



May 6, 2020

To: All Potential Respondents

From: Bobbi Pulley, Purchasing Agent

Subject: RFB1820005098 – Water Treatment Chemicals and Services-Capitol Complex

Addendum One

Please amend the subject RFB to include answers to the following questions and answers:

Site Visits

Q1. Will site visits be permitted?

A1. Due to the circumstances surrounding COVID-19, the State will not permit site visits. However, for additional information about the current equipment and its condition, please see the attached photos.

Scope of Work

Note: The Central Energy Plant (CEP) houses the three main boilers and 3 main chillers for the Capitol Complex. Capitol Complex Maintenance (CCM) refers to the equipment in the other buildings; Oran Pape, Historical, and the Iowa Utilities Board (IUB). Additional information about that equipment begins on page 8.

Q2. The current solicitation in the Scope of Work states in 4.1.1.6 states that “Utilize all existing feed and control equipment and supply replacement probes as needed or annually, whichever comes first”. Does this mean that all the existing feed and control equipment is owned by the state and will not be removed by the current supplier, if they do not get the contract? Does this mean all chemical containers (drums, totes, etc.) will be left in place?

A2. Yes.

Q3. Could you find out the Horsepower of the 3 natural gas steam boilers at the energy plant, the 2 steam boilers at the Iowa labs, and the 1 steam boiler at the historical building? Also, I presume that all the water-cooled chillers have cooling towers? The solicitation lists the number of cooling towers for the energy plant but does not list the number of cooling towers for the historical building, Oran Pape or the Iowa labs. I can presume each water-cooled chiller has a cooling tower, but if so, I need to verify the number of cooling towers for each system. This information is needed to estimate the water and chemical usage of the systems

*A3. CEP: The HP for the 3 CEP boilers are 400, 600, and 900.
CCM: Historical steam boiler is 24 HP. Historical has two cooling towers. Oran Pape has one cooling tower.*

Iowa Labs: steam boilers are 62.9 HP. Iowa Labs has a 3 cell cooling tower with a separate 8000 gallon underground sump.

Q4. Can you provide the annual water usage data for each cooling tower, boiler, and closed loop included in the bid?

A4. CEP and CCM: See below.

- Iowa Labs: The cooling tower has its own city meter 2019 cooling tower water usage 3,252,000. Steam boiler use between 5 and 15 thousand gallons per day from September through May.*
- Q5. Can you provide information (Product Data Sheets or Safety Data Sheets) for the chemicals currently being utilized at each location?
- A5. *Contractor will determine necessary chemicals and quantities.*
- Q6. What are the horsepower ratings, lbs/hour steam production, operating days, and make up water usage for each boiler? (For the Three Natural gas steam boilers, 810Kw boiler, and the nine natural gas condensing boilers.)
- A6. *CEP: The HP for the 3 CEP boilers are 400, 600, and 900.
CCM: Historical steam boiler is 24 HP. Historical has two cooling towers. Oran Pape has one cooling tower. Usage for CCM varies based on temperature
Iowa Labs: 62.9 HP on the steam boiler they operate when the temp is below 55 degrees September through May 5000 to 15000 gallons per day. Condensing boilers are 24/7/365 2,000,000 BTU's each*
- Q7. Which boilers if any, share a common feed water tank with each other?
- A7. *CEP and CCM: All 3 Natural gas boilers at the Energy plant
Iowa Labs: steam boiler*
- Q8. What equipment will be available for use for new program? Including all blowdown controllers for boilers, and water towers, as well as conductivity controller for boilers and water towers.
- A8. *CEP and CCM: see Controller Equipment
Iowa Labs: BAS controls conductivity, on the Boilers, standard gallons counter turning chemical pumps on/off*
- Q9. Are the 4 water towers connected together with an equalized sump or separate?
- A9. *Connected together with equalized sump*
- Q10. What are the size in gallons of each of the closed loop systems in section 4.2.3?
- A10. *CCM: Approx 2250 ft of 18 inch pipe plus return would be an estimated 60,000 gallons.
Iowa Labs: Approx 4800 for the heating. About the same for chilled in the main building. F building would be less than 1000 for heating*
- Q11. Are any of the closed loop systems listed glycol loops?
- A11. *CCM: IUB Building and free cooling loop
Iowa Labs: No*
- Q12. What are the operating days and annual make up water usage rates for the water tower system?
- A12. *CCM: Varies based on temperatures
Iowa Labs: when the temp is above 50 degrees*
- Q13. Are there any additional towers associated with the chillers in system?
- A13. *CCM: 2 towers at Historical and 1 tower at Oran Pape
Iowa Labs: has one 3 tower cell with an 8000 gallon underground sump*
- Q14. Are the chillers at Oran Pape, Historical Building and Iowa Labs closed systems? And if they are closed, are they glycol loops, or treated water?
- A14. *CCM: Treated water
Iowa Labs: the chilled loop is treated city water and the condensing is not a closed loop treated city water.*
- Q15. Are there any to-drain restrictions on water treatment chemistry? Such as Ames does not allow Moly to be dumped to sewer.
- A15. *Contractor will have to work city water facilities to see what the limitations are.*
- Q16. What are the metallurgies of the water tower system?
- A16. *CEP and CCM: That information is not available at this time.
Iowa Labs: Stainless tower, steel piping below grade, fiberglass piping above grade*
- Q17. Have the boilers had any tube failures, or failures of any kind? Is so, what and when?
- A17. *CEP: Pin hole on the water side for boiler 2 fall 2019
Iowa Labs: None*

- Q18. What are the recirculation rates on the water tower pumps in gallons per hour? What are the system volumes of the open cooling water side in gallons?
- A18. *CEP and CCM: 1750 GPM Estimated sump 15,000 gal
Iowa Labs: 2400 GPM 8000 gallon sump*
- Q19. Are all make up water sources city water? Are there any softened water sources going into the cooling system or loops?
- A19. *CEP: Yes for the city water make up. No softened for the cooling system or loops
Iowa Labs: no all city water, the steam boiler are for Humidification only, they have no condensate return, 100% fresh feed all the time*
- Q20. What are the annual make up rates, operating days, and at what capacity are they being used? For the systems mentioned in section 4.2.1, 4.2.2, 4.2.3.
- A20. *CEP and CCM: See usage below
Iowa Labs: L Steam boiler use between 5 and 15 thousand gallons per day from September through May*
- Boiler systems:
- Q21. What is the maximum number of chemicals that may be applied to each system?
- A21. *CEP and CCM: no maximum
Iowa Labs: Agriculture Lab and State Hygienic lab have to approve the chemicals used in the humidification boilers.*
- Q22. What is the injection point where each chemical is applied to? (ie. Return line treatment is added to steam header)
- A22. *CEP and CCM: Injection ports at the DA tank
Iowa Labs: chemicals are added to the day tank of the steam boilers*
- Q23. What pretreatment equipment in use or available for each system. (ie. Softeners, DA or heated FW tank)
- A23. *CEP and CCM: All fed in to the feed water DA tank
Iowa Labs: Softened water and steam heated day tank*
- Q24. What is the source of the makeup water for each system?
- A24. *CEP and CCM: City Water
Iowa Labs: City water*
- Q25. What is the system water volume for each system?
- A25. *CEP and CCM: That information is not currently available-estimated at 13,000 gal
Iowa Labs: Cooling tower has 8000 gallon sump
Iowa Labs: boiler day is 300 - 500 gallons
Iowa Labs: Heating and chilled loops about 4800 gallons main Building
Iowa Labs: Heating less than 1000 gallons F building*
- Q26. What is the annual system water usages for each system?
- A26. *Iowa Labs: The cooling tower has its own city meter 2019 cooling tower water usage 3,252,000
Iowa Labs: Steam boiler use between 5 and 15 thousand gallons per day from September through May*
- Q27. What is the percentage of condensate return for each system?
- A27. *CEP and CCM: No testing done on percentage of return but do have a condensate return system in place.
Iowa Labs: none*
- Q28. For each chemical feed pump what is the capacity and materials of construction. Or model number and manufacturer of each chemical feed pump.
- A28. *CCM: See equipment list
Iowa Labs: Walchem E class .6 GPH*
- Q29. What is the model number and manufacturer for each chemical controller?
- A29. *CCM: See Equipment list
Iowa Labs: Siemens BAS*

- Q30. Which sensors are already installed on each controller?
 A30. *CCM: See Equipment list*
Iowa Labs: Cooling Tower Myron L for conductivity and Little Dipper for the Tracer
Iowa Labs: Boiler Myron L Cond probes in each boiler and hand held Little Dipper
- Q31. Are working water meters connected to each chemical controller?
 A31. *CEP and CCM: No. Usage based on total water to building*
Iowa Labs: Yes but not monitored on cooling towers and use the meter on the boilers for chemical control
- Q32. What is the operating pressure for each boiler?
 A32. *CEP: 85PSI*
CCM: Historical 5 psi
Iowa Labs: 5-15 psi
- Q33. What is the average steam flow from each boiler?
 A33. *CEP, CCM and Iowa Labs: Varies based on load and usage*
- Q34. How many hrs. Per day is each boiler is operated?
 A34. *CEP, CCM and Iowa Labs: 24/7 when temp is below 55 degrees September through May*
- Q35. How many days per year is each boiler is operated?
 A35. *CEP, CCM and Iowa Labs: 24/7 when temp is below 55 degrees September through May*
- Q36. Are eyewash stations available within 10ft of each chemical storage location?
 A36. *CEP, CCM and Iowa Labs: Bottle station available*
- Q37. Are corrosion coupon racks already available and installed?
 A37. *CEP, CCM and Iowa Labs: no*
- Q38. Are there any chemical storage tanks currently available or do new chemical storage tanks need to be provided?
 A38. *CEP and CCM: Tanks are available and currently in use*
Iowa Labs: setup for 55 gallon barrels
- Q39. If storage tanks are required what are the limiting dimensions for the chemical storage tanks?
 A39. *CEP and CCM: Tanks are available and currently in use*
Iowa Labs: setup for 55 gallon barrels
- Q40. If chemical storage tanks are already in use. Please provide the age, material, and density of the storage tank.
 A40. *CEP and CCM: 120 Gal totes 30 in diameter 48 in tall qty of 3*
Iowa Labs: setup for 55 gallon barrels
- Q41. What level sensors are available on existing storage tanks?
 A41. *CEP and CCM: none*
Iowa Labs: setup for 55 gallon barrels
- Q42. For closed loop recirculating systems – Which ones are using inhibited glycol, uninhibited glycol, and treated city water?
 A42. *CCM: free cooling loop uses glycol; IUB loop uses glycol; all others are treated city water*
Iowa Labs: all are treated City water
- Q43. Does any existing water treatment testing or monitoring equipment need to be replaced or will need to be replaced within the next 3 years?
 A43. *CEP, CCM and Iowa Labs: no*
- Cooling systems:
- Q44. What is the recirculation rate of each condenser pump?
 A44. *CCM: See equipment list*
Iowa Labs: 2400 GPM
- Q45. What is the design temperature difference for each cooling tower?
 A45. *That information is not available at this time - estimated at 20 Degrees*
- Q46. For each chemical feed pump what is the capacity and materials of construction. Or model number and manufacturer of each chemical feed pump.

- A46. *CCM: See equipment list*
Iowa Labs: Walchem E class .6 GPH
- Q47. What is the maximum number of chemicals that may be applied to each system?
- A47. *CEP and CCM: one port on chilled loop*
Iowa Labs: 1 pump for corrosion inhibitor and 2 pumps for biological
- Q48. Please description of the injection point where each chemical is applied to? (ie. Tower Basin)
- A48. *CEP and CCM: pumped into line on chilled water pump tower chemicals into pit*
Iowa Labs: suction of the Condensing water pumps and Boiler day tank
- Q49. What pretreatment equipment is in use/available for each system. (ie. Softeners, Reverse osmosis)
- A49. *None.*
- Q50. What is the system water volume on each system?
- A50. *CCM: See answers above*
Iowa Labs: Cooling tower has 8000 gallon sump
Iowa Labs: boiler day is 300 - 500 gallons
Iowa Labs: Heating and chilled loops about 4800 gallons main Building
Iowa Labs: Heating less than 1000 gallons F building
- Q51. What is the annual system water usages for each system?
- A51. *CEP and CCM: Varies based on load and usage. See water usage*
Iowa Labs: The cooling tower has its own city meter 2019 cooling tower water usage 3,252,000
Iowa Labs: Steam boiler use between 5 and 15 thousand gallons per day from September through May
- Q52. What are the desired cycles of concentration on each system?
- A52. *CEP and CCM: most effective to maintain operational efficiency*
Iowa Labs: whatever it takes to keep the buildup on the towers down to a minimum
- Q53. What is the source of makeup water for each system?
- A53. *CEP, CCM and Iowa Labs: City water*
- Q54. Model number and manufacturer for each chemical controller.
- A54. *CCM: See equipment list*
Iowa Labs: Walchem E class .6 GPH
- Q55. Which sensors are already installed on each controller?
- A55. *CCM: see equipment list*
Iowa Labs: conductivity is Myron L and the Tracer is little dipper
- Q56. Are working water meters connected to each chemical controller?
- A56. *CEP: for the total building*
CCM: no.
Iowa Labs: the little dipper and tracers are used
- Q57. What is the normal operating temperature of each system?
- A57. *CEP and CCM: water is set for 65 degrees and chilled water is 40 degrees*
Iowa Labs: Cooling
- Q58. How many hrs. per day is each system operated?
- A58. *CEP and CCM: Based on outside air temperature*
Iowa Labs: 24
- Q59. How many days per year is each system is operated?
- A59. *CEP and CCM: Based on outside air temp and usage of free cooling*
Iowa Labs: Chillers above 50 degrees and Steam boilers below 55 degrees
- Q60. Are eyewash stations available within 10ft of each chemical storage location?
- A60. *Eye wash bottles are available*
- Q61. Are corrosion coupon racks already available and installed?
- A61. *No*

- Q62. Are there any chemical storage tanks currently available or do new chemical storage tanks need to be provided?
 A62. *CEP and CCM: tanks are currently installed
 Iowa Labs: 55 gallon barrels are used*
- Q63. If storage tanks are required what are the limiting dimensions for the chemical storage tanks.
 A63. *CEP and CCM: 120 Gal totes
 Iowa Labs: 55 gallon barrels*
- Q64. If chemical storage tanks are already in use. Please provide the age, material, and density of the storage tank. What level sensors are available on existing storage tanks?
 A64. *CEP and CCM: no level sensors. Chemical totes are used
 Iowa Labs: 55 gallon barrels are used*
- Q65. For closed loop recirculating systems – Which ones are using inhibited glycol, uninhibited glycol, and treated city water?
 A65. *CCM: IUB and free cooling loop
 Iowa Labs: all are City Water*
- Q66. Does any existing water treatment testing or monitoring equipment need to be replaced or will need to be replaced within the next 3 years?
 A66. *No*
- Q67. One thing that concerns me about the water treatment bid spec is the lack of specifics for both the boiler and the tower scale/corrosion inhibitors. I hope that we can have included that the tower inhibitor needs to contain PTSA (the tracing molecule that allows Dan to monitor and feed the tower scale/corrosion chemical online and allows Rob to test using his new tester, taking about 15 seconds to complete his test) and the boiler inhibitor needs to contain fluorescein (that both Rob and Dan can test using that same tester, again, in about 15 seconds). Additionally, we have molybdate tracer in both of those chemicals so the service provider (me, in this case) can run a molybdate test to confirm the PTSA or fluorescein tracer levels are matching another tracer chemical in the inhibitors. While this molybdate may seem like overkill, it double checks what results your operators are doing (plus I run a PTSA or fluorescein test on my hand-held meter). It costs a little bit more and takes more of my time on site, but it provides assurance that the chemical levels are correct. If these items are not included on the bid, then other companies will bid lower and will then upcharge you when you tell them that this needs to be included in the chemicals.
 A67. *Contractor will need to ensure all testing and controls operate as designed and installed.*

Administrative

- Q68. In Section 1.3 you state *“Bidders will be required to submit their Bid packages in hardcopy and on digital media (USB drive).”* Also, in Section 2.6 you state *“The Agency must receive the Bid at the Issuing Officer’s address identified on the RFB cover sheet before the “Bids Due” date and time listed on the RFB cover sheet. This is a mandatory specification and will not be waived by the Agency. Any Bid received after this deadline will be rejected and returned unopened to the Respondent. Bidders sending Bids must allow ample mail delivery time to ensure timely receipt of their Bids. It is the Bidder’s responsibility to ensure that the Bid is received prior to the deadline. Postmarking by the due date will not substitute for actual receipt of the Bid. Electronic mail and faxed Bids will not be accepted.”* However, on the RFB Cover Page it states *“Number of Copies of Bids Required to be Submitted: 1 Electronic.”* Can you clarify how you would like the bid to be submitted?
 A68. *Due to the circumstances surrounding COVID-19, Bids will be submitted electronically only. Additional information about the submission requirements is included in Section 3.*
- Q69. For the electronic submission, do we just email the bid package to your email (bobbi.pulley@iowa.gov)?

- A69. *The Bid shall be submitted through the Iowa VSS electronic bidding system. The link to VSS is: https://vss.iowa.gov/webapp/VSS_ON/AltSelfService. Additional information about the submission requirements is included in Section 3.*
- Q70. Do we need to register our company on any procurement website before our bid is submitted?
- A70. *Respondent will need to register regardless of whether it has already done business with the State of Iowa. Click the Register button on the left side of the VSS screen (link above) to start the registration process. If you have any issues with registration, please call the helpdesk at 515-281-6614. It is recommended that Respondent's complete the registration process as soon as possible to ensure Bids can be submitted on the due date.*

Please acknowledge receipt of this addendum by signing in the space provided below, and return this letter with your bid (do not send back separately).

I hereby acknowledge receipt of this addendum.

Signature

Date

Typed or Printed Name

Capitol Complex Maintenance (CCM) Equipment list

CEP condensing water controller is a Lakewood model 1575e, and the two chem pumps are PULSAtron model LPB3SA-PTC1-500



CEP boiler controller is a Lakewood model 2255, and two of the chem pumps are PULSAtron model LPB3SA-PTC1-500, and the third is a Iwaki model EZB16D1-PE



Historical controller is a Lakewood model 1575e, and has one Electromagnetic dosing pump and one Iwaki metering pump for the condensing water and one Electromagnetic dosing pump for the steam boiler, same model.

Oran Pape Lakewood controller model 1575e, and the two Electromagnetic dosing chem pumps are the same. Model AA151-392SI

CEP main loop chilled water. Two identical pumps.



4 condensing pumps for the CEP



Usage Information

Central Energy Plant (CEP)

	Water Bills CEP	Convert to Gallons
	(CF)	(1CF = 7.48Gallons)
2015	922,000	6,896,560
2016	948,000	7,091,040
2017	920,000	6,881,600
2018	1,036,000	7,749,280
2019	1,109,000	8,295,320

Iowa Labs

	Total In GALLONS	
	Year	
	2019	2018
1/22/2019	0	0
2/22/2019	0	0
3/22/2019	15000	22000
4/22/2019	87000	10000
5/22/2019	148000	244000
6/21/2019	452000	969000
7/22/2019	799000	864000
8/22/2019	846000	743000
9/23/2019	594000	689000
10/22/2019	292000	170000
11/22/2019	17000	22000
12/12/2019	2000	0
Total	3,252,000	3,733,000