Procurement and Contracting Services

Request for Proposals for the Design and Installation of a Supervisory Control and Data Acquisition (SCADA) system for the Biosphere 2

ADDENDUM #1

Please mark all proposal submission Envelopes with the following information

Sealed RFP # L181902
Due on 8/29/18 no later than 2:00 PM, MST
The following questions have been received by the technical question due date of August 16, 2018 by 12:00 PM MST.

1. What is/are the existing control system hardware at the facility? PLC or DDC or combination?
   a. Biosphere 2 uses a supervisory control and data acquisition (SCADA) system for remote control, monitoring and logging of data coming from Biosphere 2 and its associated power plant. The current system consists of National Instruments (NI) Lookout v5 and Fieldpoint 1500/1600 series modules integrated with Allen-Bradley 5/40E PLCs. The Fieldpoint backbone is predominantly used in the power plant with a few functions within Biosphere 2 while the Allen-Bradley 5/40E PLC is entirely in Biosphere 2.

   The NI Lookout and Fieldpoint systems are connected over a 10/100 mbps fiber local area network. NI Lookout v5 is used as the control system front-end process and performs the Human Machine Interface (HMI) client service links to the client machines. NI Lookout v5 is also capable of collecting data at specified intervals and can be stored in relational databases, character delimited text, or Excel spreadsheet files. The Biosphere 2 and Energy Center processes run on Windows XP Professional platforms with dedicated primary and secondary role servers. The Biosphere 2 processes provide control functions for managing environmental parameters which include temperature, relative humidity, and irrigation. The Energy Center processes provide control functions for managing energy which include generator, chiller, tower water, and boiler operations. The instrumentation and relays connect to NI Lookout v5 through NI Fieldpoint 1500/1600 series modules. The NI Fieldpoint modules vary by either analog or digital relays that are configurable through the local area network. The Allen-Bradley 5/40E PLCs are used for connecting instrumentation relays connected at various remote input/output racks located inside Biosphere 2. Typically, standard hours are expected dependent on where the work needs to be completed. Overhead access will have to be coordinated with activities occurring on the floor.

2. Has a third party engineering firm been engaged for either preliminary design/feasibility or will one act as an owner’s rep?
   a. No a 3rd party engineering firm has not been engaged nor will one be. If engineering is needed then is will be the responsibility of the mechanical/control firm to supply services.

3. Is there a technical specification drawing or mechanical/electrical drawings available for the above RFP?
   a. No, there are no drawings available, field survey only.
4. Section 5.6 of the RFP requires the controllers to be BACNet compatible and BTL listed. This requirement eliminates the consideration of a PLC-based solution. Will the University remove this requirement and open the solicitation to industrial control systems?
   a. No, we will not remove this requirement.

5. Will we provide the points applied to the criteria?
   a. No

6. Will the budget be provided?
   a. No, the budget will not and has not been provided.

7. Can vendors bid replacement cabinets or supplemental cabinets?
   a. While it is not within the scope nor required, yes, vendors can bid with replacement cabinets and justification for why they feel it might be necessary. Please have this cost separated from the requested information in the bid as an additional option.

8. How many control screens are in the current system?
   a. About 25 – 30 with some sub screens within

9. Who will handle the network infrastructure?
   a. The network infrastructure is handled by internal IT department, including managing network switches. Vendor will work with IT department, switches, routers and VPN and vendors will have the ability to remote in when needed.

10. Does the new system need to be expandable?
    a. Yes, the new system will need to be expandable as new items may need to be added down the road.

11. With respect to the site network communications, we observed that there is fiber optic cable terminated on an Ethernet switch in or near most of the PLC and the DDC systems RTU cabinets. May we use the available fiber network, via the currently unused Cat-5 ports at all PLC and DDC system locations for Ethernet RTU subnet communications back to the main PLC location and SCADA head-end?
    a. Yes

12. Could you explain the terms of the 5 year agreement? Is this the defined warranty period?
    a. The 5 year agreement starts the date the agreement is fully executed and would be a service agreement involving all the aspects of the proposal. The warranty period should be provided by the vendor as part of the proposal, we have not defined this period.
Additional Notes:

Screenshots from the control system monitors will be sent in an email to the individuals who attended the mandatory walk through.

End of addendum, all else remains the same