

**City of Memphis, Division of Public Works, M.C. Stiles Wastewater Treatment Facility
Notice for Emulsified Water-Soluble Polymer Bench Testing and Trial
Using Belt-Filter Press Dewatering of Wastewater Sludge for Bid Preparation and Submittal**



CITY OF MEMPHIS

REQUEST FOR QUALIFICATIONS

#52033

TO PRE-QUALIFY TO SUPPLY

POLYMER EMULSION

SUBMISSION DATE: OCTOBER 21, 2020

**City of Memphis
Request for Qualifications #52033
To Pre-Qualify to Supply Polymer Emulsion**

Notification

This is a Request for Qualifications notification to chemical manufacturers that the City of the Memphis (i.e., the City) Public Works Division, M.C. Stiles Wastewater Treatment Facility (i.e., MCSWWTF) needs bulk quantities of emulsified water-soluble polymer (i.e., polymer) for use in belt-filter presses to dewater wastewater sludge. Chemical Polymer Manufacturers interested in preparing and submitting bids to meet this need are invited to participate in preliminary bench testing and a full-scale performance test (i.e., polymer trial). After the polymer trials are completed, the City will issue a Request for Quotes (RFQ) to provide bulk quantities of polymer emulsion for an initial period of two (2) year from the date of contract award, with an option for the City to extend the contract for one (1) additional year. Bids only from polymer manufacturers that fully participated in the polymer trials would be considered.

Equal Business Opportunity

THE CITY OF MEMPHIS ENCOURAGES THE PARTICIPATION OF SMALL, MINORITY AND WOMEN-OWNED BUSINESSES IN THE PURCHASING PROCESS.

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Submission Requirements

Chemical polymer manufacturers interested in participating in the polymer trials must complete and submit two (2) copies of a signed and dated notification form as their written notification to participate (see attached Written Notification Sheet) form no later than Wednesday, October 21, 2020 at 12:00 noon CT to:

USPS (or other common carrier)

City of Memphis
Purchasing Department, Room 354
125 N. Main Street
Memphis, TN 38103

Hand Delivery

City of Memphis
Main Lobby – Bid Drop Box
125 N. Main Street
Memphis, TN 38103

In addition, each manufacturer must submit with their Written Notification Sheet (as part of their Request for Qualifications submittal) a Safety Data Sheet (SDS) and product specification sheet for each polymer emulsion to be used in the polymer trials, after the manufacturer in-house testing but prior to the polymer trials. Note that the polymer emulsions must meet the requirements of the *General Conditions and Specifications* section.

Site Contact Information

Henry Nakayama, Environmental Engineer/Special Projects Manager
M.C. Stiles Wastewater Treatment Facility
373 Stiles Drive
Memphis, TN 38127
(901) 636-4370
Henry.Nakayama@memphistn.gov

Due Dates and Tentative Timeline

Chemical polymer manufacturers will be given the opportunity to collect Feed Sludge samples from the MCSWWTF Sludge Dewatering Facility to conduct in-house tests at their own facilities for selecting up to two (2) polymers for use in the polymer trials, up to any scheduled polymer trial date. Each Chemical polymer manufacturers must provide their own containers for collecting and transporting Feed Sludge samples to their testing facility. Please contact the Site Contact to schedule the time and date for Feed Sludge sample collection.

Tentatively, the polymer trial by each manufacturer will be scheduled during the month of November 2020.

The City will be responsible for operating the belt-filter press and the polymer mixing/pumping system at the MCSWWTF dewatering facility for the polymer trials. The manufacturer will be allowed to assist the City with mixing of the polymer emulsion solution and operation of the belt-filter press. The manufacturer will be responsible for providing any additional personnel,

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materials, instruments, and chemicals necessary to perform the polymer trial and their own testing at no cost to the City. The City will be responsible for collecting samples for laboratory analytical testing, which will be used to determine the polymer performance. The Manufacturer will provide the City with all data collected from the polymer trials by the manufacturer at the time of the polymer trials or by the next day at the latest. The City will provide the manufacturer with a copy of the laboratory analytical data of the samples soon after the City has received final laboratory reports from the Analytical Laboratory. Note that the City may hire a qualified consultant to conduct and oversee the polymer trials on behalf of the City.

Manufacturers participating (i.e., having submitted to the City their completed *Request for Qualification Chemical Polymer Manufacturer* form) in the polymer trials will be notified of any changes to the tentative timeline for bench testing and polymer trials.

Tentatively, the contract for providing polymer to the MCSWWTF will be awarded by January 31, 2021.

Note that the on-going National Emergency could impact the polymer trial and RFQ scheduling. The City will post updates on the City website, as needed.

General Conditions and Specifications

1. Before any RFQ response will be accepted any manufacturer selling polymer must have first successfully completed the polymer trial performed on a belt-filter press available and designated at the MCSWWTF secondary dewatering facility. The polymer trial will consist of utilizing the polymer(s) on a belt-filter press in such a fashion that it dewater sludge for no more than eight (8) hours with at least a two (2) hour run-time constituting near-optimum polymer performance for each polymer proposed by the manufacturer (maximum of two (2) polymers). To qualify as a successful polymer the following performance parameters must be met during the near-optimum period of the polymer trial:
 - The weight percent (%) cake solids (i.e., dewatered sludge) will be determined by Standard Laboratory analysis for the purpose of qualifying
 - Average Throughput of no less than 3,000 pounds of dry solids per press per hour
 - Average Percent Cake Solids of no less than 16% solids in sludge cake.
 - Percent Solids Capture of no less than 85% capture rate.
 - The pH of the delivered polymer shall not be less than 4.5.
2. To facilitate the bidding a number of acceptable polymer manufacturer products will have been preselected based on onsite polymer trial results and the best interest of the City.
3. For each polymer emulsion bid, the quoted price in response to the RFQ is to be in U.S. dollars per pound of polymer emulsion. Note that the award of the chemical polymer emulsion contract will be based on a combination of the lower quoted price, the greater Average Percent Cake Solids, and the greater Solids Capture Rate based on the polymer trial results, and the best interest of the City. So, the lowest quoted price would not necessarily

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win the contract. Note that greater cake solids is desirable, because the dewatered sludge cake will be transported offsite for beneficial use, which adds a significant transportation cost to the overall sludge dewatering operation cost, making polymer cost less significant.

4. The manufacturer shall quote firm unit prices for the initial two (2) years, and for the optional additional third year. The bid price for the optional third year shall not be increase by more than five (5) percent from the first two (2) years bid price. All quoted prices shall include all costs for the polymer, preparing, mobilization, transporting, delivering, and unloading the polymer to the MCSWWTF, and tanker return trip and demobilization. The manufacturer will be responsible for all costs for cleanup and disposal of any polymer spilled, and for any damages caused by the transporter during these delivery operations.
5. The polymer bid by the manufacturer must be available in commercial quantities for the entire duration of the contract.
6. The City reserves the right to reject any bids that do not meet specifications.
7. The City has the option of increasing or decreasing the original contract based on the needs of the City.
8. Polymer manufacturers must supply current Product Specification Sheet and Safety Data Sheet (SDS) for the polymer with the RFQ bid documents and upon request by the City.
9. If at the end of the contract period there remains a balance of dollars in the contract, the City has the right to extend the time of the contract for the remaining balance of the contract, if at the time, the manufacturer agrees to not increase the original quoted price rate.
10. The quoted bid cost will be the cost of chemical polymer emulsion per ton of wastewater sludge solids (dry basis) processed through the belt-filter press during the polymer trial. The price per pound of polymer emulsion multiplied times the base required dosage of polymer by pound weight required to effectively treat one ton of sludge (dry basis per polymer trial results), will determine the most cost effective polymer available to the City. However, the selection will be made as noted in condition number 3.
11. The polymer must have health and fire ratings of two (2) or less, based on the National Fire Protection Association (NFPA) ratings.
12. The polymer as a liquid emulsion should not be corrosive to the point that it would damage the bulk storage tank, transfer pumps, piping, valves, or any other items with which it might reasonably come into contact at the MCSWWTF. The polymer, as a liquid emulsion, should not soften the rubber parts of the polymer transfer pumps, PVC piping and fittings, or attack seals, gaskets, or rubber-coated rollers, all of which consist of Buna N material at the Stiles Facility. The polymer emulsion should not require any mixing or stirring of any kind while being stored in bulk storage.

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13. If failure of equipment or parts should occur due to polymer non-compatibility or corrosion as stated in above; the polymer manufacturer will be responsible for reimbursing the City for replace equipment and/or parts within 30 days of notification by the City. The manufacturer will be given the opportunity to inspect the damaged equipment and/or parts within the five (5) business days after the notification, and at a later date, if agreed upon by the manufacturer and the City.
14. It is estimated that the polymer emulsion will be required to process approximately 24,000 tons of dry-based sludge during a twelve-month period, or about 2,000 dry tons per month of dewatering operation.
15. The polymer emulsion is to be shipped as ordered by the MCSWWTF. Each polymer shipment must be delivered within five (5) business days of the order placement. Delivery of polymer will only be accepted between the hours of 7:00 am and 3:00 pm, Monday through Friday, and not on City holidays, unless, prior to the delivery, the manufacturer makes arrangements with the MCSWWTF operations department to accept delivery at a time agreeable to the operations department.
16. Any tanker trucks from which polymer emulsion cannot be unloaded within a reasonable time due to disrepair, damage or malfunction of the tanker truck and/or associated valves, fitting, and/or hoses will be returned at the expense of the manufacturer.
17. The manufacturer shall provide to the City in a clean one-liter wide-mouth HDPE container, Nalgene or equivalent, a representative sample from the polymer batch being delivered in each load of polymer emulsion to the MCSWWTF. The manufacturer shall have the tanker truck driver present each polymer emulsion batch sample to the plant operator on duty at the MCSWWTF upon delivery of each load of polymer.
18. The manufacturer will provide a Certificate of Analysis for each load of polymer emulsion delivered under the contract. This certificate will be supplied before or upon delivery of the product to the MCSWWTF.
19. Should in any calendar month, the monthly average usage rate of polymer emulsion per ton wastewater sludge solids (dry basis) processed through the belt-filter press is more than ten (10) percent above the polymer trial usage rate used to calculate the bid price, the Manufacturer shall reimburse the City for the cost of the additional polymer use above the ten (10) percent.
20. Upon request by the City, the manufacturer shall run additional four-hours polymer performance tests at the MCSWWTF to confirm that the polymer is performing satisfactorily within 30 days of each request, and to offer assistance to the City so as to ensure optimum performance.
21. The City reserves the right to cancel the contract for any reason upon giving the manufacturer a written notice of contract cancelation, which would become effective in ten

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(10) business days of date of the notice. The City shall pay the manufacturer for polymer delivered to the MCSWWTF up to the effective date of the contract cancelation.

22. Invoices shall include net weight of polymer emulsion delivered, price per pound of polymer emulsion, total invoiced cost, gallons of polymer emulsion delivered, date of delivery, truck number, tanker truck ticket number (if applicable), copy of certified truck weigh ticket for polymer load, and invoice number and date (not earlier than the date of delivery). Note that the City is exempt from paying State and local taxes. The City would pay invoices within 30 days of receipt of each invoice, not invoice date.

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REQUEST FOR QUALIFICATION CHEMICAL POLYMER MANUFACTURER

WRITTEN NOTIFICATION SHEET

Company Name: _____

Mailing Address: _____

Physical Office/Facility Address: _____

Contact Name and Title: _____

Contact Phone Number(s): _____

Contact Email Address: _____

Number of Years of Manufacturing Chemical Polymer Emulsion: _____

Statement of Qualification and any Additional Information: _____

Name and Title of Representative: _____

Signature: _____ Date of Submittal: _____

END OF FORM