

# City of Prescott

## Invitation for Bid for POLYMER

### Standard Specifications and Contract Documents



**DESCRIPTION:** Under this contract the successful bidder shall furnish and deliver a sludge-conditioning chemical (organic polymer flocculent) for use at the City of Prescott Wastewater Treatment Facilities.

**PROJECT NUMBER:** 09-13-92000-433

**BID OPENING:** January 8, 2009 at 2:00 PM  
City of Prescott Council Chambers  
201 South Cortez Street, Prescott, Arizona

**PREPARED BY:** Utilities Operations Division  
1505 Sundog Ranch Road, Prescott, Arizona  
928-777-1630

November 2008

**City of Prescott  
Wastewater Treatment Facilities**

**NON-COLLUSIVE BIDDING CERTIFICATION**

The following statement must be subscribed by the bidder and is affirmed by the bidder under penalties of perjury.

“By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; and
2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and
3. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.”

Dated: \_\_\_\_/\_\_\_\_/\_\_\_\_

By: \_\_\_\_\_





# **City of Prescott Wastewater Treatment Facilities**

## **GENERAL SPECIFICATIONS FOR POLYMER**

### **Section 1: General Provisions**

#### **General**

The City of Prescott WWTF is seeking bids for the supply and delivery of Polymer at the City of Prescott Wastewater Treatment Facilities (COP-WWTF), 1500 Sundog Ranch Road, Prescott, Arizona 86301. Delivery hours are between the hours of 7:00 A.M. and 3:30 P.M.

#### **Schedule**

Bid Opening:	January 8, 2009, 2:00 P.M.
Bid Award:	January 27, 2009 City Council Meeting
Contract Period:	February 1, 2009 – January 31, 2012

#### **Payment Method**

Payment will be processed through normal City of Prescott Finance procedures.

#### **Bids**

The City of Prescott reserves the right to reject any and all bids.

#### **Bidder's Responsibility**

The bidder must fully acquaint himself/herself with field conditions at the site and be familiar with the Plans and Contract Documents; the failure or omission of any bidder to receive or examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect to his/her bid.

#### **Default Provisions**

In case of default by the bidder, the COP-WWTF may procure the articles or services from other sources and hold the bidder or contractor responsible for any excess costs occasioned or incurred thereby.

#### **Delivery**

Deliveries shall be made upon order at any time after a formal contract has been executed by both the Buyer and the Supplier. Delivery shall be made within five (5) calendar days after the placement of each order. In the event that the supplier fails to make deliveries on schedule, the Buyer reserves the right to purchase material on the open market and charge the Supplier for any costs incurred above the contract price.

## **City of Prescott Wastewater Treatment Facilities**

Bidders interested in this project can direct their questions to Scott Gregorio, Wastewater Superintendent at (928)-777-1630.

### **Bid Bond**

No bid bonds are required to be submitted with the bid.

### **Bid Summary**

All bids must be submitted on the forms furnished. Required forms include bid proposal, non-collusive bidding certificate, and waiver of immunity. All forms must be filled out, signed and returned along with any other items required in this specification.

Bid must be submitted in an envelope specifically identified as a **BID DOCUMENT**, clearly marked with the bid name, date and time of the bid opening, and submitted as directed on the proposal face sheet. Proposal form, as issued, shall be completely filled in and should be typed or clearly written in ink. No bid will be accepted that contains any changes, additions, omissions or erasures, unless otherwise stated.

All bids shall be received by the specified time and will be publicly opened and read as indicated. Those received after the specified time will be returned. It is urged that all interested persons be present at the time for bid opening.

Any amendments or bids received later than the date and time of the bid opening will not be considered. No bidder may withdraw a bid within forty-five (45) days after the actual date of the opening thereof. The City of Prescott reserves the right to a forty-five (45) day delay in approving the successful bidder.

### **Taxes**

Purchases by the City of Prescott Wastewater Treatment Facilities **are** subject to all sales, state or federal excise tax.

### **Bid Acceptance**

The bidder whose bid has been accepted will be required to appear in the office of the City Clerk and execute a contract within ten (10) days from the date the contract was awarded. In the case of failure to execute the contract and meet all other stated requirements within the time stated, the bidder shall be deemed to have abandoned the contract.

## **TECHNICAL SPECIFICATIONS FOR POLYMER FLOCCULENTS**

### **General Requirements**

Under this contract the successful bidder shall furnish and deliver a sludge-conditioning chemical (organic polymer flocculent) for use at the City of Prescott Wastewater Treatment Facilities (COP-WWTF). It is the intent to procure only that type of chemical known as organic polymer which is synthetic, high molecular weight, water soluble polyelectrolytes manufactured specifically as flocculents for application in wastewater treatment. Only products of the above description will be eligible for this contract. Eligibility is further limited to those products that have been previously tested and demonstrated through plant site tests and found to be acceptable for the particular applications. All data from on site testing including but not limited to percentage of dry solids in the raw sludge feed, the filtrate and the sludge cake, the polymer dosage per ton of dry solids and the cost of the polymer per ton of dry solids will be used to determine the best cost effective polymer for awarding the bid.

A two (2) hour test will be run by treatment plant personnel using the procedures outlined in "Attachment A and B". A representative of the supplier shall be present during the two (2) hour test. In addition, the representative shall be allowed up to one (1) operating hour prior to the start of the two (2) hour test for the purpose of adjusting polymer feed rate, dilution water and belt speed.

Each bidder will be limited to the on site testing of two (2) polymers for each application. Bids based upon products other than listed in the bid documents are not acceptable and will be rejected as informal. Each bidder **MUST** supply a Material Safety Data Sheet for each polymer that the bidder will test on site.

### **Termination**

The City reserves the right to terminate said contract with a thirty (30) day notice to the bidder if there are any performance problems or in case of default of the bidder.

### **Disclaimer**

Due to the variable nature of the wastewater influent, it is extremely difficult to determine the amount or type of polymer needed. The Buyer reserves the right to purchase additional amounts of polymer of various types including polymer from other suppliers for testing purposes.

### **Polymer Application**

The polymer product furnished as part of this contract will be used at the COP-WWTF as an aid to enhance the treatment of municipal wastewater sludge. Specifically, the polymer will be utilized to condition anaerobically digested sludge and waste activated sludge. The conditioned sludge will be dewatered utilizing one (1) Eimco 2.0 meter Belt Filter Press and one (1) Eimco Gravity Belt Thickener.

### **Dry Polymer**

Orders for dry material will be placed for minimum quantities of 1200 pounds furnished on shrink wrap protected pallets, 1200 pounds per pallet and packaged in multi-walled bags of 25 to 55 pounds each.

### **Emulsion Polymer**

Orders for emulsion material will be placed for minimum quantities of 220 gallons furnished in 55 gallon returnable drums.

### **Preliminary Testing of Polymer or Sludge**

If a supplier/manufacturer wishes to bench test various polymers for the purpose of submitting a bid, he/she may do so by scheduling a test with the wastewater facilities. If a supplier/manufacturer representative is submitting a bid or bids for polymer(s), he/she shall submit testing results for that or those polymers that he/she is bidding. Such listing shall conform to the Water Environment Research Foundation Guidance Manual for Polymer Selection in Wastewater Treatment Plants Module C.

### **Detailed Polymer Specifications**

By submission of this bid, the Bidder guarantees that the product offered will meet the quality standards as specified in this section for the term of the contract. The Buyer reserves the right to conduct periodic checks on the quality of material furnished under this contract or to have the product quality checked by outside sources to determine if the material furnished is in compliance with these specifications. Failure of the Supplier's product to meet the standards of quality will result in termination of the contract.

All polymer supplied under this contract shall be completely soluble in water, having a very rapid dissolving rate and low order of toxicity. The polymer furnished shall require no special precautions in handling. In addition, it shall have the following characteristics or properties:

### **Dry Polymer**

- |    |                     |   |
|----|---------------------|---|
| A. | Physical Form       | Free flowing, non-dusting and be readily soluble in water without clumping. Polymer will be medium to high charge flocculents and the polymer percent activity shall be no less than 85% as determined by Water Environment Research Foundation Guidance Manual For Polymer Selection In Wastewater Treatment Plant Module J. |
| B. | Shelf Life          | 18 to 24 months   |
| C. | Bulk Density        | Approximately 40 pounds per cubic foot  |
| D. | pH of 1.0% Solution | Approximately 4.0 SU  |
| E. | Solids Content      | Not less than 88% by weight   |

### **Emulsion Polymer**

A.	Physical Form	Polymer will be a milky white liquid that is free flowing and readily soluble in water without clumping. Polymer will be a medium to high charge flocculent and be no less than 43% active with a cationicity of no less than 80%.
B.	Shelf Life	6 to 12 months
C.	Bulk Density	8.5 – 8.6 lbs/gal
D.	pH of 1.0% Solution	4-7 @ 5 g/l
E.	Specific Gravity	1.00 – 1.05
F.	Cationicity	High to very high.

### **Award of Contract**

The contract will be awarded to the lowest responsible bidder whose bid complies with all of the provisions of the Bid Documents, provided that the bid price is reasonable and in the best interest of the Buyer to accept it. The Buyer reserves the right to reject any or all bids and to waive any informality in bids received whenever such rejection or waiver is in the best interest of the Buyer. Bids will be compared on the basis of an evaluation covering the total cost of sludge disposal. The total cost of sludge disposal will include cost of polymer, cost of disposal of dewatered sludge and cost of treatment of recycled filtrate. The contract will be awarded to the Supplier whose product will result in the lowest overall total cost of sludge disposal in accordance with the provisions contained herein.

### **Polymer Testing**

To schedule date and time for polymer testing, please contact Scott Gregorio, Wastewater Superintendent or Allen Davidson, Wastewater Supervisor at (928) 777-1630 between the hours of 7:00 A.M. and 3:30 P.M. Monday through Friday. Testing will begin on Wednesday December 10, 2008 and will continue each Monday through Friday up to and including Wednesday December 31, 2008. Each test will be scheduled to start no later than 9:00 A.M. and to end no later than 12:00 P.M. The City will not accept any polymer test scheduling requests after Friday December 26, 2008. Only one test will be scheduled per day. If a representative wishes to test more than one (1) polymer, the representative may be permitted to schedule up to two (2) polymer test runs.

All polymer supplied for the two (2) hour test run shall be supplied in the manufacturer's container, unopened, sealed with a label attached to the container and a Material Safety Data Sheet (MSDS) included. The polymer shall be supplied in sufficient amount to complete the test run. Upon the start of the test, the press operator shall take a five (5) pound dry or (1) gallon emulsion sample and place the sample into a labeled container which will be sealed, dated and signed by the press operator and the manufacturer's representative.

The sample will be retained for the contract duration by the COP-WWTF solely for the purpose of comparison analysis.

**ATTACHMENT A**  
**BELT FILTER PRESS**

The Eimco 2.0 Meter Belt Filter Press is designated as the “testing” press. All samples and all data are to be collected from this press.

A one (1) hour time period immediately prior to the test may be used by the manufacturer’s representative to adjust the polymer feed rate, dilution water and belt speed. These time periods are recorded as START, half (½) hour and one (1) hour time slots on the testing sheet.

1. Wash with solvent cleaner, then run the belt filter press on wash water for at least a half (½) hour prior to the test.
2. Mix polymer in the 300 gallon tank according to supplier’s recommendations. Set polymer feed pump setting according to supplier’s recommendation. Record polymer concentration in tank mixture, level of mixture in 300 gallon tank and polymer pump setting. After the polymer is mixed, additional dilution water or polymer shall not be added to the polymer tank solution. (If any problems occur, due to unforeseen circumstances, the representative may reschedule the test).
3. Adjust the sludge feed pump rate at 75 GPM. (Use the same pump rate for each polymer test.)
4. Adjust belt pressure to 100/80 PSI. Adjust belt speed to 4.0 on belt press controller to start with. The belt speed can be adjusted during the first hour. After the two (2) hour test begins, the belt speed will remain constant.
5. The Supplier/Manufacturer representative shall have up to and including the one (1) hour test slot for adjustment of the polymer feed rate, dilution water gpm and belt speed (only) for the best possible cake results.
6. Record the amount of polymer solution in the tank after the one (1) hour time slot and use this as the start of the test. The polymer pump feed rate shall not be adjusted after the start of the testing time. Record the measurement of polymer used each half (½) hour.
7. Collect and have cake solids analyzed at the 1, 2 and 3 hour time slots.
8. Collect feed percent solids and have them analyzed before the start of the one hour test slot.
9. Record level of polymer in the test container after two (2) hours from the start of the test (3-hour time slot on test sheet).
10. Turn in completed test sheet, provide copy to polymer representative.

**ATTACHMENT B**  
**GRAVITY BELT THICKENER**

The Eimco 1.0 Meter Gravity Belt Thickener is designated as the “testing” equipment. All samples and all data are to be collected from this equipment.

A one (1) hour time period immediately prior to the test may be used by the manufacturer’s representative to adjust the polymer feed rate, dilution water and belt speed. These time periods are recorded as START, half (½) hour and one (1) hour time slots on the testing sheet.

1. Wash with solvent cleaner, then run the gravity belt on wash water for at least a half (½) hour prior to the test.
2. Mix polymer in the 300 gallon tank according to supplier’s recommendations. Set polymer feed pump setting according to supplier’s recommendation. Record polymer concentration in tank mixture, level of mixture in 300 gallon tank and polymer pump setting. After the polymer is mixed, additional dilution water or polymer shall not be added to the polymer tank solution. (If any problems occur, due to unforeseen circumstances, the representative may reschedule the test).
3. Adjust the sludge feed pump rate at 200 GPM. (Use the same pump rate for each polymer test.)
4. Adjust belt pressure to 100 PSI. Adjust belt speed to 4.0 on gravity belt controller to start with. The belt speed can be adjusted during the first hour. After the two (2) hour test begins, the belt speed will remain constant.
5. The Supplier/Manufacturer representative shall have up to and including the one (1) hour test slot for adjustment of the polymer feed rate, dilution water gpm and belt speed (only) for the best possible cake results.
6. Record the amount of polymer solution in the tank after the one (1) hour time slot and use this as the start of the test. The polymer pump feed rate shall not be adjusted after the start of the testing time. Record the measurement of polymer used each half (½) hour.
7. Collect and have cake solids analyzed at the 1, 2 and 3 hour time slots.
8. Collect feed percent solids and have them analyzed before the start of the one hour test slot.
9. Record level of polymer in the test container after two (2) hours from the start of the test (3-hour time slot on test sheet).
10. Turn in completed test sheet, provide copy to polymer representative