

BIDDER'S CHECK LIST

ENVELOPE

Project Name, Time, & Date in accordance with advertisement ()

BID SECURITY

Bid Bond with Power of Attorney **will submit upon notice of award** ()

or

Certified or Cashier's Check ()

NOTE: Bid Security for successful electronic bidders shall be received by May 24, 2017. If an electronic bidder meets all criteria for being awarded the chemical bid, a formal notification shall be sent. May 24, 2017 is the deadline for Consolidated Waterworks District No. 1 receiving all Bid Security information and Resolution as required by the bid documents.

PROPOSAL

Addendums (if any) noted () 

Tax Dept. I.D. Numbers ()

Extensions checked and totaled () 

Signed () 

Resolution attached authorizing Bidder's Signature () 

Acid Alum dry weight determination equation (as applicable) ()

NOTE: Attach this Bidder's Check List to your proposal to insure that bid is properly submitted. This is in addition to the Provisions included in *the "General Specifications and Individual Chemical Specifications"* and does not preclude any provisions thereof.

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NOTICE TO BIDDERS

The Board of Commissioners of Consolidated Waterworks District No. 1, Terrebonne Parish, of Louisiana has authorized the Staff of the District to receive sealed bids for the furnishing of the **Chemical Needs of the Waterworks District's potable water treatment plants** at the Waterworks District Office, 8814 Main Street at Howard Ave., Houma, Louisiana. Bids will be received until **2:00 P.M. CDT on May 3, 2017**. After the **2:00 PM** deadline, the bids will be publicly opened and read aloud. Bidding may also be conducted electronically. Please find bid related materials and submit electronic bids at **WWW.CENTRALBIDDING.COM**.

All proposals shall be sealed and addressed as follows:

Proposals: Chemical Supplies
Consolidated Waterworks District No. 1
8814 Main Street
P.O. Box 630
Houma, Louisiana 70361

Proposal must be accompanied with a bid bond or certified check or cashiers check in the amount of five percent (5%) of amount bid. Proposals must be made on blank forms furnished with the contract documents.

Copies of detailed **Specifications and Contract Documents** may be obtained from the office of Consolidated Waterworks District No. 1, 8814 Main Street, P.O. Box 630, Houma, Louisiana 70361.

The Board of Commissioners of Consolidated Waterworks District No. 1, Terrebonne Parish, Houma, Louisiana reserves the right to reject any or all proposals and to waive informalities.

Thus done and signed in Houma, State of Louisiana on the 6th day of March, 2017.

Al Badeaux, President
Consolidated Waterworks District No. 1

Published: April 5, 2017
April 11, 2017
April 17, 2017

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PROPOSAL OF:

Mosaic Global Sales, LLC

Supplier

13830 Circa Crossing Drive, Lithia, FL 33547

Address

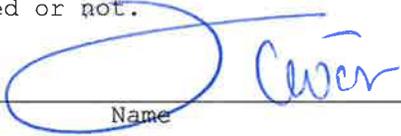
PROPOSAL "A" THROUGH PROPOSAL "J"

**Consolidated Waterworks District No. 1
CHEMICAL SUPPLIES**

TO: Board of Commissioners
Consolidated Waterworks District No. 1
8814 Main St.
Houma, Louisiana 70363

Gentlemen:

The undersigned, as Bidder, declares that only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion or combination of any kind or character with any other person, firm, association or corporation, or any member or officer thereof, that he has (or they have) carefully examined the specifications as prepared by Consolidated Waterworks District No. 1 Houma, Louisiana, and that he (or they) proposes and agrees, if this proposal is accepted, to furnish and deliver to the Consolidated Waterworks District No. 1 Water Treatment Plant, in Schriever, Louisiana, or in Houma, Louisiana FOB, all of the material as specified; and that he (or they) hereby proposes to accept as full compensation therefore the price given in the following bids. Bidder further acknowledges that its signature upon this bid form constitutes full and complete acceptance of all the terms and conditions set forth in this bid proposal. Consolidated Waterworks District Number 1 of Terrebonne Parish, LA may or may not, in its discretion, submit a written contract form to the low bidder on each item bid under this proposal in order to confirm the terms set forth in this proposal, but its failure to do so shall not constitute a waiver of any terms set forth herein. The undersigned bidder therefore acknowledges its binding commitment to the full and complete terms of the specifications in the event it is the low bidder, whether followed up with a confirming written document to be executed or not.



Name

Gus Navar, Technical Services Manager

Title

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<p align="center">"E" POTASSIUM PERMANGANATE 10 TONS</p>	<p>\$ _____ DOLLARS PER POUND</p> <p>\$ _____ DOLLARS PER 10 TONS</p>	<p>\$ <u>NO BID</u> PER POUND</p> <p>\$ <u>NO BID</u> PER 10 TONS</p>
<p align="center">"F" COPPER SULFATE SOLUTION 8,250 GALLONS</p>	<p>\$ _____ DOLLARS PER GALLON</p> <p>\$ _____ DOLLARS PER 8,250 GALLONS</p>	<p>\$ <u>NO BID</u> PER GALLON</p> <p>\$ <u>NO BID</u> PER 8,250 GALLONS</p>
<p align="center">"G" SODA ASH (DENSE) 60 TONS</p>	<p>\$ _____ DOLLARS PER TON</p> <p>\$ _____ DOLLARS PER 60 TONS</p>	<p>\$ <u>NO BID</u> PER POUND</p> <p>\$ <u>NO BID</u> PER 60 TONS</p>
<p align="center">"H" SODIUM HYPOCHLORITE 750 TONS</p>	<p>\$ _____ DOLLARS PER POUND</p> <p>\$ _____ DOLLARS FOR 750 TONS</p>	<p>\$ <u>NO BID</u> PER POUND</p> <p>\$ <u>NO BID</u> PER 750 TONS</p>
<p align="center">"I" AMMONIUM SULFATE 450 TONS</p>	<p>\$ _____ DOLLARS PER POUND</p> <p>\$ _____ DOLLARS FOR 450 TONS</p>	<p>\$ <u>NO BID</u> PER POUND</p> <p>\$ <u>NO BID</u> PER 450 TONS</p>
<p align="center">"J" SODIUM CHLORITE 650 TONS</p>	<p>\$ _____ DOLLARS PER POUND</p> <p>\$ _____ DOLLARS FOR 650 TONS</p>	<p>\$ <u>NO BID</u> PER POUND</p> <p>\$ <u>NO BID</u> PER 650 TONS</p>

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GENERAL SPECIFICATIONS

1. CHANGE IN CONTRACT QUANTITY

The quantities shown are estimated quantities based upon the use of the Waterworks District during the past year. The District reserves the right to either increase or decrease the quantities to fulfill its needs. The Bidder declares that he understands that if the quantities of any of these items are increased he proposes to furnish these units at the unit price set out herein, and should the quantities be decreased, he also understands that payment will be made on the actual quantities furnished at the unit price bid and will make no claim for anticipated profits for any decrease in the above mentioned items.

2. FIRM PRICE DURATION

The District is requesting firm chemical pricing for two years.

3. SALES AND USE TAX

a. The unit price bid on each item shall be the amount required to furnish the units FOB to the Consolidated Waterworks District No. 1 water plants either in Schriever, Louisiana or Houma, Louisiana before the addition of any State and Local sales or use tax. State and Local sales and use tax shall be added to the amount bid on each invoice at the time it is submitted for payment.

b. Bidders are required to register with the State of Louisiana and the Terrebonne Parish sales tax department.

c. Supplier will be required to collect State and Local taxes if the Consolidated Waterworks District becomes non-taxed exempt.

d. At this time Consolidated Waterworks is not required to pay any State or Local Sales or Use taxes.

4. EQUAL PRODUCTS

Any bidder wishing to submit an alternate product he feels is equal to the product specified may do so by submitting a letter indicating any and all exceptions that his product may have from that specified. **Product supplier shall supply enough material, at no charge to Consolidated Waterworks District No. 1, for a three-week field test trial.** This trial should determine whether the supplied product would meet the same performance standards as the material presently being used in the Water Plants. The District has the right to test each alleged 'EQUAL" product and based solely upon the results as found by the District, it reserves the right to reject any and all bids that fail those tests.

5. DELIVERY

Successful bidders shall be required to make delivery of supplies in the following manner:

a. Unless otherwise stated on these specifications, unit price bid shall include any and all charges to dockside of the Waterworks Water Treatment Plants.

b. Delivery shall be made by tank truck for aluminum sulfate, liquid cationic polymer (except as noted in the liquid cationic polymer section), hydrofluorosilicic acid, ammonium sulfate, sodium hypochlorite, and sodium chlorite with all necessary equipment to air pump into existing storage tanks. When an order is ready for shipment to one of the treatment plants, the receiving water plant must be called (HOUMA PLANT; 985-857-9633, SCHRIEVER PLANT; 985-446-5541) and the following information must be given to the operator on duty prior to an order being received for the plant that made the order:

1. The date and time about when the truck is leaving the loading location.
2. The estimated day and time of arrival at the receiving water plant.
3. The chemical common name and quantity of this shipment.
4. The driver's name and trucking company name (if different from the supplier's company name).

c. Upon receipt of a bulk shipment of liquid chemicals, the plant operators will verify all order information, driver identification, and trucking company bills of lading prior to authorizing any chemicals to be offloaded into the proper storage tanks. Acid alum shipments will have a Baume' test done prior to the chemical being offloaded.

d. No delay or waiting time will be paid by Consolidated Waterworks District No. 1.

e. Delivery shall be made between the hours of 8 AM and 5 PM, Monday thru Friday excluding Holidays.

6. BIDDING PROCEDURE

a. Bidders may submit bids on all proposals or on an individual proposal or item.

b. Any item that will be subject to any discounts for size of orders, delivery time, payment discounts, or any other discounts will only be considered if it is in writing and attached to this bid.

c. **Bidders are requested to submit pricing for a two year period beginning July 1, 2017 and extending through June 30, 2019. Only firm prices will be considered. Sodium Chlorite is the exception to this requirement. See the specific section regarding that exception under Proposal "J" Sodium Chlorite Section 11 (Contract).**

d. The price bid in the proposal must be written in full in words and also in figures. If there is a difference between the words and the figures in any price bid, the price written in words will be considered to be the true bid.

e. Proposal must be accompanied by a bid bond and power of attorney, certified check, or cashier's check in the amount of five percent (5%) of the total amount bid. Bonds or checks shall be submitted to satisfy the larger of the time periods material bid costs.

f. If bidder is a corporation, an original or certified copy **of an endemic corporate resolution** must accompany the bid stating that the individual signing the bid has the authority to do so.

6. INSURANCE REQUIREMENTS for CHEMICAL BID

Supplier shall purchase in its name and maintain at its sole cost and expense for the duration of the supply contract insurance against claims for injuries to persons or damages to property, which may arise from or in connection with the delivery of the chemicals by the supplier, his agents, representatives, employees, or sub-suppliers. The cost of such insurance shall be included in the bid.

a. Worker's Compensation Minimum Insurance Requirements:

Minimum Limits: \$1,000,000/1,000,000/1,000,000

- i. State Act-Louisiana Statutory Requirements
- ii. Employer's Liability
- iii. Waiver of Subrogation to cover both oral and written contracts in favor of Consolidated Waterworks District No. 1, its appointed officials, districts, sub-districts, officers, employees, directors, servants, volunteers, and agents:
- iii. Alternate Employer Endorsement in favor of Consolidated Waterworks District No. 1, its appointed officials, districts, sub-districts, officers, employees, directors, servants, volunteers, and agents:
- iv. 30 days written Notice of Cancellation, Non Renewal or Adverse Material Change.

NOTE: If participating in an employee leasing arrangement that affects any of the Work for this Project, evidence of a Workers Compensation and Employers Liability Insurance Policy in the name of the Supplier must be furnished and must include all extensions and endorsements as listed above.

b. General liability:

Minimum Limits: \$1,000,000/2,000,000

- i. Commercial General Liability Form CG 00 01 or Pre-Approved Equivalent.
- ii. The following additional endorsements are required:
 - aa. Additional Insured Endorsement in favor of Consolidated Waterworks District No. 1, its appointed officials, districts, sub-districts, officers, employees, directors, servants, volunteers, and agents;
 - bb. Personal injury;
 - cc. Products and Completed Operations Liability;
 - dd. Waiver of Transfer of Rights of Recovery Against Others to Us CG 24 04 (93) or pre-approved equivalent to cover both oral and written contracts in favor of Consolidated Waterworks District No. 1 its appointed officials, districts, sub-districts, officers, employees, directors, servants, volunteers, and agents;
 - ee. 30 days written Notice of Cancellation, Non-Renewal or Adverse Material Change.

NOTE: Without prior approval from Consolidated Waterworks District No. 1 the General Liability Coverage shall not exclude any standardized coverage included in the required basic form or limit Contractual Coverages for the Work in any way that would prohibit or limit the reporting of any claim suit and the subsequent defense and indemnity that would normally be provided by the policy.

c. Automobile liability:

Minimum Limits: \$1,000,000 CSL

- i. All owned autos
- ii. Non-owned and hired autos
- iii. Additional Insured Endorsement in favor of Consolidated Waterworks District No. 1, its appointed officials, districts, sub-districts, officers, employees, directors, servants, volunteers, and agents;
- iv. Waiver of Subrogation Endorsement to cover both oral and written contracts in favor of Consolidated Waterworks District No. 1, its appointed officials, districts, sub-districts, officers, employees, directors, servants, volunteers, and agents;
- v. Broad Form Transportation Pollution Form CA 99 48;
- vi. 30 days written Notice of Cancellation, Non-Renewal or Adverse Material Change.

d. Contractor's Pollution Liability:

Minimum Limits: \$5,000,000

- i. Including Cleanup Costs
- ii. Including Fines and Penalties
- iii. Additional Insured Endorsement in favor of Consolidated Waterworks District No. 1, its appointed officials, districts, sub-districts, officers, employees, directors, servants, volunteers, and agents;
- iv. Waiver of Subrogation Endorsement to cover both oral and written contracts in favor of Consolidated Waterworks District No. 1, its appointed officials, districts, sub-districts, officers, employees, directors, servants, volunteers, and agents
- v. 60 days written Notice of Cancellation, Non-Renewal or Adverse Material Change.

NOTE: If policy is written on a claims-made form, it is required that the retroactive date precedes the commencement of work.

e. Deductibles and Self Insured Retentions:

Any deductibles or self-insured retentions must be declared to and approved by Consolidated Waterworks District No. 1. Any such deductibles or self-insured retentions due under any policies of insurance required by the Contract shall be borne solely by the Supplier and at his sole expense without any right to reimbursement from Consolidated Waterworks District No. 1. At the option of Consolidated Waterworks District No. 1, either: the insured shall reduce or eliminate such deductibles or self insured retentions as respects, Consolidated Waterworks District No. 1 (the District), etc... or the Supplier shall procure a bond guaranteeing payment of losses and related investigations, claims, administration and defense expenses.

f. Other Insurance Provisions

The policies are to contain, or be endorsed to contain, the following provisions:

i. General Liability and Automobile Liability Coverage

aa. The District, its appointed officials, districts, sub-districts, officers, employees, directors, servants, volunteers, and agents are to be added as "additional insureds" as respects liability arising out of activities performed by or on behalf of the Supplier; products and completed operations of the Supplier, premises owned, occupied or used by the Supplier. The coverage shall contain no special limitations on the scope of protection afforded to the District, their officers, officials, employees or volunteers. It is understood that the business auto policy under "who is an insured" automatically provides liability coverage in favor of TPCG and the District.

bb. Any failure to comply with reporting provisions of the policy shall not

affect coverage provided to The District, its officers, officials, employees, Boards, Commissions or volunteers.

cc. The Supplier's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insured's liability.

dd. General liability must be endorsed to cover pollution and chemical exposures.

ii. Workers' Compensation and Employer's Liability Coverage

The insured shall agree to waive all rights of subrogation against The District, its officers, officials, employees and volunteers for losses arising from work performed by the Supplier for the District.

iii. All Coverage

Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, non-renewed, altered, or cancelled thirty (30) days prior to a written notice by certified mail, return receipt requested, has been given to The District.

e. Acceptability of Insurers

Insurance is to be placed with insurers with an A.M. Best's rating of no less than A:VI.

f. Verification of Coverage

Within ten (10) days after notification of the award of the contract, Supplier shall furnish The District with certificates of insurance effecting coverage required. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates are to be received and approved by Consolidated Waterworks District No. 1 before any chemicals are delivered. The District reserves the right to require complete, certified copies of all required insurance policies, at any time.

g. Sub-suppliers

Supplier shall include all sub-suppliers as insureds under its policies or shall furnish separate certificates for each sub-supplier. All coverages for sub-suppliers shall be subject to all of the requirements stated herein.

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INDEMNIFICATION AGREEMENT

The Mosaic Global Sales, LLC agrees to
SUPPLIER

defend, indemnify, save and hold harmless Consolidated Waterworks District No. 1 of Terrebonne Parish, LA, its officers, districts, sub-districts, officers, agents, directors, servants, employees, all of their departments, boards and commissions, and volunteers from and against any and all claims, demands, expenses, suits, losses, costs, fines, penalties, and liability arising out of injury, sickness, disease, or death to any person or the damage, loss or destruction of any property, including loss of use therefrom, which may occur or in any way grow out of any act or omission of

Mosaic Global Sales, LLC
SUPPLIER

its agents, servants, partners, officers, employees, and volunteers, and any and all costs, expenses and/or Attorney Fees incurred by Consolidated Waterworks District No. 1 of Terrebonne Parish, LA, all of their departments, agencies, Boards, Commissions, their agents representatives, and/or employees as a result of any such claim, demands, and/or causes of action except those claims, demands and/or causes of action arising out of the negligence of Consolidated Waterworks District No. 1 of Terrebonne Parish, LA, all of their departments, agencies, Boards, Commissions, their agents, representatives, and/or employees.

Mosaic Global Sales, LLC
SUPPLIER

shall investigate, adjust, defend, contest to resolution, settle, and/or resist claims, handle, respond to, provide defense for and defend any such claim, demand, or suit at its sole expense related thereto, even if it (claims, etc.) is groundless, false, or fraudulent.

Accepted by Mosaic Global Sales, LLC
SUPPLIER


SIGNATURE

Gus Navar, Technical Services Manager
TITLE

Date Accepted 05/02/17

Is certificate of Insurance attached? Yes No will supply upon award

PURPOSE OF CONTRACT: CHEMICAL NEEDS for WATER TREATMENT PLANTS (July 1, 2017 through June 30, 2019)

AGREEMENT BETWEEN GENERAL AND SPECIAL EMPLOYER AND WAIVER OF SUBROGATION

District and Contractor mutually confirm their intent to recognize Terrebonne Parish Consolidated Waterworks District No. 1 as the statutory employer of the Contractor's employees, whether direct employees or statutory employees of the contractor, when any of the Contractor's employees are doing work and are providing services under this agreement.

It is the intention of District and Contractor to fully avail themselves of the provisions relative to allocation of liability for Workmens' Compensation as set forth in LSA R.S. 23:1031 C.

Contractor further agrees to defend, save, and hold harmless District from and against any and all claims, demands, expense, and liability arising out of injury or death to any of Contractor's employees which may occur or in any way grow out of Workmens' Compensation Liability, any act or admission of contractor, its agents, servants, and employees, and any and all costs, expense and/or attorney's fees incurred by principal, its agents, representatives, insured, and/or employees as a result of any such Workmens' Compensation claim or other claim demand and/or cause to action except those claims, demands, and/or causes of action arising out of the negligence of principal. Contractor agrees to investigate, handle, respond to, provide defense for, and defend any such claim, demand, or suit at its sole expense related thereto, even if such claim, demand, or suit is groundless, false, or fraudulent.

Contractor agrees to have its Workers' Compensation insured waive all rights of subrogation against District, it being the intention of the parties that the Workers' Compensation insurance policy so required by this contract shall protect both parties and shall serve as the primary coverage for and all losses to same by virtue of Workers' Compensation claims.

NOT APPLICABLE

AGREEMENT BETWEEN GENERAL AND SPECIAL EMPLOYER

PRINCIPAL: Consolidated Waterworks District No. 1 of Terrebonne Parish

CONTRACTOR:

PROJECT: Chemical Supplies

PROPOSAL LETTER: Proposal

DATE:

Terrebonne Parish Consolidated Waterworks District No. 1, as principal and

_____ as contractor mutually agree there is

intention to recognize _____ as the

statutory employer of the contractor's employees, whether direct employees or statutory employees of the contractor, when any of the contractor's employees are doing work and are providing services under the agreement set forth above. Contractor further agrees to defend, indemnify, save and hold harmless principal from and against any and all claims, demands, expense, and liability arising out of injury or death to any of contractor's employees which may occur or in any way grow out of Workmens' Compensation Liability, any act or admission of contractor, its agents, servants, and employees, and any and all costs, expense and/or attorney's fees incurred by principal, its agents, representatives insurer, and/or employees as a result of any such Workmens' Compensation claim or other claim demand and/or cause of action except those claims, demands, and/or causes of action arising out of the negligence of principal. Contractor agrees to investigate, handle, respond to, provide defense for, and defend any such claim, demand, or suit at its sole expense related thereto, even if such claim, demand, or suit is groundless, false, or fraudulent. Contractor, by separate contractual undertaking in association with this contract, has agreed to have its Workers' Compensation insurer waive all rights of subrogation against District, it being the intention of the parties that the Workers' Compensation insurance policy so required by the above referenced contract shall protect both parties and shall serve as the primary coverage for any and all losses to same by virtue of Workers' Compensation claims.

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PROPOSAL "A"
SPECIFICATIONS
ALUMINUM SULFATE in AQUEOUS SOLUTION
with SULFURIC ACID

1. GENERAL

a. Liquid aluminum sulfate in Aqueous Solution with Sulfuric Acid (hereafter referred to as "Acid Alum") shall be furnished in accordance with the American Waterworks Association standards for "acid alum", AWWA B403-16. An affidavit from the manufacturer shall be furnished to the Waterworks District stating that the "acid alum" furnished complies with the standards of these specifications.

b. "Acid Alum" should be classified as a drinking water treatment additive by either Underwriters Laboratories or The National Sanitation Foundation in accordance with standard ANSI/NSF 60.

c. The "acid alum" shall have a minimum soluble Al_2O_3 of 5.7% and shall be suitable for human water supply.

d. The "acid alum" shall have a specific gravity of 1.28 at 70°F.

e. The "acid alum" shall be a clear to light green colored liquid. It shall be of such clarity as to permit the reading of flow measuring devices without difficulty.

f. The "acid alum" shall be paid for by the ton of dry aluminum sulfate per gallon. See section 4 below.

g. A certified net weight certificate shall accompany each shipment.

h. The "acid alum" shall be Geo Specialty's Ultrafloc 8634 (7% acid alum), Southern Ionic's Activated Alum Aqueous Solution (7 % sulfuric acid), and General Chemical's Clarion-A7 aluminum sulfate in aqueous solution of sulfuric acid or pre-bid approved equal.

2. TYPICAL ANALYSIS

a. The chemical analysis for "acid alum" shall be the same as the following typical analysis:

Aluminum Sulfate in aqueous solution of sulfuric acid

Total	Al_2O_3	5.7 to 6.3%
Aluminum	Al	3.25%

b. A typical analysis of the liquid aluminum sulfate shall accompany the bid.

3. DELIVERY

a. Delivery of "acid alum" shall be in tank truck in the amount of approximately 4,500 gallons or 50,000 pounds per load with the necessary equipment to air pump into an existing storage tank.

b. Price shall include all transportation charges to Houma or Schriever, Louisiana. No delay or waiting time will be paid by Consolidated Waterworks

District No. 1. See page 11 item 5, **DELIVERY** under general specifications.

c. A random grab sample will be caught from each shipment so that specific gravity may be checked with compliance to these specifications before the truck will be allowed to unload.

d. Delivery shall be made as required upon issuance of a purchase order from proper District personnel.

4. PRICING

a. Bidders shall submit with their bid for "acid alum" the method or equation which the company uses to compute the dry weight of aluminum sulfate in a shipment of liquid product. Bidders must also submit a sample Certificate of Analysis with their bid so that we may evaluate the computation method.

PROPOSAL "B-1" & "B-2"

SPECIFICATIONS

CATIONIC LIQUID POLYMER

1. GENERAL

The District uses a cationic liquid polymer as a coagulant aid in its potable water treatment process. Bids are being accepted for a high molecular weight 20 percent active polymer. The PolyDiallyldimethylammonium Chloride shall be furnished in accordance with the American Waterworks Association AWWA B451-16 standards for this cationic coagulant and flocculent aid

2. POLYMERS

2.A SPECIFIC REQUIREMENTS: HIGH MOLECULAR WEIGHT 20 PERCENT ACTIVE

- a. **Appearance** - Clear-straw color or pale yellow to amber
- b. **Solubility** - Soluble in water in all proportions
- c. **Weight/gallon** - 8.5 lbs.
Specific Gravity - 1.03-1.05 @ 25 degrees C
- d. **Viscosity** - 2000-4000 cps at 77°C polyDMDAAC
or 600 - 900 cps at 25°C polyDADMAC
- e. **Molecular Weight** - 750,000 - 1,000,000 polyDMDAAC
- f. **pH (as supplied)** - 5.0 - 8.0
- g. **Freezing Point** - 32°F polyDMDAAC, 27°F polyDADMAC
- h. Product supplied shall contain 20% active solids by weight
- i. The cationic liquid polymer shall be 8108 Plus as manufactured by Nalco, 102XHV as manufactured by Sweetwater Technologies, or Clarifloc C358 as manufactured by Polydyne, Inc.
- j. The coagulant aid should be classified as a drinking water treatment additive by either Underwriters Laboratories or The National Sanitation Foundation in accordance with standard ANSI/NSF 60.

3. EQUAL PRODUCTS

Any bidder wishing to submit an alternate product he feels is equal to the product specified may do so by submitting a letter indicating any and all exceptions that his product may have from that specified. **Product supplier shall supply enough material, at no charge to Consolidated Waterworks District No. 1, for a three-week field test trial.** This trial should determine whether the supplied product will meet the same performance standards as the material presently being used in the Water Plants.

4. DELIVERY

- a. Delivery of bulk shipments shall be made by tank truck, approximately 4,500 gallons per load with the necessary equipment to air pump into existing storage tank.
- b. Delivery of 275-gallon tote shipments shall be made by motor freight FOB the Houma Water Treatment Plant. Plant personnel will offload with the District's forklift.
- c. Price shall include all transportation charges to Schriever, or Houma, La. No delay or waiting time will be paid by Consolidated Waterworks District No. 1. See page 11 item 5, **DELIVERY** under general specifications.
- d. Delivery shall be made as required upon issuance of a purchase order from proper District personnel.
- f. A certified net weight certificate shall accompany each bulk shipment.
- g. If the Houma Water Treatment Plant commences 24-hour production, bulk shipments of polymer may be necessary. If so, bulk shipments shall be ordered. Delivery shall be as stated for the Schriever Water Treatment Plant.

PROPOSAL "C"

SPECIFICATIONS

HYDROFLUOROSILICIC ACID (FLUORIDE)

1. GENERAL

a. Fluorosilicic Acid shall be furnished with not less than 23% of H_2SiF_6 by weight and in accordance with AWWA Standards for Fluorosilicic Acid, AWWA B703-11.

b. The Fluorosilicic acid supplied under this standard shall be clean, free of visible suspended matter, **and contain 23 percent hydrofluorosilicic acid by weight.**

c. Fluorosilicic acid supplied under this standard shall contain no **mineral** or **organic substances** in quantities capable of:

(1) producing deleterious or injurious effects on the health of those consuming water that has been properly treated with the Fluorosilicic acid or

(2) causing water so treated to fail to meet the US EPA drinking water regulations

d. Fluorosilicic acid supplied under this standard shall contain not more than 0.020 percent by weight of **heavy metals**, expressed as lead (Pb) and a maximum of 1 percent of hydrofluoric acid.

f. Fluorosilicic acid supplied under this contract should be classified as a drinking water treatment additive by either Underwriters Laboratories or The National Sanitation Foundation in accordance with standard ANSI/NSF 60.

f. An **affidavit** from the manufacturer shall be furnished to the Waterworks District stating that the Fluorosilicic acid furnished complies with the standards of these specifications.

2. DELIVERY

a. Delivery shall be made in tank truck in amounts of approximately 4,500 gallons per shipment with the necessary equipment to air pump into an existing storage tank.

b. Price bid per pound weight shall include all transportation charges to Houma or Schriever, Louisiana. No delay or waiting time will be paid by Consolidated Waterworks District No. 1. See page 11 item 5, **DELIVERY** under general specifications.

c. Delivery shall be made as required upon issuance of a purchase order from proper District personnel.

d. A certified net weight certificate shall accompany each shipment.

PROPOSAL "D"

SPECIFICATIONS

LIQUID CHLORINE

1. GENERAL

(a.) Chlorine supplied shall conform in every respect to American Waterworks Association standard for liquid chlorine, AWWA B301-10.

(b.) Chlorine supplied should be classified as a drinking water treatment additive by either Underwriters Laboratories or The National Sanitation Foundation in accordance with standard ANSI/NSF 60.

(c.) The chlorine supplied should be 99.5 percent pure by volume.

2. INSPECTION

All containers shall be carefully examined by the supplier as specified in the Chlorine Institute Pamphlet No. 17, **Cylinder and Ton Container Procedure for Chlorine Packaging**, and in Compressed Gas Association Pamphlet C6, **Standards for Visual Inspection of Compressed Gas Cylinders**. Any containers that show evidence of leakage, damage, or corrosion shall be rejected. Chlorine ton containers, valves, valve threads, and valve packings shall be in good mechanical order and shall operate normally with a wrench no longer than 6 in. (0.15m). Should the condition of the container and valves not conform to any recommended practice in the above pamphlets in all applicable respects, the manufacturer or packager furnishing the chlorine shall be notified immediately and shall take action as soon as possible to correct the problem. See Section 6 of the Chlorine Specification regarding "Default by Supplier".

3. LIABILITY

In addition to the hold harmless and indemnity provisions otherwise stated in this agreement, any damage caused to Waterworks District property from a chlorine leak due to a container not conforming to the above referenced pamphlets shall be repaired at the expense of the supplier immediately upon notification by the Waterworks.

4. PACKAGING

a. The manufacturer or packager shall pack the liquid chlorine in containers that comply in every respect with the current Hazardous Materials Regulations of the Department of Transportation, Code of Federal Regulations, Title 49, Chapter 1, Subchapter C, for shipment of chlorine. The containers shall be inspected, reconditioned, cleaned, maintained, and loaded in strict accordance with the latest edition of Cylinder and Ton Container Procedure for Chlorine Packaging, pamphlet No. 17 of The Chlorine Institute, Inc.

b. **Packing precautions.** Packagers receiving liquid chlorine from a manufacturer shall take great care in their packaging operation so that there is no addition of moisture or other contaminants that would increase the formation of ferric chloride, taffy, or any other deleterious material that could clog valves, evaporators, or chlorinators.

c. **Filling density.** The maximum permitted filling density is 125 percent. The filling density is defined as the percent ratio of the weight of chlorine in the container to the weight of water that the container will hold at 60°F (15.6°C).

d. **Marking.** Each container shall carry a clear identification of the material contained and shall carry the current proper precautionary information as required by the Department of Transportation and other regulatory agencies concerning the hazardous nature of chlorine.

5. DELIVERY

a. Bid price per pound net weight shall include transportation both ways.

b. Cylinders will be delivered within one week from issuance of a purchase order from proper District personnel following the approximate per order quantities as listed below:

(1) at the Schriever Plant a minimum of three (3) cylinders per shipment

(2) at the Houma Plant one (1) cylinder per shipment.

c. No delay or waiting time will be paid by Consolidated Waterworks District No. 1. See page 11 item 5, **DELIVERY** under general specifications.

d. Each cylinder should have two (2) large **lead washers** attached to them to be used by District personnel to connect to our existing equipment. Fiber washers are not acceptable.

6. DEFAULT by SUPPLIER

a. The Chlorine Institute Pamphlet 155 Edition 2, Section 6.1.3.2 Valve Operation/Unloading states that "Using a wrench (50 ft-lbs maximum torque)/no longer than 8 inches, open the container valve to briefly introduce chlorine into the system and then close the valve. **Never use an extension (cheater) bar on the wrench.**" To satisfy this torque limiting operation, the District has purchased a torque wrench and an extension (that reaches safely around the regulator). The District has set its torque wrench to 60 ft-lbs (20% above institute's limit). When the torque level reaches 60 ft-lbs and the valve does **NOT** open, the District considers the valve **inoperable**. Whenever this situation occurs, the District will rotate the chlorine cylinder 180 degrees to attempt to use the second cylinder valve. The same torque limit (60 ft-lbs) will be applied to open the second cylinder valve. Should the second valve **NOT** open at this torque setting, the cylinder will be **rejected**. The supplier will be contacted for a replacement full chlorine cylinder. The supplier shall return the inoperable cylinder for a full credit.

b. The District's normal operational volume of chlorine cylinders is approximately 12 per month. If the quantity of **inoperable** cylinders reaches 10%, the District considers this percentage to be excessive and that the vendor shall be **IN DEFAULT**. An alternate vendor will be selected for the remainder of the contract period.

PROPOSAL "E"

SPECIFICATIONS

POTASSIUM PERMANGANATE

1. GENERAL

a. Potassium Permanganate furnished shall be in accordance with AWWA Standard B603-10. A certified certificate of analysis of each lot shipped from the manufacturer shall accompany the product. An affidavit from the manufacturer stating that the potassium permanganate conforms to these standards shall also accompany the product.

b. Potassium Permanganate shall meet the following:

Formula	KMnO ₄
Formula weight	158.03
Free Flowing	
Assay	97 Percent Minimum
Inert ingredients	3 Percent Maximum

c. The Potassium Permanganate must be approved and registered with either the National Sanitation Foundation or Underwriters Laboratories for use in potable drinking water in accordance with Standard ANSI/NSF 60. A copy of this certification shall be included with the bid.

2. PACKAGING

a. Pails shall have removable covers and a top opening equal to or slightly larger than the bottom dimension of the pail. **Pails shall also have installed lift handles that swivel over the pail top.**

3. DELIVERY

a. Price bid per pound weight shall include transportation to Schriever or Houma, Louisiana.

b. The delivery of Potassium Permanganate shall be made in 55 pound (25 kg) sized containers, 182 containers (10,000 pounds) per shipment, as needed.

c. The containers should be shipped on non-returnable 2 x 4 size runner pallets with not more than 26 containers on a pallet and should be covered with heat shrink-wrap. Pallets should not be stacked in the delivery truck.

d. The NSF or UL seal/logo must appear on each container and must have been placed there by the manufacturer.

e. Bid price shall include all transportation charges to the Water Treatment Plants in Schriever and Houma, Louisiana.

f. Delivery shall be made as required upon issuance of a purchase order from proper District personnel. See page 11 item 5, **DELIVERY** under general specifications.

PROPOSAL "F"

SPECIFICATIONS

COPPER SULFATE SOLUTION

1. SPECIFIC REQUIREMENTS

- a. **Appearance** - Clear blue liquid
- b. **Solubility** - Very soluble in water
- c. **Specific Gravity** - 1.2
- d. **pH (as supplied)** - 1
- e. **Active Ingredients** copper sulfate pentahydrate 20%
metallic copper equivalent 5%
inert ingredients 80%
- f. **Ammonia** <0.6% by volume
- g. **Freezing Point** - 32°F
- h. The copper sulfate solution supplied shall be SCI-62 as manufactured by CHEM-A-CO., Inc or EarthTec as manufactured by Earth Science Laboratories.
- i. The copper sulfate solution should be classified as a drinking water treatment chemical by either Underwriters Laboratories or The National Sanitation Foundation in accordance with standard ANSI/NSF 60.
- j. The copper sulfate solution shall be registered by the US Environmental Protection Agency as an Algaecide/Bactericide for lakes, ponds, reservoirs, canals, lagoons and other water systems.

2. EQUAL PRODUCTS

Any bidder wishing to submit an alternate product he feels is equal to the product specified may do so by submitting a letter indicating any and all exceptions that his product may have from that specified. **Product supplier shall supply enough material, at no charge to Consolidated Waterworks District No. 1, for a three-week field test trial.** This trial should determine whether the supplied product will meet the same performance standards as the material presently being used in the Water Plants.

3. DELIVERY

- a. Delivery shall be in quantities of fifteen (15) 275-gallon totes, each tote fastened to a wooden or metal pallet and having a two (2) inch male NPT valved outlet. For each fifteen-tote order, five (5) totes will be delivered to Houma, Louisiana and ten (10) totes will be delivered to Schriever, Louisiana.
- b. Price bid per gallon shall include all transportation charges to Houma and Schriever, Louisiana. No delay or waiting time will be paid by Consolidated Waterworks District No. 1. See page 11 item 5, **DELIVERY** under general specifications.
- c. Delivery shall be made as required upon issuance of a purchase order from proper District personnel. It is preferred that the delivery trailer be a flat-bed type with the 275-gallon totes loaded from the sides of the trailer.

PROPOSAL "G"

SPECIFICATIONS

**DENSE SODA ASH
(Sodium Carbonate, Anhydrous)**

1. GENERAL

a. Soda Ash shall be furnished with not less than 99% of Na₂CO₃ by weight and in accordance with AWWA Standards for Soda Ash, AWWA B201-13.

b. The soda ash supplied under this standard shall be dry, free flowing, containing no large lumps, and contain 99 percent sodium carbonate by weight.

c. The apparent density of the dense soda ash shall be between 56.2 and 68.7 pounds per cubic feet.

c. Soda Ash supplied under this standard shall contain no soluble material or organic substances in quantities capable of:

(1) producing deleterious or injurious effects on the health of those consuming water that has been properly treated with the Soda Ash or

(2) causing water so treated to fail to meet the US EPA drinking water regulations

d. Soda Ash supplied under this standard shall contain not more than 0.050 percent by weight of insoluble matter.

f. Soda Ash supplied under this contract should be classified as a drinking water treatment additive by either Underwriters Laboratories or The National Sanitation Foundation in accordance with standard ANSI/NSF 60.

g. An affidavit from the manufacturer shall be furnished to the Waterworks District stating that the Soda Ash furnished complies with the standards of these specifications.

2. PACKAGING and DELIVERY

a. Soda Ash is to be packaged into one (1)-ton sacks (2000 lbs) complete with top-mounted lifting straps and bottom-fitted discharge tube. Top loading opening and bottom tube shall be tied shut.

b. Delivery of these one-ton sacks of soda ash shall be via motor carrier in full truckload amounts. It is preferred that the trailer be a flat-bed type with the one-ton sacks loaded from the sides of the trailer. If the one-ton sacks are not wrapped in heat-shrink wrapping to protect from water infiltration, offloading during rain will be postponed.

c. Price bid per pound weight shall include all transportation charges to Houma or Schriever, Louisiana. No delay or waiting time will be paid by Consolidated Waterworks District No. 1. See page 11 item 5, **DELIVERY** under general specifications.

d. Delivery shall be made as required upon issuance of a purchase order from proper District personnel.

PROPOSAL "H"

SPECIFICATIONS

**SODIUM HYPOCHLORITE
(Liquid Bleach)**

1. GENERAL

The Houma Water Treatment Plant has been converted to liquid sodium hypochlorite for its disinfection. Quantities listed in the product tables are estimates for the entire two (2) year period.

a. Sodium hypochlorite shall be furnished at a 12 percent by weight available chlorine liquid solution and in accordance with AWWA Standards for Hypochlorites, AWWA B300-10.

b. The sodium hypochlorite supplied under this standard shall be a clear to amber colored liquid containing not more than 0.15 percent insoluble matter by weight. During 2007, the District experienced precipitates after the sodium hypochlorite was stored on-site for about two weeks. This precipitate caused feed equipment (pumps, filters, control valves, flow meters) to experience feed problems and caused the District to shut down the plant until the problem was corrected. The District installed a larger filter system near the tank and installed a pump with a return piping system. Should similar precipitate problems occur that this filter system does not "capture", the District reserves the right to seek another supplier of sodium hypochlorite.

c. Sodium hypochlorite supplied under this standard shall contain no soluble material or organic substances in quantities capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with sodium hypochlorite or causing water so treated to fail to meet the US EPA drinking water regulations.

d. The total free alkali (as sodium hydroxide, NaOH) in the liquid sodium hydroxide shall not exceed 1.5 percent by weight.

e. Sodium hypochlorite supplied under this contract should be classified as a drinking water treatment additive by either Underwriters Laboratories or The National Sanitation Foundation in accordance with standard ANSI/NSF 60.

f. An **affidavit** from the manufacturer shall be furnished to the Waterworks District stating that the sodium hypochlorite furnished complies with the standards of these specifications.

2. PACKAGING and DELIVERY

a. Delivery of the sodium hypochlorite shall be in a tank truck in approximately 4,500 gallon quantities or 50,000 pounds per load with the necessary equipment to air pump into an existing storage tank.

b. Price shall include all transportation charges to Houma or Schriever, Louisiana. Consolidated Waterworks District No. 1 will not pay any delay or waiting time. See page 11 item 5, **DELIVERY** under general specifications.

c. A random grab sample will be caught from each shipment so that specific gravity may be checked with compliance to these specifications before the truck will be allowed to unload.

d. Delivery shall be made as required upon issuance of a purchase order from proper District personnel.

E. A certified net weight certificate shall accompany each shipment.

PROPOSAL "I"

SPECIFICATIONS

**AMMONIUM SULFATE
(Liquid)**

1. GENERAL

Liquid Ammonium Sulfate is utilized as the District's ammonia source for forming chloramines in our system's disinfection process. As such, the product shall be suitable for use in potable water and shall conform to the following:

a. Ammonium Sulfate shall be furnished at a 10 percent by weight available ammonia liquid solution and in accordance with AWWA Standards for Ammonium Sulfate, AWWA B302-16.

b. The ammonium sulfate supplied under this standard shall be a clear liquid with a 1.22 specific gravity.

c. Ammonium sulfate supplied under this standard shall contain no soluble material or organic substances in quantities capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with sodium hypochlorite or causing water so treated to fail to meet the US EPA drinking water regulations.

d. Ammonium Sulfate supplied under this contract should be classified as a drinking water treatment additive by either Underwriters Laboratories or The National Sanitation Foundation in accordance with standard ANSI/NSF 60.

f. An **affidavit** from the manufacturer shall be furnished to the Waterworks District stating that the ammonium sulfate furnished complies with the standards of these specifications.

2. PACKAGING and DELIVERY

a. Delivery of the ammonium sulfate shall be in a tank truck in approximately 4,500 gallon quantities or 50,000 pounds per load with the necessary equipment to air pump into an existing storage tank.

b. Price shall include all transportation charges to Houma or Schriever, Louisiana. Consolidated Waterworks District No. 1 will not pay any delay or waiting time. See page 11 item 5, **DELIVERY** under general specifications.

c. A random grab sample will be caught from each shipment so that specific gravity may be checked with compliance to these specifications before the truck will be allowed to unload.

d. Delivery shall be made as required upon issuance of a purchase order from proper District personnel.

e. A certified net weight certificate shall accompany each shipment.

PROPOSAL "J"
SPECIFICATIONS
CHLORINE DIOXIDE

1. GENERAL

a. Terrebonne Parish Consolidated Waterworks District No. 1 is seeking bids on a service supply contract to provide chlorine dioxide to oxidize manganese, disinfect, and control trihalomethanes and algae growth in its potable water supply.

b. Terrebonne Parish Consolidated Waterworks District Number 1 operates two water treatment plants which require chlorine dioxide treatment.

PLANT LOCATION	PLANT CAPACITY MGD	AVG. PRODUCTION MGD 2016	MAX. PRODUCTION MGD 2016
SCHRIEVER	24	13.91	17.21
HOUMA	8	1.84	5.30

c. All **GENERAL SPECIFICATIONS**, pages 13 through 22, apply to this proposal, unless otherwise noted in the following specifications.

d. The bidder shall furnish all material and labor necessary to install and maintain two chlorine dioxide generator systems (one system for each plant).

e. Certificate of Liability insurance with a minimum amount of one million dollars (\$1,000,000) is required.

2. DELIVERY

Successful bidder shall be required to make delivery of sodium chlorite solution in the following manner:

a. Unit price bid shall include any and all charges to dockside of the Waterworks Water Treatment Plants in Houma or Schriever, Louisiana.

b. Delivery shall be made by tank truck with all necessary equipment to air pump into an existing storage tank in the amount of 4,500 gallons per delivery (full tank trailer quantities).

c. Price shall include all transportation charges to either Houma or Schriever, Louisiana. No delay or waiting time will be paid by Consolidated Waterworks District No. 1. See page 11 item 5, **DELIVERY** under general specifications.

d. Delivery shall be made as required upon issuance of a purchase order from proper District personnel.

3. CHLORINE DIOXIDE GENERATOR SYSTEM (TWO SYSTEMS REQUIRED, ONE SYSTEM AT EACH PLANT)

a. The successful bidder will supply two systems for generating chlorine dioxide capable of a minimum yield of ninety-five (95) percent chlorine dioxide from the reaction of sodium chlorite and chlorine gas. These systems shall be capable of independently producing the required rate of chlorine dioxide based on minimum and maximum production rates as in 1.b. above at the feed point on a continuous 24 hour a day basis without the unit being oversized.

b. The proposed system must be currently accepted by all applicable regulatory agencies including the La. State Health Department and has been on the market and in use for the last two (2) years.

c. Bidder shall supply all materials used within the chlorine dioxide generation system except chlorine gas, which Consolidated Waterworks will provide. These materials shall be suitable for such service and shall comply with all Federal, State and local codes, laws and ordinances.

d. The Houma Plant system shall consist of two chlorine dioxide generators of equal size (one redundant to the other) on a wall-mounted enclosure or panel containing items 1 through 6. The units for the Houma Plant will produce 50 to 250 pounds per day of chlorine dioxide. Each chlorine dioxide generating system installed at Consolidated Waterworks Houma Water Treatment Plant shall be new and unused and shall consist of, but not limited to the following:

(1) 120-volt sodium chlorite transfer pump with timer control.

(2) 300 gallon plastic sodium chlorite day tank.

(3) 500 pound per day one-ton cylinder mounted Chlorine regulators with heater and drip leg. The bidder will provide two automatic switchover chlorinators for the Houma Plant as part of his unit. The chlorinator will operate on the water eductor principle. The chlorine regulator shall be remotely mounted so that only chlorine gas under a vacuum will flow from the regulator head to the point of education into the generator.

(4) Eductor. The eductor provide the vacuum necessary to control the chlorine regulator of Item 3 above and inject chlorine gas and draw sodium chlorite into the reaction chamber.

(5) Sodium chlorite shall be fed via the eductor described in Item 4 above.

(6) All instruments, kits, chemicals and/or reagents to determine chlorine dioxide dosage and residuals, efficiency of generator, and pH of solution. **(see item h)**

e. The Schriever Plant system shall consist of two chlorine dioxide generators of equal size (one redundant to the other) on a wall-mounted enclosure or panel containing items 1 through 5. The units for the Schriever Plant will produce 100 to 500 pounds per day of chlorine dioxide. Each chlorine dioxide generating system installed at Consolidated Waterworks Schriever Water Treatment Plant shall be new and unused and shall consist of, but not limited to the following:

(1) 300 gallon plastic sodium chlorite day tank.

(2) The District shall supply the cylinder-mounted chlorine regulators. The chlorinators will operate on the water eductor principle. The chlorine regulators are remotely mounted so that only chlorine gas under a vacuum will flow from the regulator head to the point of education into the generator.

(3) Eductor. The eductor provide the vacuum necessary to control the chlorine regulator of Item 2 above and inject chlorine gas and draw sodium chlorite into the reaction chamber.

(4) Sodium chlorite shall be fed via the eductor described in Item 3 above.

(5) All instruments, kits, chemicals and/or reagents to determine chlorine dioxide dosage and residuals, efficiency of generator, and pH of solution. **(see item h)**

f. The District will supply water at system pressure and provide electricity needed to operate chlorine dioxide unit. If higher pressure is needed supplier will provide a booster pump.

g. Dosage rate of chlorine dioxide shall be such that if the generator fails to give proper mix, the amount of sodium chlorite or other chemicals would not exceed the MCL's in the receiving waters according to State and Federal regulations.

h. Provide two (one at each plant) Palin Test ChlorDiox Plus with reagents to measure generator effluent efficiencies, chlorine dioxide residuals, and chlorite residuals in the plants' raw, clarified, or finished waters. No other titrators are acceptable. The successful bidder shall train all plant operators in the use of these units. Since chlorite is regulated at 1.0 ppm and potable water chlorite residual must be monitored daily, a spare amperometric titrator is suggested. If a spare is not supplied, a unit must be made available within three working days of us reporting an inoperative unit to the supplier.

4. SODIUM CHLORITE

a. The sodium chlorite solution supplied must be approved and registered with The National Sanitation Foundation, or Underwriters Laboratories for use in potable drinking water per ANSI/NSF Standard 60. A copy of this registration should be included with the bid.

b. The sodium chlorite solution shall conform to AWWA Standard B303-10 and meet the following:

Active ingredient	25% NaClO ₂ ±0.5% by weight
Appearance	Pale yellow, slightly hazy liquid
Sodium Chlorate	0.7 percent maximum
Turbidity	Less than 5 NTU at point of delivery
Shelf life	One (1) year minimum

c. The sodium chlorite solution shall be AKTA KLOR 25 by Vulcan Chemical Technologies or ERCO-PURE 25 by Sterling Pulp Chemicals or approved equal.

d. A certified certificate of analysis shall be furnished at time of shipment and delivered with the sodium chlorite.

e. Chemical prices will not increase during the length of this contract.

f. A certified net weight certificate shall accompany each shipment.

5. MAINTENANCE

a. Equipment maintenance is the responsibility of the bidder. Due to the importance of the generator product in the production of potable water, a trained chlorine dioxide representative, familiar with bidder's equipment and chemicals shall provide routine maintenance. **The representative shall make a field service call to check the system and each piece of equipment at a minimum of at least once every month.** He will respond within twenty-four (24) hours of notification for any emergency call or needed maintenance. Cost of service visits is to be included in the cost of the precursor chemical purchased.

b. It will be the bidder's responsibility to stock spare parts and extra units. Commonly replaced parts such as filters, "O" rings, tubing, tubing fittings, check valves, fuses, etc. should be **stored at each plant** in a designated storage container and area. More durable items common to each system such as pumps, rate of flow meters, flow control valve, chlorine vacuum regulator, eductors, pH probe, reaction column, etc. may be stored at one location, namely the Schriever Water Treatment Plant.

c. If at any time during the contract period an accumulation of undesirable material

settles to the bottom of the bulk storage tank the supplier will clean the tank at his expense. These expenses should be included in the unit price of the sodium chlorite purchased. Supplier should expect to clean the tanks out a minimum of at least once per year

6. SERVICE CALLS

Service calls shall consist of a visit to each plant at least once per month Monday through Friday, 8 am to 5 pm of bidder's representative. During each call, the following minimum services shall be provided as noted

- a. Inspect entire chlorine dioxide generating system for leaks and malfunctions.
- b. Clean units of organic build-up in the sight glasses of the unit and the flow indicators.
- c. Analyze generator output for chlorine dioxide, free chlorine and pH.
- d. Analyze treated water for chlorine dioxide residuals.
- e. Analyze potable water for chlorite residual.
- f. Review plant control records to insure maximum generator efficiencies are maintained and dosages are sufficient to provide required manganese oxidation, turbidity removal, microbiological, trihalomethane and algae control.
- g. Provide initial or additional training for plant operators in chlorine dioxide generation and analysis techniques as required.
- h. It is the responsibility of the representative to leave all laboratory instruments and apparatus that he has used clean and in their proper place.
- i. Complete a field service report form as a written record of service provided, on site analysis, and as a formal request for any changes that may be necessary and review this report with the plant supervisor before leaving. These reports must be kept in the service log located in the lab at each plant.

7. PRE-INSTALLATION REQUIREMENTS

The bidder shall, prior to the chlorine dioxide system installation:

- a. Meet with District personnel to design a chlorine dioxide generator system to provide optimum operation under varying plant conditions.
- b. Provide a complete **installation and operations manual with trouble shooting guide**. This manual shall contain detailed installation drawings and instructions.
- c. Submit system installation details to State of Louisiana Department of Health and Hospitals for approval.

8. START-UP AND INITIAL TRAINING

Start-up and initial training consisting of at least two classes shall be provided at no additional cost and will consist of training the operating personnel in the following areas:

- a. Physical properties of chlorine dioxide, chlorine, chlorite and chlorate or any other chemical that may be used in bidder's system.
- b. Chemistry of chlorine dioxide generation.
- c. Optimization of generator performance.

- d. Maintenance of generator systems with the use of a trouble-shooting guide.
- e. Safety considerations in operation and chemical handling.
- f. Sampling for chlorine dioxide determinations.
- g. Analytical procedures for measuring yields and residuals, along with the use of necessary apparatus to do the analysis.

9. APPROVED SYSTEMS

The chlorine dioxide generators shall be manufactured by International Dioxide and Evoqua Water Technologies, or a District approved equal.

11. Contract

The supplier will provide all services herein for a period of two (2) years (as per bid term) commencing on July 1, 2017 or September 15, 2017 (deadline for having the new generators and equipment operational). Supplier may not retrieve the "old" equipment until the newest supplier has one of the generators installed and operable. District will purchase sodium chlorite from the supplier whose equipment is being utilized during this July 1, 2017 through September 15, 2017 period. The new generators must be operational by September 15, 2017. All materials, supplies and personnel services required by the above specifications are to be provided by the supplier. Supplier agrees to maintain qualified professional staff to properly acquire and interpret chlorine dioxide data (see page 40 item 6, **SERVICE CALLS**). Supplier will be paid by the District for supplier's equipment each month and for the sodium chlorite within 30 days of operation (for equipment) and delivery (for sodium chlorite) at the rate on the attached bid sheet.

SEE ATTACHED

C O R P O R A T E R E S O L U T I O N

BE IT RESOLVED by the Board of Directors of _____
_____ in a meeting duly assembled that
(Name) _____, _____ (Title),
of the Corporation, be, and he is hereby authorized, empowered and directed for
and on behalf of the Corporation to negotiate for and sign any and all bid
proposals and/or contracts which this corporation might enter into for the
furnishing of services for the Corporation under such terms, conditions and
stipulations, and for such consideration as he might deem to the best interest of
the Corporation.

I, _____ (Name)
Secretary of _____ do hereby
certify that the above and foregoing is a true and correct copy of a Resolution
unanimously adopted at a meeting of the Board of Directors of said Corporation held on
the _____ day of _____, 20__, at which meeting all members of the Board
of Directors were present and voted thereon and that said Resolution has been spread
upon the minute books of the Corporation, and same is now in full force and effect.

WITNESS MY SIGNATURE this _____ day of _____, 20__, at _____.

Secretary

END OF SPECIFICATIONS