable for p4 mph wind load, plenum chamber, lifting holes, core guard or table top deisnge, OSHA fan guard and fan drive supported by frame. Core shall be horizontal for vertical air discharge, aluminum fins, solder bonded or mechanically expanded to flat brass copper tubes. Fans shall be forced draft, fixed center, direct driven by a 60hz, 3 phase, 480v totally enclosed electric motor of external rotor motor which meets IP54.
35.	8/31/2016	9/2/2016	My questions about base under slab and paving; were more about thickness. The specs point to the drawings; the drawings say nothing ... at least that I can find. How thick granular base under slab; under paving; and how thick is the replacement paving? The only reference to paving thickness is 2" at pipe trenches.	Any trench paving shall be installed per detail 4/CG100. For asphalt replacement around building at footing excavation backfill in same manner as detail 4/cg100 with the footing serving as one side of the "trench". Under slab base is to be 4"
36.				
37.				
38.				

