District of Columbia Housing Authority
1133 North Capitol Street, NE Washington, DC 20002-7599
202-535-1000

Adrianne Todman, Executive Director

ADDENDUM

ADDENDUM NO. 3 **ISSUED: October 30, 2015**

SOLICITATION NO.: **0038-2015**
Combined Cooling Heating and Power System @ Langston Terrace

All respondents shall acknowledge receipt of this addendum in their proposal. **Failure to acknowledge receipt of this addendum may be cause for rejection of your proposal**. Respondents are informed that the above named solicitation is modified as follows:

QUESTIONS & RESPONSES:

Q.1. For the gas turbine generators, we will need as a minimum, the following information:
1. Height of job site above sea level
2. Ambient temperature for design point (usually 59 deg F)
3. Ambient temperature range: min operating temperature and maximum operating temperature
4. Relative humidity for deign point (usually 60%)
5. Fuel gas composition for supplied natural gas

R.1. 1. Height of job site above sea level = According to Google Earth the site is 52 feet above sea level at street level
2. Ambient temperature data are publically available
3. Ambient temperature range data are publically available
4. Relative humidity data are publically available
5. The fuel gas composition for supplied natural gas fluctuates. Propane is injected into the system for peak shaving. An example of gas composition in the vicinity on cold days with high propane content is given below. Note that as composition fluctuates, the results below may not be representative:

Gas Day
Wednesday, January 07, 2015

Report Run Date:
10/19/2015

Latest Time Stamp: 1/8/2015 10:00 AM

Samples: 417444

StationName	Component	Average	Minimum	Maximum
Rockville Gate	Natural Gas C5+	0.025	--	--
	Natural Gas Propane	0.542	0.344	0.841
	Natural Gas i-Butane	0.048	0.026	0.082
	Natural Gas n-Butane	0.077	0.035	0.143
	Natural Gas Nitrogen	0.718	0.518	1.076
	Natural Gas Methane	90.053	89.047	91.120
	Natural Gas Carbon Dioxide	0.291	0.263	0.356
	Natural Gas Ethane	8.245	7.448	8.949
	Natural Gas BTU Dry	1079.390	1068.880	1088.740
	Natural Gas BTU Saturated	1060.608	1050.290	1069.790
	Natural Gas Specific Gravity	0.608	0.602	0.615
	Total Mole	99.973	100.749	99.145

Gas Day
Thursday, February 19, 2015

Report Run Date:
10/19/2015

Latest Time Stamp: 2/20/2015 10:00 AM

Samples: 788340

StationName	Component	Average	Minimum	Maximum
Rockville Gate	Natural Gas C5+	0.029	--	--
	Natural Gas Propane	0.469	0.366	0.669
	Natural Gas i-Butane	0.038	0.027	0.062
	Natural Gas n-Butane	0.058	0.038	0.102
	Natural Gas Nitrogen	0.602	0.464	0.919
	Natural Gas Methane	89.711	89.192	90.345
	Natural Gas Carbon Dioxide	0.298	0.242	0.390
	Natural Gas Ethane	8.795	8.271	9.462
	Natural Gas BTU Dry	1083.093	1076.670	1087.950
	Natural Gas BTU Saturated	1064.248	1057.930	1069.020
	Natural Gas Specific Gravity	0.610	0.606	0.613
	Total Mole	102.090	102.705	101.602

Q.2. Also, the general power requirement of 1-3 MW is very broad. If 1 MW is the minimum and 3 Mw is the maximum, then it would be best to have two gas turbine generators (GTG)of about 1.4 to 1.5 MW each. If only one larger GTG was used, then it would have to be turned down (reduced power) and the efficiency would be very poor. Please advise if two GTG's are acceptable.

R.2. Multiple power generators are acceptable and likely preferable from a reliability and maintenance standpoint.

Q.3. Please provide the thermal, and electrical load data for the last three years

R.3. Please see response to Question 54.

Q.4. What is the anticipated cooling load profile and peak cooling load.

R.4. Please see response to Question 54.

Q.5. What is the anticipated domestic thermal load profile and peak load.

R.5. Please see response to Question 54.

Q.6. What is the anticipated commercial/community off take load profile and peaks.

R.6. DCHA properties consumes an aggregate of approximately 65,000,000 kWh of electricity per year. The electrical output of the CCHP system is to be wheeled to meet this demand. Community thermal off takes have not been quantified yet.

Q.7. What are the heating and cooling design temperatures, flow rates for the future air handling units in the Langston Terrace housing campus.

R.7. A specific design of the campus loop and the equipment connected to is not complete. Assume a loop HHW supply temperature of 160°F and return of 130°F and CHW supply temperature of 45°F and return of 57°F. Assume the fan coil units are 1 ton, this leads to a cooling flow rate of 2 gpm

Q.8. Can you provide a set of existing drawings for the boiler plant.

R.8. See Appendix 2 Langston Plant Drawings

Q.9. What is the anticipated gas supply pressure and capacity available to the facility, after DCHA requirements for backup boilers?

R.9. The gas connection to the boiler plant has been abandoned. A new service will need be to be established. According to Washington Gas (WG) there is a "high pressure" line on the property. This line is at 20 PSI and can provide two service options, 2 PSI or 5 PSI. There is also a "transmission" line in the street. The pressure fluctuates between 80-300 PSI and should be able to provide approximately 80 PSI. There should be sufficient capacity to service the CCHP plant and back-up boiler needs. However, WG will have to analyze the final design to give a definitive answer on capacity.

Q.10. Will the DCHA remove all the overgrown vegetation and trees?

R.10. The Authority will be removing the overgrown vegetation and trees as part of the site redevelopment plan

Q.11. Will the DCHA replace the fence to make the site secure?

R.11. The Authority will be securing the site as part of the site redevelopment plan.

Q.12. What is the anticipated date that the DCHA will have the 4 pipe system complete and ready to accept heating and cooling water?

R.12. Boiler plant renovation and campus loop is scheduled to start in December 2015. CCHP provider should provide plant renovation and schedule requirements for their design solution to inform the construction schedule requirements.

Q.13. What are the design conditions for 4 pipe system, such as flow rates, design supply and return temperatures, total length of piping by system, type of piping system and maximum elevation served?

R.13. See response to question 7. A specific design of the campus loop is not complete. According to Google Earth the site is 52 feet above sea level at street level adjacent to the boiler plant and the highest elevation on the site is 92 feet above sea level (this likely does not take building height into account)

Q.14. Does DCHA have an anticipated campus piping layout showing the number of buildings severed by the 4 pipe system?

R.14. All Langston Terrace and Langston Addition buildings are to be served by the 4-pipe system. There are 20 buildings in total. A full campus piping layout is not currently available.

Q.15. Where is the anticipated location for the tie in point for the 4 pipe system and what will be the elevation of the piping?

R.15. The supply and return flanges of the plant side equipment should be located in the boiler plant building. For thermal products, DCHA will be responsible from the flange of the piping connected to the pumping skid of the campus loop. CCHP providers will be responsible from the flange of the piping connected to the thermal outputs of their plant. The flanges will be connected and represent the border between DCHA and CCHP provider responsibilities. CCHP provider is responsible for connection to the 4-pipe campus loop and for providing 3 thermal products: heating hot water in the heating season, chilled water in the cooling season (via the absorption chiller) and domestic hot water year round. CCHP provider should provide interconnection specifications (temperature, pressure, flow, etc.) of their thermal product equipment to inform the renovation of campus loop infrastructure. See response to question 13 for elevations.

Q.16. Since the existing Plant is on the National Historic Trust, what restriction are going to be placed on the design and construction of the building to incorporate at CoGen system?

R.16. The Authority is seeking further clarification from DC Governments Office of Planning Historic Preservation Office regarding the buildings utilization, however it does not anticipate any issues with the utilization of the building and site. However, no façade penetration is anticipated beyond the areas where an existing inlet or outlet exists. The Offeror can clearly detail any requirements in the proposed design.

Q.17. The question was raised at the site visit about reusing the existing stack and that did not appear to be acceptable, can we penetrate the roof with a new exhaust stack?

R.17. The Authority is seeking further clarification from DC Governments Office of Planning Historic Preservation Office regarding the utilization of the existing stack and does not anticipate any issues with the utilization of the stack and it would be preferred to the installation of a new stack.

Q.18. On page 3, there is a preference for back up power generation, what is the specified back up power duration required, so that fuel tank sizing can be determined?

R.18. The intent of the back-up generation is to serve only the Langston site in case of an extended grid outage. The minimum desired duration is 24 hours. Note that back-up capability is a preference and not a requirement.

Q.19. On page 4, the RFP indicates that " Electric will first serve the site's needs and excess electricity will be "wheeled" to other DCHA sites. At the site visit it was discussed that all electric would first go to the grid (PEPC0) and then DCHA would purchase the electric from the local supplier. Please clarify if the Langston Terrace is the first off taker of electric from the CoGen?

R.19. As there will be no inside the fence distribution of electricity to the Langston site beyond the power plant building itself, the power will be equally distributed to all DCHA properties via the grid and assigned to all meters through the energy marketer.

Q.20. As part of the electrical utility upgrade, will DCHA have all of the existing switchboards, shown on Appendix 1 page VI and the transformers on Appendix page V, removed?

R.20. The electrical interconnection is anticipated to be located in a newly constructed above ground pad-mounted PEPCO switchgear, transformer and site master meter (see addendum with images of Electrical Switchgear Relocation plans. Note that these plans were drafted in 2006 and additional modifications may be needed to meet the CCHP design requirements). This new equipment is to be located in close proximity to the existing underground electrical switchgear vault (for details see RFP APPENDIX 1: LANGSTON TERRACE SITE ASSESSMENT SITE INFORMATION & REQUIREMENTS). For electrical interconnection, DCHA will be responsible for upgrading existing PEPCO equipment. CCHP

provider is responsible for their electrical equipment including, transformers, switchgear, conduit, etc., and routing to the point of interconnection with PEPCO equipment. CCHP provider should provide interconnection specifications (voltage, current, etc.) of their electrical equipment to inform the renovation of PEPCO infrastructure. The provider will be responsible for coordinating interconnection studies and providing the appropriate interconnection applications to both the PJM if required and PEPCO.

Q.21. Appendix 1, page IV appears to indicate that all the electrical power to the Langston Terrace is feed through this electrical room. Can DCHA confirm this?

R.21. The primary PEPCO service is fed through the electrical vault described in RFP APPENDIX 1: LANGSTON TERRACE SITE ASSESSMENT SITE INFORMATION & REQUIREMENTS

Q.22. Where on the campus are the two local transformers located and is there any information on the electrical voltage, KW rating, etc. available?

R.22. Please see response to question 20.

Q.23. Where and to what switch will the electrical tie in point be for the Langston Terrace campus?

R.23. Please see response to questions 19 and 20.

Q.24. Will an electrical one line diagram be available for the new electrical service to the building?

R.24. Please see Appendix 3 Electrical Switchgear Relocation plans

Q.25. Page 1, Cost Components, indicates that the Authority will not be responsible for any other costs except the PPA electrical costs.

R.25. All cost of operations within the CCHP plant boundary are the responsibility of the provider. The Authority will only be responsible for the contracted PPA price. These are to be detailed in the Operating Proforma of the Provider to assure there is no confusion as to where the responsibility lies.

Q.26. The facility only has one water meter. Who will be responsible for the paying the water and sewer bill? Keep in mind that the RFP indicates that the 4 pipe distribution loop is owned by the Authority.

R.26. As in response #25, all cost of operations within the CCHP plant boundary are the responsibility of the provider. The Authority will only be responsible for the contracted PPA price. If a submeter is required, the submeter must be included within the CCHP plant boundary and will be the responsibility of the provider.

Q.27. Will the bidder be required to fill and maintain water level on the 4 pipe system?

R.27. No.

Q.28. Will the Authority be responsibly for all maintenance of the Plant structure and the grounds during the course of the 20-year PPA?

R.28. Yes.

Q.29. The Plant has an attached two story structure that is currently used for storage and this area will not be part of this 20 year PPA agreement, please confirm.

a. Please keep in mind that access to the water service in this area will be required.

R.29. The two story structure attached to the plant structure will not be part of the PPA. Access will be provided if necessary for plant water utility service maintenance and operation.

Q.30. Will sewer service to the facility be supplied, maintained, by DCHA?

R.30. Yes – however charges will be sub-metered.

Q.31. The Plant appears to have been flooded a number of times. Does anyone know the cause of the flooding?

R.31. The exact causes are not known.

Q.32. As part of DCHA's restoration of the Plant building will the existing boiler blowdown pit and below grade piping be removed and concreted back in?

R.32. Piping will be removed from the existing boiler plant. There is no current plan to fill in the blowdown pit. If this is necessary to meet the requirements of your design please state this in your bid response.

Q.33. Does DCHA know if there are any working floor drains in the Plant building or will the bidder have to install new ones?

R.33. There are floor drains in the plant building. It is not known if they are operational.

Q.34. The concrete roof over the underground Coal Storage and A.S. has vented manholes in the roof, which could allow water to enter the Plant. Does the DCHA have any plans to make these areas watertight?

R.34. DCHA plans to deliver a watertight plant as part of the boiler plant building renovation.

Q.35. Does the DCHA have an environmental reports of the existing building and/or subsurface.

R.35. Yes. There is a report dated 11/7/13.

Q.36. For scheduling purposes, how quickly can DCHA have the equipment and debris removed from the Plant and the building renovated to a watertight and secure facility?

R.36. The Authority anticipates that the entire project will begin commercial operations no later than December 31, 2016. Boiler plant renovation and campus loop is scheduled to start in December 2015. CCHP provider should provide plant renovation and schedule requirements for their design solution to inform the construction schedule requirements. DCHA will deliver a watertight secure facility.

Q.37. Could another site visit be scheduled after we receive a response to the above questions?

R.37. No.

Q.38. There was a discussion about a backup boilers provided by DCHA, is there an additional information on the make, model, size, gas requirements, etc.?

R.38. The intent of the back-up boilers is to meet space heating and DHW requirements when the CCHP plant is down. Make and model have not been selected yet. They will be sized to meet the loads expected from the historic space heating and DHW gas usage shown in response to question 54.

Q.39. Does DCHA have a sample lease agreement for Bidder that will use of the Plant to perform the PPA.

R.39. No. DCHA will be issuing a license to the selected Offeror detailing the access rights to the premises.

Q.40. What is the completion date that DCHA wants the CoGen Facility available for operation?

R.40. It is desired that the plant be placed into service by 12/31/16 to meet federal investment tax credit (ITC) requirements. If this is not possible please state your PPA rates with and without ITC.

Q.41. Clarification on use of thermal energy:
In the RFP you state that thermal energy will be provided at "no additional cost". Does this imply that thermal energy may not be sold within the terms of the PPA? Is the Authority expecting thermal energy to be supplied at zero cost on an ongoing basis?

R.41. The intent of the RFP is to purchase all electricity from the Provider at an agreed upon contract price per kWh unit. The thermal energy output will be provided at no cost to the Authority.

Q.42. Clarification on excess electricity supplied:
The RFP states that excess energy will be "wheeled" to other DCHA sites. Has this arrangement been "pre-defined" yet? If so, then please provide the details. Is the price of that excess electricity the same as that stipulated in the PPA? Has the virtual net metering arrangement been made with PEPCO or does the selected vendor have to arrange that?

R.42. An arrangement has been contemplated and will be structured during the PPA contract development. The price of the excess electricity will be the same as that stipulated in the PPA. No interconnection agreement or net metering agreement has been made with PEPCO and is the responsibility of the selected vendor.

Q.43. Do you have the "feasibility" studies referenced in the RFP (page 6) available to send to us?

R.43. The feasibility studies were conducted using historic demand data (Please see response to Question 54) and eQUEST energy modeling. The energy model is not available for distribution.

Q.44. Can you send us the monthly energy bills for the site over the past 2 years? Electricity consumption/cost and heating fuel use/expenses?

R.44. The Authority maintains an electronic database of all utilities for all of its properties and does not retain pdf copies of the bills themselves. A compilation of the Langston property electricity and gas usage between 2012 and 2014 is provided in Response #54.

Q.45. Will the Authority apply for any state or utility incentives on behalf of the chosen vendor?

R.45. No the Provider is responsible for any state and utility incentives, however it is expected that the price in the PPA takes into account any incentive payments made on behalf of the project. If the Authority is in a position to receive the incentives and not the Provider, the Provider should so state in the response.

Q.46. How many apartment units are in Langston Terrace? Laundry facilities? If so, then are the dryers gas heated? Is there a pool?

R.46. There are 274 units at Langston Terrace (19 (2BRs), 161 (3BRs), 88 (4BRs), 6 (5BRs)) and 34 units at Langston Addition (25 (3BRs), 9 (4BRs)). The intent is to install future laundry facilities on a per building basis. There is a total of 20 buildings. However, specifications for the laundry facilities have not been finalized. The Offeror is not responsible for the laundry facilities. There is no pool.

Q.47. The RFP expresses a preference for black start capable system in the event of a power grid failure. For stand-by power, what building loads do you want on the emergency power circuit? What's the total load of those priorities?

R.47. Ideally, the entire site would be powered in the case of a grid outage. An automatic transfer switch would facilitate disconnection from the grid and the plant would serve the entire site in the case of the outage. Note that back-up capability is a preference and not a requirement.

Q.48. Please provide the list of vendors who visited the site on October 14, 2105 site visit.

R.48. Bruce Meredith Inc.
Constellation
Doosan Fuel Cell America, Inc.
Urban Green, LLC
WGL
ENER-G Rudox Inc.
AMERESCO
Fuel Cell Energy
E-finity Distributed Generation (Capstone Authorized Distributor)

Q.49. Is the facility master-metered?

R.49. Langston Terrace is master metered. Langston Addition has tenant meters.

Q.50. How large is the existing hot water storage tanks? What kind of existing hot water heating system is on site?

R.50. Currently, each building is served by dedicated DHW heaters with dual 120 gallon storage tanks.

Q.51. Clarification on space heating:
Is the building presently heated by steam or hot water? How many systems does the building have? What is the present fuel used for heating?

R.51. Currently, each building is served by dedicated hydronic boilers whose output is circulated to radiators in the dwelling units (no steam). See response to question 54 for monthly space heating gas use estimates.

Q.52. Langston Terrace consists of several buildings. In the RFP, the Authority takes responsibility for constructing a heating, domestic hot water, and chilled water distribution system, and that the Vendor only needs to create the main power plant. What will be the back source of heat and chilled water if the CHP power plant goes offline? Is there a current boiler plant that will stay on-line to parallel and back up to the CHP system?

R.52. New back-up boilers and chillers will be installed to meet site thermal needs when the CCHP plant is down. These units are planned to be installed in the existing boiler plant with the CCHP system. The Offeror is not responsible for these back-up systems.

Q.53. Will the Authority supply a timeline for the distribution system's completion? Will it be completed for end 2016 when the vendor's CHP plant is complete?

R.53. The Authority anticipates that the entire project will begin commercial operations no later than December 31, 2016. Boiler plant renovation and campus loop is scheduled to start in December 2015.

CCHP provider should provide plant renovation and schedule requirements for their design solution to inform the construction schedule requirements.

Q.54. What are Langston Terrace's anticipated monthly heating, cooling, and domestic hot water loads?

R.54. The table below provides monthly utility data for total electricity and gas usage at the site from 2012-2014. Space heating and domestic hot water gas use were derived from weather normalized fits of total gas use and leveraged the fact that space heating is only provided during the heating season.

Month	Total Electricity (kWh)	Total Gas (Therm)	Estimated Space Heating Gas Usage (Therm)	Estimated DHW Heating Gas Usage (Therm)
01/01/2012	197,419	36,535	30,485	6,049
02/01/2012	162,972	27,736	21,842	5,894
03/01/2012	158,288	15,253	9,894	5,359
04/01/2012	147,403	26,015	20,720	5,294
05/01/2012	154,357	4,457	-	4,457
06/01/2012	156,702	4,377	-	4,377
07/01/2012	210,686	3,961	-	3,961
08/01/2012	228,621	4,519	-	4,519
09/01/2012	208,631	4,914	-	4,914
10/01/2012	148,205	11,571	6,394	5,178
11/01/2012	157,180	33,974	28,175	5,799
12/01/2012	175,373	39,530	33,675	5,855
01/01/2013	192,025	37,886	31,815	6,071
02/01/2013	169,997	38,696	32,539	6,157
03/01/2013	181,291	36,984	31,069	5,915
04/01/2013	181,957	17,223	11,951	5,272
05/01/2013	169,791	6,380	1,449	4,932
06/01/2013	181,877	5,232	723	4,509
07/01/2013	201,676	3,832	-	3,832
08/01/2013	205,119	4,081	-	4,081
09/01/2013	198,056	4,169	-	4,169
10/01/2013	152,316	13,166	8,048	5,117
11/01/2013	157,013	31,882	26,083	5,799
12/01/2013	190,009	40,627	34,643	5,984
01/01/2014	204,076	40,115	33,703	6,412
02/01/2014	166,638	40,425	34,250	6,174
03/01/2014	194,656	32,137	26,183	5,954
04/01/2014	160,036	20,321	14,988	5,333
05/01/2014	167,101	6,121	1,267	4,854
06/01/2014	169,362	5,307	-	5,307
07/01/2014	175,571	4,578	-	4,578
08/01/2014	190,708	4,847	-	4,847
09/01/2014	211,262	5,917	1,291	4,625
10/01/2014	175,574	11,584	6,493	5,091
11/01/2014	168,789	33,502	27,764	5,738
12/01/2014	192,843	35,042	29,118	5,924

Currently, there is not a good characterization of cooling load from direct utility data. Therefore, an eQUEST model was constructed to estimate cooling load for the case in which all dwelling units are provided with cooling. The table below provides modeled estimates of the average monthly cooling load and monthly peak cooling load for Langston Terrace.

Month	Monthly Cooling Load (kbtu/month)	Peak Monthly Cooling Load (Ton)
Jan	-	0
Feb	-	0
Mar	18,746	150
Apr	148,661	601
May	370,647	793
Jun	760,214	833
Jul	1,147,479	856
Aug	1,026,479	921
Sep	655,168	825
Oct	124,098	539
Nov	16,998	170
Dec	-	0
Total	4,268,490	

Q.55. Where does the DCHA want the supply/return flanges for the heating hot water, chilled water, and domestic hot water to be located, and will those flanges represent the delineation between the bidder's responsibilities and the DCHA's responsibility to provide a new 4-pipe system?

R.55. The supply and return flanges of the plant side equipment should be located in the boiler plant building. For thermal products, DCHA will be responsible from the flange of the piping connected to the pumping skid of the campus loop. CCHP providers will be responsible from the flange of the piping connected to the thermal outputs of their plant. The flanges will be connected and represent the border between DCHA and CCHP provider responsibilities. CCHP provider is responsible for connection to the 4-pipe campus loop and for providing 3 thermal products: heating hot water in the heating season, chilled water in the cooling season (via the absorption chiller) and domestic hot water year round. CCHP provider should provide interconnection specifications (temperature, pressure, flow, etc.) of their thermal product equipment to inform the renovation of campus loop infrastructure.

Q.56. Can the DCHA confirm where the CCHP system will electrically interconnect in relation to the boiler plant meter, the Langston Terrace meter(s), the site transformers, and the incoming utility service? As described it appears the CCHP system will back-feed the boiler plant meter, send electricity to the site transformers which feed the Langston Terrace meter(s), and excess will be exported to the grid. If this is correct, has the DCHA engaged PEPCO regarding this configuration and if it may carry additional interconnection requirements beyond those associated with the Level 4 interconnection standard?

R.56. The electrical interconnection is anticipated to be located in a newly constructed above ground pad-mounted PEPCO switchgear, transformer and site master meter. This new equipment is to be located in very close proximity to the existing underground electrical switchgear vault (for details see RFP APPENDIX 1: LANGSTON TERRACE SITE ASSESSMENT SITE INFORMATION & REQUIREMENTS). For electrical interconnection, DCHA will be responsible for upgrading existing PEPCO equipment. CCHP

provider is responsible for their electrical equipment including, transformers, switchgear, conduit, etc., and routing to the point of interconnection with PEPCO equipment. CCHP provider should provide interconnection specifications (voltage, current, etc.) of their electrical equipment to inform the renovation of PEPCO infrastructure. The provider will be responsible for coordinating interconnection studies and providing the appropriate interconnection applications to both the PJM if required and PEPCO.

Q.57. As we understand, CHP generated electricity is only eligible for export or net-metering for systems up to 1 MW in capacity. Has the DCHA made arrangements with the District of Columbia Public Service Commission which allow systems larger than 1 MW to export electricity? A link to D.C. PSC order number 15837, which describes the 1 MW rule, is contained below:
http://www.dcpsc.org/pdf_files/commorders/orderpdf/orderno_15837_FC945.pdf

R.57. The Authority will work closely with PEPCO the distribution company, and assumes the respondent is familiar with the guidelines developed and approved by the Public Service Commission FORMAL CASE NO. 1050, IN THE MATTER OF THE INVESTIGATION OF IMPLEMENTATION OF INTERCONNECTION STANDARDS IN THE DISTRICT OF COLUMBIA available on the PEPCO web site http://www.pepco.com/my-home/service-requests/customer-generation-and-interconnection/.

The intent is not to net meter the power to DCHA, rather, the intent is to buy the power from the provider, interconnect to the local distribution network and wheel the energy through a PJM subaccount. The provider will be responsible for coordinating interconnection studies and providing the appropriate interconnection applications to both the PJM if required and PEPCO.

Q.58. Can the DCHA confirm the desired schedule for this project? The RFP states they wish for the project to be commissioned before December of 2016, however at the site-visit there may have been conversation of an accelerated timeline.

R.58. The Authority anticipates that the project will begin commercial operations no later than December 31, 2016 if the cost of the unit is reliant upon investment tax credits. If the PPA price is dependent upon completion of the project and system turn on by December 31, 2016, the Offeror must state this requirement and provide a post December 31, 2016 PPA price to allow the Authority to gauge the schedule and price risk to the Authority.

Q.59. Can the DCHA include timelines for the installation of a new 4-pipe system and the restoration of the Boiler Plant and demolition of existing equipment in its answer for the above question?

R.59. Boiler plant renovation and campus loop construction is scheduled to start in December 2015. CCHP provider should provide plant renovation and schedule requirements for their design solution to inform the construction schedule requirements.

Q.60. Where is the table “EXHIBIT 1: PRICING PROPOSAL, PRODUCTION AND SYSTEM SPECIFICATION FORM”? While referenced, it does not appear to be included in the RFP.

R.60. *The corrected link to the form is*
https://www.dropbox.com/s/bm4eg9oqn9vlje0/DCHA 0038-2015 Exhibit 1 Pricing Proposal Production and System Specification Form.xlsx?dl=0

Q.61. Can the DCHA confirm that it only intends to purchase electricity from the provider, and that all thermal energy (HHW, CHW, DHW) will be supplied without charge?

R.61. The intent of the RFP is to purchase all electricity from the Provider at an agreed upon contract price per kWh unit. The thermal energy output will be provided at no cost to the Authority.

Q.62. Will the DCHA purchase all electricity generated by the CCHP system?

R.62. The intent of the RFP is to purchase all electricity from the Provider at an agreed upon contract price per kWh unit over the term

Q.63. Can the DCHA confirm that the provider will be responsible for gas procurement?

R.63. For clarification, the intent is to calculate a delivered price per kWh within the PPA contract. The inclusion of the pricing and delivered cost for the volume of natural gas necessary to operate the plant needs to be detailed as a line item in the calculation of the PPA price being offered. The unit price (in MMBtus or therms) for the incoming natural gas commodity should be included in the calculation. Please see Exhibit 1 for line item pricing for both fixed and variable gas pricing scenarios.

Q.64. Can the DCHA share the list of who was sent the RFP?

R.64. The Authority will post the attendees of the site visit. The Authority sent email notifications to the Pepco & Delmarva Power C&I Energy Savings Program Combined Heat and Power (CHP) Service Providers list available on the PEPCO web site of the link to the RFP only.

Q.65. In E.3.4 section C, is the DCHA requesting the provider's pro-forma or the DCHA's pro-forma? If the former, we may not be able to disclose all requested details.

R.65. The operating Pro-forma is the proposed provider's operating Pro-forma. The intent of the requirement in E.3.4 section C, is to break down the cost of the operation to ensure that there are no hidden costs or expectations from the Authority beyond the payment of the PPA per kWh price. Cost of natural gas, cost of labor, maintenance charges etc. need to be clearly laid out so that the Authority can evaluate the financial stability of the program. The pro-forma also demonstrates the financial capacity available to support the project for 20 years. If there is information that the Respondent choose not to reveal, please list these exceptions in Exhibit 4 Exceptions to terms and Conditions and state the reason for not providing the information. For example, if the operating cost is a trade secret so state. If the financial terms regarding return on investment are confidential please state.

Q.66. I've read a lot of the RFP but can't find what the DC Housing Authority is currently paying for electricity. Can you tell me what your electric rate structure is and what you pay for natural gas?

R.66. No.

Q.67. What is the Construction cost or the engineers estimate?

R.67. This information is not available.

Q.68. Do you require Bonding requirements for this project, what are the percentage?

R.68.

a. Bid bond: None 0
b. Performance Bond:100
c. Payment Bond:100

Q.69. Do you have an Engineer or Architect for the project?

R.69. The Authority is self performing the project and will assign these positions.

a. Engineer:
b. Architect:
c. Construction Manager:

Q.70. **Commercial Questions**

a. Under the PPA scenario where fuel price is not indexed, is there a preference for a fixed PPA price over the term of the PPA or a PPA with an escalator?
b. Can multiple PPA scenarios be presented or does the DCHA prefer only two PPA options (indexed and non-indexed fuel PPA)?
c. In Section E.3.4, the DCHA is asking for pricing of equipment, service, working financial model etc.; a lot of this information is proprietary and usually not disclosed without an NDA, however due to the nature of this RFP the information will be publically available to potential competitors in the future. What confidentially provisions can DCHA provide to ensure limited dissemination of information?

R.70.

a. No preference
b. DCHA is open to multiple options
c. Please see section C.12 PROPRIETARY OR CONFIDENTIAL INFORMATION page 15 of the RFP.

Q.71. **General Site Questions**

d. Gas pressure at Benning Rd NE?
e. Municipal water pressure?
f. Can the DCHA provide the electrical one-line for Langston Terrace?
g. Is there electrical load data available for Langston Terrace ? (monthly, 15-min data available)
h. Is there an expected completion date from the existing plant renovations?
i. In Section B.1., can the DCHA clarify who will purchase the fuel? Page 4 states "the Offeror to price and procure fuel." On page 5, "Offeror is NOT responsible for delivery, price, or availability of…natural gas."
j. On the 10/14/15, DCHA mentioned that the power from the unit will go directly to the PEPCO grid, but Section B.1. Page 3, third paragraph, "power output is anticipated to be constant (base-loaded) at the System's rated capacity. Electric output will first serve the site's needs and excess electricity will be "wheeled" to other DCHA sites through a pre-defined arrangement with suppliers." Please clarify.

R.71.

a. See response to question 9
b. The specific water pressure is not known.
c. See response to question 20 and addendum with images of Electrical Switchgear Relocation plans. Note that these plans were drafted in 2006 and additional modifications may be needed to meet the CCHP design requirements. Please state your requirements.
d. See response to questions 19 and 54. 15-minute interval data are not available.
e. See response to question 53
f. See response to question 24
g. See response to question 19

Q.72. **Cooling/Heating System Questions**

a. Hot Water Supply
    1) What is the estimated peak and average heating load MMBTU/hr?
    2) If the waste heat recovery cannot supply the total load demand is a supplemental boiler to be supplied by the Offeror or by the Buyer?
        i. If a supplemental boiler is required and supplied by Buyer, how is the piping to be arranged in terms of supply (primary loop pumps, water makeup, etc.)?
    3) Who is supplying the hot water heat exchanger? It is written both ways, by others and by Offeror.
    4) What is the operating pressure on the Owners side of the heat exchanger?
    5) What is the return and supply temperatures?
    6) On the campus loop side, if used, what is the type of glycol and percentage?

b. Domestic Hot Water
    1) What is the estimated domestic hot water supply demand?
        ii. Minimum required MMBTU/hr
        iii. Desired MMBTU/hr
    2) What is the estimated water temperature into the heat exchanger?
    3) What is the required supply temperature for the hot water?
    4) Is the domestic hot water going to be tied in downstream of the heat exchanger?
    5) If the waste heat recovery cannot supply the total hot water demand is a supplemental hot water heater/boiler to be supplied by the Offeror or by the Buyer?
        iv. If a supplemental boiler is required and supplied by Buyer, how is the piping to be arranged in terms of supply (pumps, water makeup, etc.)?
    6) What is the water supply pressure?

c. Chilled Water
    7) For the chilled water, what is the CWS/R temperatures?
    8) Is glycol required for the chilled water loop? i.e. does the system supply chilled water for fresh air makeup?
    9) What is the operating pressure on the glycol system?
    10) If the absorption chiller cannot produce 600tons of cooling due to the limited waste heat available, is the Offeror to supply an additional electrical chiller or will the buyer?
    11) The chiller will be piped as a primary secondary loop system. Will there be additional chillers installed elsewhere in the system? If so, we the absorption chiller be used as the primary chiller?
    12) What is meant by “standby absorption chiller will be driven by a thermal energy storage tank”?

R.72.

a. Hot Water Supply
    1) See response to question 54
    2) It is anticipated that the CCHP system will be able to meet the site heating needs when operational. The hot water storage tank and supplemental boiler are to be supplied by DCHA
        v. The piping design for the supplemental boiler has not been completed.
    3) The Offeror is responsible for all heat exchangers associated with delivering their thermal products to the campus loop. The intent is for DCHA to supply DHW heat exchangers in each building to extract heat from the campus loop. This may change if a better design solution is possible.
    4) Operating pressure on the DCHA side of the heat exchanger has not been determined yet. See response to question 13 for guidance.
    5) A specific design of the campus loop and the equipment connected to it is not complete. Assume a loop HHW supply temperature of 160*F and return of 130*F and CHW supply temperature of 45*F and return of 57*F.
    6) There is no intention to use glycol in the loop as it will be operated year round.

b. Domestic Hot Water
    1) See response to question 54
    2) The intent is for DCHA to supply DHW heat exchangers in each building to extract heat from the campus loop and supply 120*F at the point of use. In this case, it can be assumed that DHW loop supply temperature is 140*F and return temperature will fluctuate based on make

up water fraction, unless the Offeror has a better design solution that optimizes waste heat utilization.

3) See response for 2)
4) See response for 2)
5) It is anticipated that the CCHP system will be able to meet the site DHW needs when operational. The hot water storage tank and supplemental boiler/heater are to be supplied by DCHA

    vi. The piping design for the supplemental boiler has not been completed.

6) Operating pressure on the DCHA side of the heat exchanger has not been determined yet. See response to question 13 for guidance.

c. Chilled Water

7) A specific design of the campus loop is not complete. Assume a loop CHW supply temperature of 45*F and return of 57*F
8) There is no intention to use glycol in the loop as it will be operated year round.
9) Operating pressure on the DCHA side of the heat exchanger has not been determined yet. See response to question 13 for guidance.
10) DCHA will provide an additional electrical chiller for cases when the absorption chiller cannot meet peak cooling due to the limited waste heat availability
11) The 2 absorption chillers will be used as the primary chiller.
12) The System shall use redundant absorption chillers to both improve availability and meet peak load demands. The intent is drive both absorption chillers with heat from the thermal energy storage tank. The Offeror may propose an alternative design solution.

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ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

END OF ADDENDUM NO. 3

Cheryl Moore

Cheryl Moore
Contracting Officer

Acknowledgement of Receipt:

Respondent: _____

Name: _____ **Title:** _____