



**PIMA COUNTY**  
**PROCUREMENT DEPARTMENT**  
**DESIGN AND CONSTRUCTION DIVISION**  
130 WEST CONGRESS STREET, 3rd FLOOR • TUCSON, AZ 85701-1207  
PHONE: (520) 724-3731 FAX: (520) 724-4434

August 30, 2013

**ADDENDUM NO. 01**

**PROJECT: PIMA COUNTY BIOGAS SALE AND UTILIZATION PROJECT**

**SOLICITATION NO.: 104346**

TO ALL CONSULTANTS:

As indicated in Section 2.5.2.3 of the Solicitation, the County was accepting questions regarding this Solicitation up to 5:00 p.m. Arizona Time) on August 27, 2013. Questions received before the deadline and the County's responses are as follows:

1. We believe that having a discussion of issues related to the Service Contract would make the potential negotiation process more effective and efficient (and certain more detailed comments could potentially be eliminated). Therefore, instead of identifying exceptions and/or changes to the Pima County form of Service Contract including the applicable Lease/Development Standards (and the applicable Transactional Documents and Transaction Forms referred to in, and the appendices to, the Service Contract) by redlining and providing correlating rationale/reasons for such exceptions and/or changes (and relative cost implications with such changes), can we provide (i) a list of issues to the Pima County form of Service Contract including the applicable Lease/Development Standards (and the applicable Transactional Documents and Transaction Forms referred to in, and the appendices to, the Service Contract), and/or (ii) one or more sample contracts that would be in a form generally acceptable to us?

County Response:

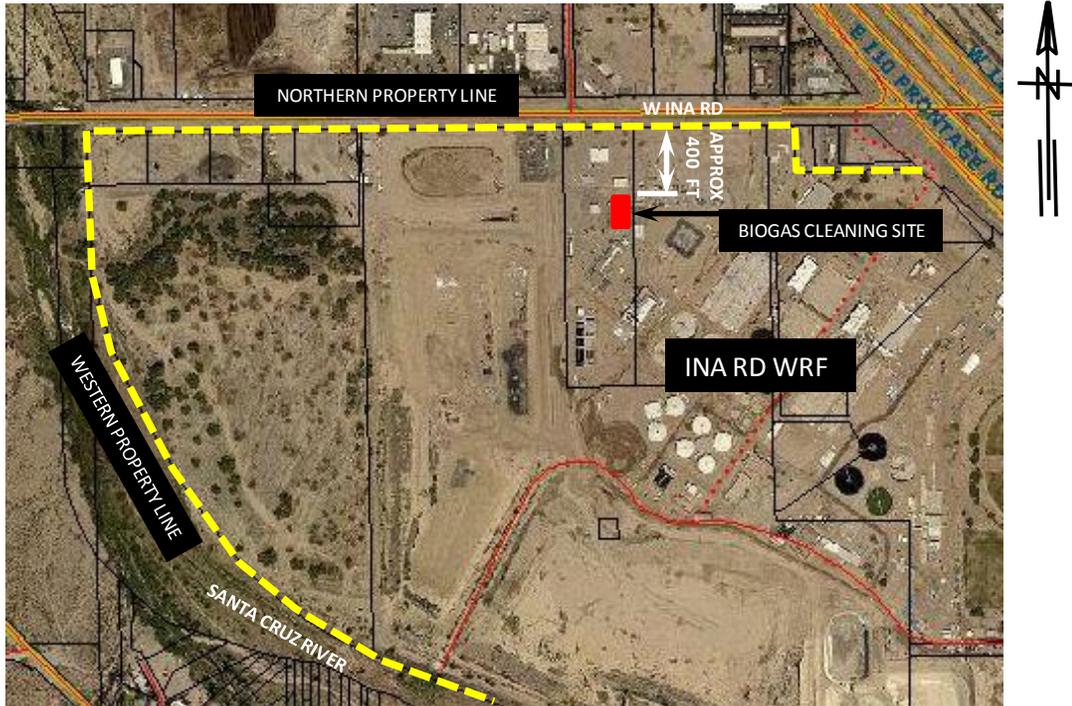
Pima County prefers to receive specific comments on the draft Service Contract. General comments on the draft Service Contract will be acceptable with the Statement of Qualifications.

2. Please provide location of County's property line located near the designated site to help assess your audible noise level requirements. We would like to know if the audible noise level requirements can be alleviated to minimize chances of this requirement making the project economically unfeasible?

County Response:

The County property boundary line is shown in a figure below. The noise level will be measured at the Project Site and at the County property line to prevent the Project noise from exceeding an 80 dBA (summation of all octave bands) sound pressure level at the Project's Lease Premises

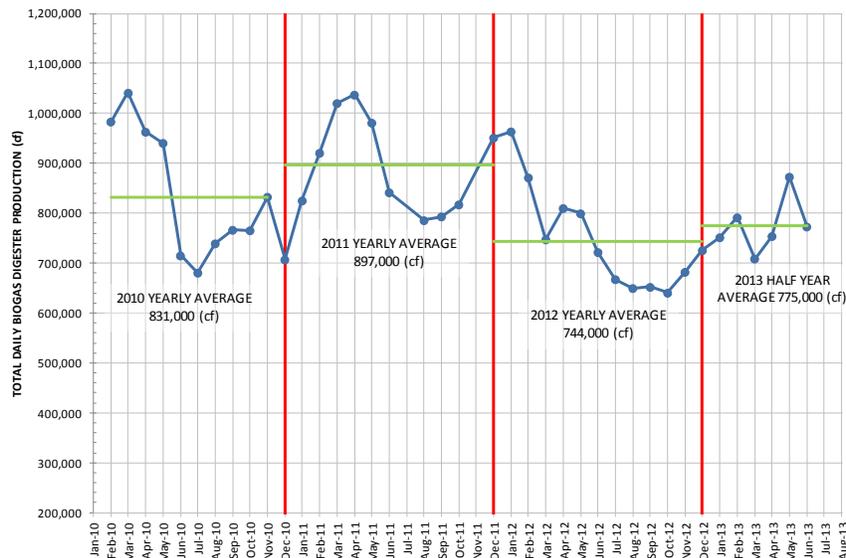
boundary, or 50dBA at the County's property line, whichever is more stringent. Distances to the County property boundary is provided below.



- The digester gas volumes provided between April, 2011 and March, 2013 show a very significant drop. What caused this drop and is this a permanent or temporary drop?

County Response:

Due to major treatment plant construction temporary biosolids process changes at Ina Road WRF and Roger Road WRF were experienced between December 2012 and April 2013. The construction activities disrupted normal digester operations and in particular the digesters at Roger Road WRF. After April 2013, the digesters at Roger Road WRF were operating normally. Thereafter, biogas production continues at normal expected production rates.



4. In the interest of trying to minimize costs and assist with project's economic feasibility, we would like permission to have County accept the following waste streams:
  - a. Service Water: We would like to use your service water for once through cooling. What is maximum temperature of the service water that we would like to use for once through cooling? Can we be allowed to return your service water with assumption that only its temperature was modified? What is the operating pressure of your service water? Can you provide a water quality analysis?
  - b. Condensate: Can we be allowed to return the condensate that drops out of your digester gas in our process?
  - c. Other: Because of the high H<sub>2</sub>S content in the digester gas, we would like permission to have County accept up to 19,000 gallons/day of an acid byproduct with a pH of between 0.5 and 1.

County Response:

Service water details are to be negotiated through Service Contract negotiations.

Condensate will need to be discharged to the County sewer and meet Industrial Wastewater Control (IWC) requirements.

Low pH liquids will need to meet IWC requirements before discharge to the plant.

5. What is the County's gas compression maximum flow rating? What type of gas compressors are used? Will gas be free of oil?

County Response:

The new digester complex has three gas compressors each with a capacity of 170 scfm @ 30 psig (2 for duty service and one standby). The original digester complex has five gas compressors each with a capacity of 170 scfm @ 30 psig (4 for duty service and one standby). The maximum discharge capacity is approximately 2 x 170 scfm + 4 x 170 scfm for a total of 1,020 scfm.

The type of gas compressor is Liquid Ring (Nash Compressors model XL 35) which is an oil free unit.

6. The gas analysis showed a peak H<sub>2</sub>S concentration of 4,300 ppmv and average value of 3,000 ppmv. Should we use these values as our design basis?

County Response:

Historical data has been provided to Developer to use and is provided in the Project Website. It will be the Developer's sole decision what to be used as design parameter. If the Developer would like to take more samples to verify the design condition before finalizing the Service Contact, PCRWRD will facilitate the effort.

7. We would like to look at feasibility to recover thermal energy to provide chilled water, which would improve the CHP's cycle efficiency. Can County list facilities available to use to help make steam absorption chilling available?

County Response:

The Ina Road WRF has a central chilled water distribution system in operation at the Ina Road WRF site. This system could be serviced with chilled water from a thermal recovery energy system. Facilities that are serviced from a central chilled water cooling system include: Administration Building, Central Maintenance Building, Warehouse/O&M Building, Solids Thickening Building, Digester Control Building, Tunnels, Training Center, Centrifuge Facility, Headworks, Blower Building - East, RAS/WAS Pump Station – East, Blower Building – West, Digester Control Building, and Switchgear Building.

The estimated monthly Chilled Water Energy Demand in BTUH for 2015 is shown below.

| Month            | Estimated Chilled Water Energy Demand (BTUH) |
|------------------|--|
| Jan              | 159,103                                      |
| Feb              | 212,152                                      |
| Mar              | 301,391                                      |
| Apr              | 502,646                                      |
| May              | 734,055                                      |
| Jun              | 1,099,714                                    |
| Jul              | 1,144,704                                    |
| Aug              | 1,217,114                                    |
| Sep              | 898,957                                      |
| Oct              | 575,730                                      |
| Nov              | 273,875                                      |
| Dec              | 176,254                                      |
| 2015 Annual Avg. | 607,975                                      |

Source of Information: Pima County RWRD – Draft Energy Master Plan, CH2M Hill, January 2010

8. We would like to see if we can interconnect our CHP on a medium voltage bus that is closer to the designated CHP location than the 13.8 Switchgear Building. Can you provide this information?

County Response:

For connection within the plant wide power grid system and based on the probable quantity of power generated from Biogas Project combined heat and power (CHP) system, the connection to the plant grid will most likely be at the Switchgear Building. A Switchgear Building connection should be the basis of a concept development for a CHP project.

9. Will County allow flaring of digester gas when our facility is either down or operating at part load?

County Response:

County would allow the biogas to be flared at the County's flare, when the Developer's facility is down or operating at partial load. Details will be finalized in the final Service Contract.

10. Will County provide the following documents that are quoted in the draft Service Agreement:
- Pima County Safety and Sustainability Requirements( page 2-5)
  - Pima County design code (page 2-6)
  - County Standard Specifications for Public Improvements (page 3-9)

County Response:

Documents are available on Pima County websites indicated below.

- <http://www.dsd.pima.gov/Building/>
- [http://www.pima.gov/wwm/eng/des\\_std/pdf/2012/StdSpecsDtIsFullDoc\\_12032012.pdf](http://www.pima.gov/wwm/eng/des_std/pdf/2012/StdSpecsDtIsFullDoc_12032012.pdf)
- <http://dot.pima.gov/transeng/stdspecsdet/standardspecs2003.pdf>

11. The RFQ has conflicting statements on whether the 85% capacity factor required in the Performance Guarantee includes scheduled downtime. Please clarify. (Section 12.1.4 and page 2-4)

County Response:

The 85% capacity factor required in the Performance Guarantee does include scheduled downtime.

12. What is basis for Performance Guarantee requirement of 0.0035 ppmv H<sub>2</sub>S? Is this a requirement for Ina Road WWTP also? Has County performed any odor testing? If so, can County share the results? Is there a protocol that is to be followed? How will testing separate H<sub>2</sub>S source points that do not originate from the energy plant but increase level at energy plant site?

County Response:

The H<sub>2</sub>S concentration is the basis that the Pima County Regional Wastewater Reclamation Department uses for odor control at the Ina Road WRF. The County will share odor testing protocols and odor test results during the Service Contract negotiations. For concept development assume no H<sub>2</sub>S sources from outside a proposed energy plant site.

13. Page 2-4 requires the energy plant to be designed for maximum digester gas flows in 2035. Can you provide this level?

County Response:

The published Service Contract is in draft format. The selected developer is NOT required to design and build a facility now to handle future flow. The plan to address future gas flow will be discussed in the Contract negotiation phase. If necessary, the strategy to handle future gas flow may be addressed through a future Amendment to the Service Contract.

14. There are many provisions in the draft Service Agreement that are more typical of an EPC ("Engineer, procure and construct") agreement with O&M requirements. Many of these provisions add cost and conservatism with the design that risk the economic viability of a project. Is County open to making such changes?

County Response:

The published Service Contract is in draft format. It is Pima County's intend to develop a mutually agreed upon Service Contract with the top ranked Developer during a project development/negotiation phase. Many terms in the draft Service Contract will be negotiated and confirmed.

15. Page 5-3 infers that any power generation must be capable of natural gas/digester gas fuel blending. Is this a County requirement?

County Response:

Under Section 5.6.3 System Tests Item (4) in the draft Service Contract mentions natural gas operation. This is not a requirement.

16. What is County's planned schedule for taking digesters out of service for cleaning? How long is digester out of service? Can we assume County will keep same current mixers and will keep them in service over term of Service Agreement?

County Response:

The scheduled maintenance of the digesters will be coordinated with the Developer. However, total gas production is not expected to change significantly due to digester cleaning because of the amount of redundancy built into the existing digester system.

17. Will County leave all six digesters in service for long term and keep them operating in parallel?

County Response:

The total capacity in six digesters provides redundancy allowing routine maintenance,

such as digester cleaning, etc. The current plan is to keep all six digesters in service, but to performance periodic maintenance or inspections on a unit by unit basis. There is no current plan to change the operating strategy of the digesters.

This addendum is a total of 6 pages.

Questions concerning this addendum may be submitted via e-mail to [Jerome.rizzo@pima.gov](mailto:Jerome.rizzo@pima.gov) or by fax to (520)724-4434.

Jerome Rizzo, CPM  
Contracts Officer