

CITY OF TOLLESON  
INVITATION TO BID  
FOR  
“CHEMICALS-POLYMER”  
FOR USE AT THE CITY’S WASTEWATER TREATMENT PLANT

The City of Tolleson, Arizona is extending an invitation to bid to supply Polymer used in the treatment process at the City’s Wastewater Treatment Plant for Fiscal Year 2015-16 (July 1, 2015 – June 30, 2016). Bids shall be submitted in accordance with the requirements in the “Specifications and Bidding Information - Polymer” (the “Bid Packet”).

Sealed bids will be received at the City of Tolleson Wastewater Treatment Plant, Administrative Building, 9501 W. Pima Street, Tolleson, Arizona 85353, until 11:00 A.M./M.S.T., Wednesday, July 29, 2015. Those interested in placing a bid are required to obtain a Bid Packet and submit a bid that complies with the Bid Packet. Bid Packets may be obtained in person at the above address between 7:00 A.M. to 3:00 P.M., Monday – Friday, by mailing a request to the above address, by making a request by phone to (623) 936-3381, or by email to [dtyler@tollesonaz.org](mailto:dtyler@tollesonaz.org).

<sup>1</sup>Polymer performance testing is required prior to placing a bid. Prospective Bidders should contact [blucero@tollesonaz.org](mailto:blucero@tollesonaz.org) or call (623) 936-3381 as soon as possible, but not later than seven (7) days prior to the bid closing date to arrange a performance testing date.

Notice Given by Crystal Zamora  
Tolleson Deputy City Clerk  
Wednesday, July 1, 2015

Published in the Arizona Business Gazette  
Thursday, July 9, 2015  
Thursday, July 16, 2015



**2015/16**  
**Specifications and Bidding**  
**Information**  
**For**  
**Polymer**  
  
**For The**  
**Wastewater Treatment Plant**

**Bid Closing Date: July 29, 2015 11:00 A.M. (MST)**

**Note: Questions concerning these Specifications and Bid Information should be directed to the City of Tolleson, Solids Senior Operator:**

**Luis (Beto) Lucero, Senior Operator**  
**Telephone – (623)-478-8742**  
**Fax – (623)-352-0053**  
**Email – [blucero@tollesonaz.org](mailto:blucero@tollesonaz.org)**

## **PART I – INSTRUCTIONS FOR SUBMITTING A BID**

### **Scope**

The City of Tolleson Wastewater Treatment Plant (TWWTP) uses polymer to thicken primary and waste secondary sludge, and to dewater anaerobically digested sludge. While there are a variety in types of polymers (e.g. dries, manics, neat emulsions), which can be used to accomplish this objective, the TWWTP typically uses neat, emulsion polymers. Therefore, the City seeks to obtain competitive bids for the purchase of this product (neat, emulsion polymer), only.

This document, the “**2015/16 Specifications and Bid Information – Polymer**” is a two (2) part document hereafter, referred to as the “**Bid Packet - Polymer**”. **Part I** of this document bears the heading “**Instructions for Submitting a Polymer Bid**”, and provides the specific requirements and instructions necessary to Bid. **Part II** bears the heading, “**Polymer Performance Testing**”, and explains the required performance testing that each product to be offered by the Bidder in its Bid must complete **prior** to the published Bid close date.

Polymer to be purchased through the awarded Bid is intended for use at the City’s municipal wastewater treatment plant for the purpose of; 1) thickening primary sludge using Rotating Drum Thickeners (RDTs); 2) thickening waste secondary sludge from the trickling filter solids contact process using a Gravity Belt Thickener (GBT), and; 3) dewatering anaerobically digested sludge using Belt Filter Presses (BFPs).

**Note: Prospective Bidders are encouraged to contact the facility as soon as possible to schedule a Polymer Performance Testing date. For a Bid to be eligible for consideration, the polymer(s) to be offered by the prospective Bidder must have undergone Polymer Performance Testing at the TWWTP by not later than July 28, 2015.**

**See Part II of this Bid Packet for details.**

### **General**

1. Each Bid shall be limited to one (1) product per each dewatering/thickening process at the facility (i.e. as there are three (3) dewatering/thickening processes at the facility, the Bidder may include up to three (3) polymer different products in the Bid, one for each process.)
2. Before submitting a Bid to supply Polymer, prospective Bidders shall carefully examine both Parts I and II of this Bid Packet.
3. For a Bid to be considered responsive, the Bidder shall submit a sealed Bid, per the Invitation to Bid and per the instructions set forth in Parts I and II of this Bid Packet, and have completed Performance Testing and have submitted all information requested in this Bid Packet.

4. By submitting a Bid, the Bidder affirms and agrees to all terms and conditions set forth herein.
5. Should any omission or ambiguity in the specifications and/or instructions be discovered by the Bidder during the examination of the documents, Bidder should immediately bring such omission or ambiguity to the attention of the City's authorized representative or his designatee, but not later than seven (7) days prior to the advertised Bid closing date. All inquiries will be promptly reviewed and, where necessary, a clarifying written addendum issued.
6. This document, (2015/16 Specifications and Bidding Information – Polymer, (a.k.a the Bid Packet-Polymer) collectively 18 pages, consists of two (2) parts. Part I, "Instructions For Submitting a Bid" pages 1 - 12, including the cover page; and Part II, "Polymer Performance Testing" pages 12 - 18.
7. For purposes of this Bid, the term "Department" shall mean the "City of Tolleson Utilities Department/Wastewater Division. The term "facility" shall mean the "City of Tolleson Wastewater Treatment Plant". The term "Bidder" and "Vendor" shall be considered synonymous.

### **Contract and Contract Period**

Upon written notification from the City that the Bidder's offer (the Bid) has been approved by the City Council, the successful Bidder shall be considered as having entered into a contract with the City to supply the materials, goods, and/or services offered in the Bid under the terms of this solicitation. The contract documents consist of this document (2015/16 Specifications and Bidding Information - Polymer); the Invitation to Bid; all addenda issued prior to the Bid closing date/time of Bid, the Bidder's offer (the Bid), the City's letter notifying the Bidder of acceptance of the Bid, and a Purchase Order, signed by the City's procurement officer.

The contract will be for a period of one (1) year, beginning at the time notification as the successful Bidder is acknowledged by the Bidder and will automatically terminate at the end of the 2015/2016 fiscal year, which is June 30, 2016. During the term of this contract the Bidder agrees and commits to supply the goods, materials and/or service for the full term of the contract at the price Bid, without increase.

If any conflict shall become evident between the provisions or stipulations as stated or as required by this document and the Bidder's Bid documents then, unless expressly and specifically agreed to in writing by the City's authorized representative, the "2015/16 Specifications and Bidding Information" document shall prevail.

### **Submitting a Bid**

1. The Bidder shall submit two (2) original, identical signed copies of its Bid.

2. For a Bid to be considered prospective Bidders must have completed a polymer performance trail for each product(s) that will be offered in the Bidder's, Bid. Please refer to the "Polymer Performance Testing" document for further details.
3. The Bidder must include in the Bid all information requested in the "Polymer Performance Testing and Evaluation" instructions.
  - A. Weight of each polymer product (in pounds per gallon) Bid.
  - B. Percent activity of each polymer product Bid
  - C. Price per neat pound of each polymer Bid
  - D. MSDS or Safety Data Sheets for each polymer Bid (*see item 14 this section*)
  - E. A statement that return freight on all containers is collect, and paid by vendor
  - F. A statement of standard operating procedures for polymer bin returns including restrictions, if any.
  - G. A statement describing polymer container(s) that would be sent to fulfill all orders, including construction & capacity (in gallons).
  - H. Minimum ordering quantities or other restrictions.
  - I. Expected delivery time from placement of an order.
  - J. Any discrepancy, concern, disagreement, question or protest of the evaluation information or testing procedures (See Item 11 of this section).
4. Bidders shall submit a single Bid, alternate Bids will be rejected.
5. The Bid Price for Polymer shall be F.O.B. the City of Tolleson Wastewater Treatment Plant, 9501 W. Pima Street, Tolleson AZ 85353; and shall reflect the "Total Delivered Price", including all applicable Federal, State, County, Local, and Use or other taxes, fees, surcharges, fuel charges, demurrage charges, transportation (including the returning of empty totes back to the manufacturer after use), labor and equipment costs for the actual product, delivered to the TWWTP.
6. On the first page of the Bid, the Bidder shall clearly show the total offering price (Bid Price) in terms of - **Price per Neat Pound** for each polymer product bid. (This is the total delivered price, as described in item #5, above in this section). Note - Prices bid in terms of "Per Active Pound" will be grounds for rejection.
7. The Bid price shall be valid for the full term of the contract and shall not be subject to increase.
8. In its Bid, the Bidder shall clearly show the breakout for each applicable tax (i.e. Federal, State, County, local, and other taxes) that will be paid, and the tax rate of each that apply. The Bidder shall include the following statement "Any and all applicable taxes are included in the Total Delivered Price and said taxes will be paid by (Insert Name of Bidder's Company)".
9. Certain technical or consultation services, as may be requested during the life of the contract, which pertain to the use, application, or training on the product shall be provided by the Bidder. Such consultative services shall be included as part of the Bid price.

10. The City expects conformance to all of the conditions as specified herein and does not anticipate nor expect that any exceptions will be taken. The City may, at its sole discretion, consider any Bid in which the Bidder has taken exception on page 2 of the Bid to be non-responsive when such exception(s) taken serves to alter or change a stipulation or condition specified herein. The City reserves the right, by its sole judgment, to determine whether any such exception being taken conforms to the specifications. And, further, the City reserves the right to determine whether any such exception taken is significant or insignificant and whether to proceed with making a decision that best serves the interests of the City.
11. If the Bidder takes exception to any provision, stipulation, condition or requirement contained in this document (2015/16 Specifications and Bidding Information - Polymer), then the exception(s) taken shall be included in the Bid by listing each exception. All exceptions taken shall appear collectively in one section, titled "**EXCEPTION TAKEN**", and shall begin on page two of the Bid. The Bidder shall provide a written, detailed explanation of each exception taken, describing the basis for each exception taken and, if applicable; state a remedy for the contention. If additional pages are required, they shall immediately follow page two.
12. The absence of an "Exception Taken" statement being included in the Bid will be interpreted to mean that no exceptions are taken by the Bidder.
13. Any conflict that is noted between any element contained in a Bid and a provision, stipulation, condition or requirement specified in this document that was not listed as being an exception taken on page two of the Bid shall be considered to be a misnomer on the part of the Bidder. Such misnomers may be regarded by the City as being the Bidder's intent to actually comply and conform to specifications herein. Any stipulations or condition expressed by a Bidder in their Bid, that is not acknowledged by the City's authorized representative, in writing, as being a new condition that is acceptable to the City, will be considered to be null and of no affect and not part of the terms of the contract.
14. The Bid shall include the current Material Data Safety Sheets or Safety Data Sheets for the product being offered. By submitting a bid the Bidder agrees to and commits to submitting a Global Harmonized System Fact Sheet (GHSFS) to the City and to comply with all modified provisions and phase-in dates required by the Department of Labor (OSHA) under the revised Hazard Communication Standard (HCS):
15. The Bid shall include information on the reportable spill quantity for the product, pertinent reporting information, and cleanup procedures, including material and supplies that are needed to have on-site.
16. By placing a Bid, the Bidder agrees to the terms and conditions as stated in the Invitation to Bid, and the 2015/16 Specifications and Bidding Information - Polymer, and all addenda (if any) issued prior to the Bid closing date/time).

17. In order for a Bid to be considered it must be received by the Department in a sealed, opaque envelope, prior to the advertised bid closing date and time. The envelope shall bear on the outside the Bidder's name (name of business) and a return address and shall be clearly labeled "**POLYMER – BID**". The Bid shall either be sent by mail (e.g. U.S. mail, Fed Ex etc.) or hand delivered.
18. Faxed Bids or emailed Bids are not acceptable and will be rejected.
19. Bids that are mailed should be sent to the following address, which is the mail box location for the Utilities Department at City Hall:

City of Tolleson  
Wastewater Treatment Plant  
Attn: Mr. Mark Berrelez  
9555 W. Van Buren Street  
Tolleson, AZ 85353

20. For Bids that are mailed, the Bid is considered as having been "received" by the Department only after a representative, designated by the City's authorized representative takes possession of the bid. Note: The date of Post Marking will not be considered. The City is not liable for lost, stolen, late or misdirected mail.
21. For Bids that are hand delivered to Utilities Department Administration Office, the Bid is considered as having been "received" by the Department only after a City representative, designated by the City's authorized representative takes possession of the Bid. The TWWTP is located at the south west corner of 91<sup>st</sup> Avenue and Buckeye Road, about ¼ mile south of Buckeye Road and about ¼ mile west off of 91<sup>st</sup> Avenue.

City of Tolleson  
Wastewater Treatment Plant  
Utilities Department Administration Office  
9501 W. Pima Street  
Tolleson, AZ 85353

22. The Utilities Department/Administrative Office normal business hours are 7:00 am to 3:00 pm Monday – Friday, and is closed weekends and Holidays. Info Line: (623) 936-3381
23. Please Note: If hand delivering a bid, there are multiple buildings on site at the wastewater treatment plant campus. The Administrative Office for the Wastewater Department is the building nearest to the flag pole. Hand delivered bids will not be accepted at other buildings located on-site.
24. It is the responsibility of the Bidder to submit their Bid on time, before the advertised closing date/time. Bids submitted after that date/time are late, and will not be considered. Any bid received prior to 11:00:59 AM official US time by

the City (i.e. Bid-in-hand of the City's authorized representative) is considered, timely. Any Bid submitted after that exact time is regarded late.

25. The Bidder assumes any and all risks for the chosen method to deliver their Bid.

26. Bids received after the advertised closing date/time, will not be considered.

## **TAXES**

The City of Tolleson is a tax paying entity. All applicable sales tax (e.g. Federal, State, County and Local) and Use taxes shall be included in the Bid. The Bidder agrees to comply with all provisions of the Arizona State Sales Tax Law and Compensation Use Tax Law and all amendments to the same. The Bidder further agrees to indemnify and save harmless the City of Tolleson of and from any and all claims and demands made against it by virtue of the failure on the Bidder or any subcontractor to comply with the provision of any or all said laws and amendments. Additionally, the Bidder must itemize (break out the tax) and show these taxes in the Bid and on each invoice submitted to the City for payment.

## **Fuel Surcharges**

Bidders should carefully consider any and all fuel costs to manufacture, transport/deliver their product and for the returning of totes or containers after use. These costs are considered as being an integral part of the Bid price of the product(s) for the full term of the contract. The Bid instructions do not make allowance for the adding of fuel surcharges during the term of the contract. The successful Bidder will be required to honor its Bid price for the term of the contract, without price modification or adding fuel surcharges.

## **Quantities**

Unless otherwise stated in this "2015/16 Specifications and Bidding Information" document, the City of Tolleson will, during the contract period, make all purchases for Polymer exclusively from the successful Bidder. The Bidder is obligated to supply the quantity(s) which the City of Tolleson may require for its operation. Any quantities stated herein or as otherwise may be discussed are provided as a general guide only. The actual quantities ordered, if any, may be more or less. The Bidder must state all restrictions, if any, in its Bid, including minimum or maximum quantities per each delivery.

Any restriction that may present a logistical complication to the efficient or effectual operation of the facility, in the City's sole judgment, may be just cause to reject the Bidder's Bid.



A decline in effectiveness of the product shall be cause for contract cancellation as provided for herein. The City of Tolleson reserves the right to use other methods and types of chemicals or products for a dewatering/thickening during the course of the contract, which may or may not affect the quantity of Polymer containers purchased. The City guarantees no minimum quantity will be purchased. The City of Tolleson may make purchases from other vendors if Bidder cannot meet Tolleson's delivery requirements or desired quantities. The Bidder agrees to supply technical services pertaining to the use of Polymer as ordered by the City of Tolleson during the term of this contract.

### **Quality**

Polymer shall be supplied in tote containers unless agreed to, in writing, by the City Authorized Representative. Product not meeting the specifications as outlined in this document, if known at the time of delivery, is cause for rejecting the delivery, without any additional cost to the City.

### **Technical Services**

In the event of an issue arises regarding the performance of the product supplied, the Plant Superintendent may request and the Bidder shall supply, at no additional cost to the City of Tolleson, on-site technical services and/or consultations. Such technical services shall not exceed 10 full calendar days per fiscal year.

### **Shipping, Receiving and Unloading**

The Bidder shall cooperate with the City of Tolleson in supplying any quantity of product that is needed or requested. The City of Tolleson reserves the right to refuse, delay or limit delivery at the time of delivery. The City of Tolleson will not be responsible to pay demurrage for any reason. The Bidder shall supply Polymer within a lead time of seventy-two (72) hours of when the order is placed. The trucks shall meet all applicable State and Federal requirements. By placing a Bid the Bidder agrees to abide by the City of Tolleson safety requirements and will make every effort to prevent any unsafe situation when making deliveries.

### **Time of Delivery**

The Bidder must assure the ability and commitment to deliver a supply of product to the City of Tolleson Wastewater Treatment Plant (TWWTP) to sustain its dewatering and thickening operations without interruption. Unless approved in advance, deliveries shall be from 6:00 A.M. to 3:00 P.M., Monday through Friday. Deliveries shall not be made on Saturdays, Sunday or Holidays, or during off hours unless requested by the City of Tolleson. The Bidder, if requested by the City of Tolleson, shall develop a delivery schedule to be followed during the course of this contract, unless revision is made or approved by the City.

If the Operational requirements of the TWWTP dictate, the City of Tolleson may elect to change the Bidder's delivery schedule. Should the bidder be unable to comply with his/her delivery schedule or fail to keep the TWWTP in a sufficient supply of product or not be able to supply the TWWTP with an unexpected, or emergency delivery within 24 hours, due to lapse in communication, manufacturing, transportation, or any other cause; then the TWWTP Superintendent reserves the right, in his discretion to obtain material required from any source without waving or voiding any of the terms and conditions of this contract.

### **Payment and Method of Purchasing**

A blanket P.O. will be issued for the fiscal year at the time the Bid is awarded. The total amount stated on the P.O. provided by the City shall be considered as a "Not to Exceed Amount". Any unspent funds remaining on the P.O. at the end of the fiscal year (the end of the contract term) shall not be misconstrued as an obligation or commitment on the part of the City to place additional orders or to otherwise make purchases up to the total amount stated on the P.O. The City guarantees no minimum quantity will be purchased, regardless of amount specified on the P.O. during the term of the contract.

Payment will be made for individual shipments after receipt of an invoice from the Bidder. The invoice must break out any and all applicable tax from the total price and show as a separate item on the invoice. However, the invoice total must reflect the total delivered price.

### **Cooperation**

The Bidder and the City of Tolleson personnel will cooperate closely in scheduling and resolving any service or product related issues. Should an unacceptable situation develop with respect to goods or service in the opinion of the Plant Superintendent, or there be a decline in the effectiveness of the product supplied; the following steps will be initiated by the city: The Plant Superintendent or his authorized representative shall notify the Bidder of the problem, giving the Bidder a reasonable period of time to correct the deficiency(s). For issues that do not critically impact the operations of the TWWTP or hinder the compliance with a permit or regulation, then the Bidder shall have up to 10 calendar days to resolve such problem(s) to the satisfaction of the Plant Superintendent, which shall be considered a reasonable period of time.

For issues that critically impact the operations of the TWWTP or hinder the compliance with a permit or regulation, the time period for Bidder to resolve the problem to the Plant Superintendent's satisfaction may, at the City's discretion, be shorter. If the Bidder is unable or unwilling to correct the problem(s) to the satisfaction of the Plant Superintendent within the allotted time frame (within 24 hours or sooner for critical items or by the end of the 10 day period for all other deficiencies); then the City may obtain the product or service from another vendor until such time as the noted deficiency(s) is

corrected. If the problem remains uncorrected at the end of the 10 day period, then the City Controller may notify the Bidder in writing that the contract will be terminated

Nothing contained herein shall preclude the City from purchasing a similar or different product, at will and at any time during the life of the contract, so long as such purchases are not for the identical product, except that an identical product or service may be purchased under the conditions set forth in this document.

Upon written notification of any unsatisfactory condition, the Bidder shall have 10 calendar days to resolve such problem(s) to the satisfaction of the City. If a satisfactory solution has not been made by the end of that period, the City Controller or Chief Financial Officer may, with the advice from the Department, notify the Bidder in writing that the contract will be considered cancelled in an additional 20 calendar days. The City may then solicit new bids for the same product at its sole discretion.

### **City's Authorized Representative**

The City's authorized representative is the Utilities Director or in his absence, the Superintendent Wastewater Utilities. The City, at its sole discretion, when and as deemed necessary, may delegate other personnel of the City of Tolleson, whether elected or not elected, as being an authorized representative.

### **Method of Award**

The successful Bidder will be determined on the basis of the lowest responsive and responsible bid and other pertinent considerations as outline in this document. The City of Tolleson reserves the right to reject any or all Bids, to waive any informalities or irregularities in the in the performance testing of the products or in the Bids received, and to award the Bid, which in the City's sole judgment best serves the interests of the City.

Only one Vendor (Bidder) will be selected to supply polymer for the dewatering and thickening operations at the City of Tolleson WWTP. This includes all polymers necessary to operate the rotary drum thickeners (RDTs), the gravity belt thickener (GBT), and the belt filter presses BFP's.

After Polymer Performance Trials have been completed, and Bids opened, and test results evaluated; operations staff will then make a recommendation to the plant management regarding the vendor having the lowest demonstrated overall cost per pound of polymer per ton of dry solids. Plant management will then consider this recommendation and other pertinent information for making a recommendation to the City Council for a vendor to supply polymer to the City of Tolleson Wastewater Treatment Plant for the next fiscal year.

### **Notice of Award**

The City Council, upon considering the Department's recommendation to award a bid, will approve, deny or act as they deem in the best interest of the City. If the City Council concurs with and approves a recommendation to award the Bid, the successful Bidder will receive a notification letter from the Utilities Department/Wastewater Division. The letter will contain a blanket purchase order for fiscal year 2015/16. Orders may be placed immediately by the Department upon issuance of an approved P.O. to the vendor. Please Note: The amount on the purchase order is a not to exceed amount, or maximum amount that may be purchased during the fiscal year from the successful Bidder. The City does not guarantee a minimum amount to be purchased or that any amount or quantity will be purchased.

### **Interim Purchases**

Nothing in this Bid information and specifications document shall preclude the City's right to follow the City's procurement code in making small purchases, from any vendor. Such may occur, but is not limited to purchases made on an emergency basis, or at the end of a fiscal year and before a new contract has been awarded, or at other times that the City is not under contract.

### **Compliance with A.R.S. § 38-511**

Any commitment of the City to purchase the product from the successful Bidder is voidable and subject to cancellation due to a conflict of interest pursuant to the provisions of A.R. S. § 38-511.

### **Non-appropriation of funds**

Any commitment of the City to purchase the product from the successful Bidder may be cancelled immediately if sufficient funds are not appropriated by the City to pay for the product.

### **E-verify Requirements**

To the extent applicable under A.R.S. § 41-4401, the Bidder, by submitting a Bid, warrants compliance, on behalf of the Bidder and any and all subcontractors, with all federal immigration laws and regulations that related to their employees and compliance with the E-Verify requirements under A.R.S. § 23-214(A). Breach of the above-mentioned warranty shall be deemed a material breach of any contract between the City and the successful Bidder and the City may terminate such a contract. The City retains the legal right to inspect the papers of the Bidder to ensure that the Bidder is complying with the above-mentioned warranty.

### **Assignability**

No right or interest in any contract created by the award of the Bid to the successful Bidder shall be assigned without prior, written permission of the City and no delegation of any duty of the successful Bidder shall be made without prior, written permission of the City. Any attempted assignment or delegation by the successful Bidder may be considered to be in violation of this provision and constitute a breach of any contract.

## **PART II – POLYMER PERFORMANCE TESTING**

This part of the Bid Packet is intended to provide prospective Bidders with only the information pertaining to the Polymer Performance Testing required by the Department. This testing must be completed prior to the advertised Bid closing date, and in accordance with the scheduling requirements stated in Section I, below. For instructions on placing a Bid, please refer to Part I of the Bid packet, “2015/16 Specifications and Bidding Information – Polymer”.

Prior to the date of actual Polymer Performance Testing, each prospective Bidder will be allowed an opportunity to come to the facility to run jar tests on sludge collected from the various plant processes that feed the dewatering/thickening equipment. To help narrow their selections, vendors will also be given the opportunity to observe their products being run on plant dewatering/thickening equipment.

This “observation run” is not required. Vendors that elect to have an “observation run” will be limited to having only two (2) products run at each dewatering/thickening location (i.e. two at the RDT, two at the GBT and 2 at the BFP). Also, products will be limited to a maximum of 30 minutes at each location for each polymer.

During the “observation run” plant staff will not be collecting samples or performing a drawdown (measuring polymer use); however, the vendor is welcome to work with samples or do drawdowns. However, as the need to run the thickening and dewatering equipment is process dependent, there is no guarantee made or implied that all equipment will be operational on any given day, or as to the quality or quantity of sludge to any given unit, or that conditions would be duplicated during an actual performance test.

Dates for Jar Testing/Observation Runs, and the actual Polymer Performance Testing are on a first come first serve basis. The Bidder/Vendor is responsible to schedule a mutually agreeable time or to utilize such time slots as may be available, whether convenient or inconvenient to conform to the deadlines specified for this Bid.

For purposes of conducting the “Observation Runs” and/or “Polymer Performance Testing” only; Bidders shall furnish at their own expense, a sufficient supply of its product in small containers (e.g. buckets having a nominal size of five gallons).

The Department is not responsible for lost, stolen, misdirected or missing shipments of the vendor’s product which is intended to be delivered to the TWWTP for testing purposes. Safety Data Sheets for each product delivered or brought to the TWWTP must accompany that product. Each Vendor is solely responsible for the preservation of product integrity and the security for any and all of its products brought to or delivered to the TWWTP for the purpose of Observation Runs and/or Polymer Performance Testing.

The City will hold all Polymer Performance Testing results until after the bids have been evaluated and a decision to award has been rendered by the Tolleson City Council.

## I. SCHEDULING FOR A POLYMER PERFORMANCE TESTING DATE

In order for a Bidder's Bid to be eligible for consideration, the prospective Bidder **must have scheduled with the Department, and have completed performance testing** of each polymer(s) they will offer in their Bid prior to the Bid closing date/time as stated in the Invitation to Bid - Polymer. Prospective Bidders are responsible to contact [blucero@tollesonaz.org](mailto:blucero@tollesonaz.org) or call (623) 936-3381 to arrange a Polymer Performance Testing date, and are encouraged to make that arrangement as soon as possible. Prospective Bidders may initiate a request to schedule the Polymer Performance Test anytime from the point at which they become aware of the City's Invitation to Bid - Polymer.

- The Bidder must schedule with the Department to arrange for the performance testing of their product(s) they propose to offer in the Bid, with the arrangement being made at least seven (7) calendar days prior to the bid closing date.
- The Bidder must have completed Polymer Performance Testing for each of the product(s) they propose to offer in their Bid prior to the bid closing date stated in the Invitation to Bid – Polymer.
- Only those polymers actually appearing in the Bid and that have completed the required Polymer Performance Testing prior to the Bid close date/time will be considered.
- The Bidder must provide all information requested in Part II, Section II of the Bid Packet – Polymer (this document) at the time polymer performance testing is conducted.
- Failure to meet or comply with any specifications or instruction of the Bid Packet – Polymer, Parts I and II, may result in the Bidder's Bid being considered "Not Responsive" or otherwise rejected by the Department.
- Bidders are invited and encouraged to be present during the performance testing of their product(s), but attendance is not required.

## II. SUPPLEMENTAL / REQUIRED INFORMATION

Vendors are required to submit the following information at the time of Polymer Performance Testing and in their Bid:

1. Weight of each polymer product (in pounds per gallon).
2. Percent activity of each polymer Bid
3. MSDS or Safety Data Sheets for each polymer Bid (*see item 14 in Part I*)
4. Any discrepancy, concern, disagreement, questions or protests concerning the Polymer Performance Testing, specific to the procedures in Part II, Sections I - V of this document must be raised prior to the actual performance test being conducted.

At the City's sole discretion, Bids that do not contain all of the information required in this document may be considered as not responsive. By consenting to and scheduling the Polymer Performance Test, the Bidder agrees to all testing conditions, methods and procedures as specified in this document.

### III. POLYMER TESTING PROCEDURE

#### **Plant Operators Role:**

The Plant Operator will conduct the testing (i.e the Polymer Performance Trial). The Plant Operator will operate & control all solids handling equipment and components thereof during the testing of the Vendor's polymer.

#### **Vendor's/Bidder's Role:**

The Vendor is welcome to be present and observe the testing of its polymer. The Vendor will be allowed to suggest adjustments of dilution water & polymer settings only. However, prior to making any adjustments based on the requests or suggestions from the Vendor, the Plant Operator will first make a visual observation to ascertain whether such adjustment is conducive to maintaining the unit's customary and characteristic operation.

The Vendor should supply a sufficient amount of polymer to run the Belt Press, Gravity Belt Thickener and the Rotary Drum Thickener. It is recommended that not less than ten (10) gallons of polymer for each process be supplied for the actual Polymer Performance Testing. Vendors are responsible for the removal of leftover polymer.

Based on sludge production data from January 2015 through April 2015, on an intra-plant basis, an overall average of 11.4 dry tons per day were processed through thickening and dewatering equipment within the TWWTP. The Belt Thickener and Rotary Drum Thickeners, combined, produced on average 6.9 tons per day, and the Belt Filter Press produced 4.5 tons per day, on average during that time period.

#### **Polymer Performance Trail – Special Notes:**

1. The City is not obligated to provide dilution beyond the capability of any unit (Gravity Belt Thickener, Belt Filter Press or Rotating Drum Thickener) or that is otherwise unsustainable or impractical or otherwise undesirable to the City, as judged solely by the Plant Operator at the time the Polymer Performance Trail is conducted.
2. Best operation is one which seeks to achieve the customary, characteristic and sustainable operation of any unit (Gravity Belt Thickener, Belt Filter Press or Rotating Drum Thickener) and is the sole judgment of the Plant Operator at the time the Polymer Performance Trial is conducted. [The terms customary and character refer to unit performance specific to the TWWTP, and the term sustainable refers to the manner in which the City desires to maintain any operation of a unit process].

#### **1. Belt Thickener Sludge Production (Estimated)**

Sludge Feed	500 gpm (by positive displacement pump)
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Average Run Time	5.3 hrs. per day
Percent Solids	.2730 % or 2,730 mg/l
Lbs. Dry Solids	= (MGD) x (8.34) x (mg/l)
3,620 lbs.	(.159) x (8.34) x (2,730)
Tons Dry Solids	= (Lbs. Dry Solids divided by 2,000)
<b>1.8 tons</b>	(3,620 / 2,000)

**2. Belt Filter Press Sludge Production (Estimated)**

Sludge Feed	100 gpm
Average Run Time	5.3 hrs. per day
Percent Solids	3.4 % or 34,000 mg/l
Lbs. Dry Solids	= (MGD) x (8.34) x (mg/l)
9,074 lbs.	(.032) x (8.34) x (34,000)
Tons Dry Solids	= (Lbs. Dry Solids divided by 2,000)
<b>4.5 tons</b>	(9,074 / 2,000)

**3. Rotary Drum Thickener Sludge Production (estimated)**

Sludge Feed	100 gpm
Average Run Time	12 hrs. per day
Percent Solids	1.7 % or 17,000 mg/l
Lbs. Dry Solids	= (MGD) x (8.34) x (mg/l)
10,208 lbs.	(.072) x (8.34) x (17,000)
Tons Dry Solids	= (Lbs. Dry Solids divided by 2,000)
<b>5.1 tons</b>	(10,208 / 2,000)

**IV. POLYMER TESTING PROCEDURES**



**A. BELT FILTER PRESS (BFP)**

1. Stabilize belt filter press

- a. Put Vendor's polymer on line.
- b. Belt tension will be adjusted by the Plant Operator for best operation of belt press.
- c. Belt speed will be adjusted by the Plant Operator for best operation of belt press.
- d. Sludge feed will be adjusted by the Plant Operator to maintain a full load onto the belt press.
- e. Dilution water & polymer dosage will be adjusted by the Plant Operator to achieve a dilution factor that is satisfactory to the Vendor.
- f. An acceptable dewatered cake is one that readily releases from the belt, with the cake being discharged in sheets as opposed to the cake sticking to the fabric or discharging in pieces.
- g. After the adjustments in items B – E are completed and the discharge cake is observed to be in the normal operating range, (or as close thereto as possible) as deemed acceptable to the Plant Operator, the Plant Operator will then proceed with collecting samples from the unit.

2. Collect Sample and Perform a Drawdown

- i. Collect a sample of the Filtrate
- ii. Collect a sample of the feed sludge
- iii. Collect a sample of the discharge cake
- iv. Perform a Timed Polymer Drawdown at the calibration column and record the polymer usage rate in (lbs/hr)
- v. Record sludge flow using the magnetic flow meter installed on the sludge feed line at the pump +/- .5%

**B. GRAVITY BELT THICKENER (GBT)**

1. Stabilize gravity belt thickener

- a. Put Vendor's polymer on line.
- b. Belt tension will be adjusted by the Plant Operator for best operation of belt press.
- c. Belt speed will be adjusted by the Plant Operator for best operation of belt filter press.
- d. Sludge feed will be adjusted to maintain a full load onto the belt press. (As near to 500 GPM from the WSS pumps as practical)
- e. Dilution water & polymer dosage will be adjusted by the Plant Operator to achieve a dilution factor that is satisfactory to vendor.
- f. An acceptable dewatered cake is one that readily releases from

- the belt, with the cake being discharged in sheets as opposed to the cake sticking to the fabric or discharging in pieces.
- g. After the adjustments in items B – E are completed and the discharge cake is observed to be in the normal operating range, (or as close thereto as possible) as deemed acceptable to the Plant Operator, the Plant Operator will then proceed with collecting samples from the unit.

2. Collect Sample and Perform Draw Down

- i. Collect a sample of the Filtrate
- ii. Collect a sample of the feed sludge
- iii. Collect a sample of the discharge cake
- iv. Perform a Timed Polymer Drawdown at the calibration column and record the polymer usage rate in (lbs/hr)
- v. Record sludge flow using the magnetic flow meter installed on the sludge feed line at the pump +/- .5%

**C. Rotary Drum Thickener (RDT)**

1. Stabilize Rotary Drum thickener

- a. Put Vendor's polymer on line.
- b. Adjust RDT speed by the Plant Operator for best performance
- c. RDT cycle time will be on the cycle that is currently required under present plant operating conditions.
- d. Sludge feed will be adjusted according to the gpm rating currently required under present plant operating conditions. (As near to 100 GPM as practical)
- e. Dilution water & polymer dosage will be adjusted by the plant operator to achieve a dilution factor that is satisfactory to the vendor.
- f. Polymer demonstrating good performance shall result in cake readily releasing from the drum. After the adjustments in items B – E are complete and the drum discharge cake is observed to be in the normal operating range, proceed with collecting samples.

2. Collect Sample and Perform Draw Down

- i. Collect a sample of the Filtrate
- ii. Collect a sample of the feed sludge
- iii. Collect a sample of the discharge cake
- iv. Perform a Timed Polymer Drawdown at the calibration column and record the polymer usage rate in (lbs/hr)
- v. Record sludge flow using the magnetic flow meter installed on the sludge feed line at the pump +/- .5%

## V. OVERALL COST PER TON OF DRY SOLIDS

The evaluation will be based on overall polymer cost to treat one ton of dry solids. Since sludge is conditioned with polymer for thickening at the rotary drum thickener and the gravity belt thickener, followed by anaerobic digestion, then conditioned again with polymer and finally dewatered at the belt filter press; it is necessary to proportion the cost with the following formula:

$$\text{Overall Cost Per Ton} = \frac{\{(RDT) \times (5.1)\} + \{(BT) \times (1.8)\} + \{(BP) \times (4.5)\}}{11.4}$$

RDT- Cost per ton of dry solids at rotary drum thickener  
BT - Cost per ton of dry solids at gravity belt thickener  
BP- Cost per ton of dry solids at Belt filter press

5.1 Average tons produced at Rotary Drum Thickener  
1.8 Average tons produced at Belt Thickener  
4.5 Average tons produced at Belt filter press  
11.4 Average total daily tons treated with polymer

This formula incorporates the polymer costs for all sludge dewatering and thickening processes used at the TWWTP. Therefore, this method has been formulated to determine an estimate of the actual, overall polymer costs to process one ton of dry sludge leaving the treatment plant.