

SPECIFICATIONS

FREE- FLOWING POTASSIUM PERMANGANATE

1.0 General

The Contractor shall furnish and deliver Potassium Permanganate as directed by the Bayshore Regional Sewerage Authority (BRSA) to the site of the Wastewater Treatment Plant, to the site of the West Keansburg Wastewater Pumping Station, and to the site of the Matawan Wastewater Pumping Station. A delivery shall consist of free-flowing Potassium Permanganate in 55 lb. (25 Kg) containers (pails) twenty-four cans to a skid.

The Owner reserves the right at any time during the life of the Contract to increase or decrease the quantity of material at the unit price bid.

2.0 Submittals

2.01 Material Safety Data Sheets shall be supplied with the initial shipment of material and whenever changes in the product occur.

2.02 A safety video shall be furnished with the initial shipment of material. The video shall provide a comprehensive illustration of safe work practices for Potassium Permanganate, handling techniques, accident and spill prevention procedures, and how to reduce and/or eliminate accidents/injuries along with any procedures necessary for prevention of any harmful long-term health effects.

3.0 Delivery

Delivery shall be made in a safe and reasonable manner such that all Federal, State and local regulations are not violated. Delivery after a supplier committed date could result in a shortage, and cause plant non-compliance with mandated effluent permits, resulting in environmental liability with consequent fines and/or penalties, being imposed on the Authority. The Contractor agrees that these fines and/or penalties as a result of his delay in delivery are his liability and the Authority may deduct from the payments due the Contractor the amount of the fines and/or penalties.

In the event the sums of said fines and penalties exceed the amount of all monies due the Contractor, then the Contractor or his Surety shall pay the balance to the Authority.

The Authority retains the right to accept delivery from alternative suppliers if the selected supplier fails to deliver as proposed and/or promised. The additional cost, if any, beyond the price bid may be deducted from the payments due the Contractor.

Deliveries of Annual Chemicals shall be made to the following locations as directed:

- a.) Wastewater Treatment Plant, 100 Oak Street, Union Beach, New Jersey

- b.) West Keansburg Wastewater Pumping Station, 13 Tenth Street, Hazlet, New Jersey
- c.) Matawan Wastewater Pumping Station, 60 Main Street, New Jersey

4.0 Potassium Permanganate

The Potassium Permanganate supplier must certify that their product meets the current AWWA Specifications B-603-88 and the product be Free-Flowing grade, suitable for feed in volumetric feeders (NSF Certified).

5.0 Containers

The Potassium Permanganate shall be supplied in sturdy fifty-five pound (55 lb.) containers with handles that do not pull off. The containers shall conform to applicable regulations of the Interstate Commerce Commission. All containers shall be carefully examined and any which show evidence of leakage, damage or corrosion shall be rejected and the Contractor shall be required to remove the container from the Authority's premises and be responsible for any clean-up costs.

6.0 Product And Quality

The estimate quantity per annum of POTASSIUM PERMANGANATE shall meet the following characteristics:

KMnO4 Minimum Concentration	95% by weight
Active Minimum Concentration	95% by weight
Color	Dark Purple
Form(s)	Granular, Crystalline Material; Free-Flowing

7.0 Start-Up Service And Training

The Contractor shall also supply start-up service(s) at the commencement of the Contract, which shall include a POTASSIUM PERMANGANATE Use and Safety Training Session. The Training Session shall be offered to all BRSA employees, within ninety (90) days of the commencement of the Contract and will be conducted twice at times to be arranged.

8.0 Standards And Codes:

The Authority reserves the right to have any shipment of Sodium Hypochlorite Solution inspected, tested and analyzed within ten days after delivery, either in its own laboratory or by one or more competent independent laboratories. Sampling and assay testing shall be in accordance with American Water Works Association Standard's latest revision(AWWA B300). If any shipment of Sodium Hypochlorite Solution is proven to be below the quality required by these specifications, the Authority reserves the right to reject that shipment. The rejected material shall be removed by the Contractor and at his expense.

The Contractor shall replace the rejected Sodium Hypochlorite Solution with satisfactory Sodium Hypochlorite, or credit the Authority with the full delivered price of the rejected Sodium Hypochlorite Solution.

9.0 Cancellation

This Contract may be cancelled by the Authority at any time for good and sufficient cause including, but not limited to:

9.01 Failure to correct any product or delivery deficiency within a reasonable period, not to exceed 3 days or causing a Sodium Hypochlorite Solution shortage.

9.02 Failure to meet delivery commitments.

9.03 Failure to meet product specifications.

9.04 Failure to deliver in a safe manner.

9.05 Failure to provide prompt and qualified technical assistance in the event of a regulatory authority or suspected product problem.

10.0 Emergency Numbers:

The Bidder shall SUBMIT WITH HIS BID a listing of emergency numbers, at which, some responsible individual representing his firm can be reached on a twenty-four (24) hour-a-day, seven day a week basis, for emergency purposes.

11.0 Length Of Contract:

The contract shall be for a period of 365 days (one year). Thereafter, the BRSA reserves the right to extend the Contract for up to two (2), one year extensions, subject to agreement by the contractor and the availability and appropriation annually of sufficient funds as may be required to meet the extended obligation. Should BRSA renew the Contract, the prices shall be per the original Contract as cumulatively adjusted pursuant to any previous adjustment or extension and shall not exceed the change in the index rate for the 12 months preceding the most recent quarterly calculation available at the time the contract renewed. On the 10th month of the Contract period, the Contractor must submit in writing their request for a contract extension with or without an increase. Requests for Contract increases shall only be considered if the Contractor can satisfactorily demonstrate to BRSA that they have experienced increased costs with respect to labor, materials and transportation.

***** END OF SPECIFICATION SECTION *****

SPECIFICATIONS

LIQUID SODIUM HYPOCHLORITE SOLUTION

1.0 Scope Of Work

1.01 General: The Contractor shall furnish and deliver Sodium Hypochlorite Solution as directed by the Owner to storage tanks located at the Authority's Wastewater Treatment Plant, 100 Oak Street, Union Beach, New Jersey. Quantities ordered during the period of the Contract will be based on usage at the plant which will vary due to flow, effluent quality and other variable conditions.

2.0 Submittals

2.01 Material Safety Data Sheets shall be supplied with the initial shipment of material and whenever changes in the product occur.

2.02 A safety video shall be furnished with the initial shipment of material. The video shall provide a comprehensive illustration of safe work practices for Sodium Hypochlorite Solution, handling techniques, accident and spill prevention procedures, and how to reduce and/or eliminate accidents/injuries along with any procedures necessary for prevention of any harmful long-term health effects.

3.0 Materials

3.01 Sodium Hypochlorite Solution:

Sodium Hypochlorite Solution shall be NaOCl 15% available chlorine as weight per volume, and shall be free from foreign substances and materials.

It is not the intention of these specifications to exclude any manufacturer or dealer from bidding. Deviations shall be clearly stated in a letter accompanying the bid, providing a complete and detailed description of such deviation. The Authority reserves the right to determine whether any or all such deviations will or will not be accepted.

Delivery shall be by full loads of 5,000 gallons per delivery. The Authority is required by regulatory agencies to chlorinate at all times, and delivery must be made within two (2) calendar days of a request for delivery. Delivery shall be by properly permitted tank truck as required for plant operation. Delivery shall be made using Union Avenue, Florence Avenue and Ninth Street.

Storage Tanks - The Authority has six (6) storage tanks that have been put into operation recently. Four (4) tanks are located in the Chlorine Pumping Station #2 (4200 gallons each); one (1) is located at the rear of the existing Incinerator Building (800 gallons), and one (1) is located in the new Odor Control Building (6000 gallons). For a total capacity of 18,400 gallons)

4.0 Delivery

Delivery shall be made in a safe and reasonable manner such that all Federal, State and local regulations are not violated. Delivery after a supplier committed date could result in a shortage, and cause plant non-compliance with mandated effluent permits, resulting in environmental liability with consequent fines and/or penalties, being imposed on the Authority. The Contractor agrees that these fines and/or penalties as a result of his delay in delivery are his liability and the Authority may deduct from the payments due the Contractor the amount of the fines and/or penalties.

In the event the sums of said fines and penalties exceed the amount of all monies due the Contractor, then the Contractor or his Surety shall pay the balance to the Authority.

The Authority retains the right to accept delivery from alternative suppliers if the selected supplier fails to deliver as proposed and/or promised. The additional cost, if any, beyond the price bid may be deducted from the payments due the Contractor.

5.0 Excusable Delays In Delivery

Excusable delays in the Delivery of Sodium Hypochlorite Solution

1. to any acts of the Federal Government, State Government, including controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, National Defense, or any other National or State emergency
2. to any acts of BRSA
3. to any acts of God or of the public enemy, acts of another contractor in the performance of some Contract with BRSA, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity as hurricanes, tornadoes, cyclones and other extreme weather conditions

6.0 Standards And Codes:

The Authority reserves the right to have any shipment of Sodium Hypochlorite Solution inspected, tested and analyzed within ten days after delivery, either in its own laboratory or by one or more competent independent laboratories. Sampling and assay testing shall be in accordance with American Water Works Association Standard's latest revision(AWWA B300). If any shipment of Sodium Hypochlorite Solution is proven to be below the quality required by these specifications, the Authority reserves the right to reject that shipment. The rejected material shall be removed by the Contractor and at his expense.

The Contractor shall replace the rejected Sodium Hypochlorite Solution with satisfactory Sodium Hypochlorite, or credit the Authority with the full delivered price of the rejected Sodium Hypochlorite Solution.

7.0 Cancellation

This Contract may be cancelled by the Authority at any time for good and sufficient cause including, but not limited to:

7.01 Failure to correct any product or delivery deficiency within a reasonable period, not to exceed 3 days or causing a Sodium Hypochlorite Solution shortage.

7.02 Failure to meet delivery commitments.

7.03 Failure to meet product specifications.

7.04 Failure to deliver in a safe manner.

7.05 Failure to provide prompt and qualified technical assistance in the event of a regulatory authority or suspected product problem.

8.0 Emergency Numbers:

The Bidder shall SUBMIT WITH HIS BID a listing of emergency numbers, at which, some responsible individual representing his firm can be reached on a twenty-four (24) hour-a-day, seven day a week basis, for emergency purposes.

9.0 Length Of Contract:

The contract shall be for a period of 365 days (one year). Thereafter, the BRSA reserves the right to extend the Contract for up to two (2), one year extensions, subject to agreement by the contractor and the availability and appropriation annually of sufficient funds as may be required to meet the extended obligation. Should BRSA renew the Contract, the prices shall be per the original Contract as cumulatively adjusted pursuant to any previous adjustment or extension and shall not exceed the change in the index rate for the 12 months preceding the most recent quarterly calculation available at the time the contract renewed. On the 10th month of the Contract period, the Contractor must submit in writing their request for a contract extension with or without an increase. Requests for Contract increases shall only be considered if the Contractor can satisfactorily demonstrate to BRSA that they have experienced increased costs with respect to labor, materials and transportation.

10.0 Permits And Licenses:

The Contractor shall secure all permits and licenses necessary from all State and Federal Agencies to carry on the work of the Contract at his own cost and expense. The Contractor shall give all notices necessary and incidental thereto for the due and lawful prosecution of the project. The Contractor shall SUBMIT WITH HIS BID copies of all permits and licenses required. All charges, fees, and costs thereof shall be included in the price bid for the various items scheduled in the Proposal.

11.0 Payment:

Payment will be made in full to the supplier for services rendered and materials furnished, delivered and installed at prices stated in the Proposal.

It should be understood that the Authority, as a governmental agency, is exempt from Federal Excise Taxes and State Sales Taxes. Exemption certificates or exemption number will be furnished on all necessary purchases if required.

***** END OF SPECIFICATION SECTION *****

SPECIFICATIONS

ODOR AND CORROSION CONTROL CONTRACT SPECIFICATIONS FOR BIOXIDE®

PART 1 - GENERAL

1.01 SCOPE

- A. The material required under this specification shall be used to remove hydrogen sulfide, thereby preventing odor and corrosion within wastewater collection and treatment systems. The material shall utilize and enhance naturally occurring biochemical processes to accomplish hydrogen sulfide removal.
- B. The material shall be a liquid phase product. It shall be delivered, stored, and fed into the wastewater via standard liquid-phase chemical handling procedures.
- C. The material shall be fully compatible with storage and feed equipment constructed of any of the following:
 - 1. High Density Crosslinked Polyethylene
 - 2. PVC
 - 3. Polypropylene
 - 4. FRP
 - 5. Stainless Steel (316)

1.02 PROCESS DESCRIPTION

The material supplied shall utilize the inherent ability of the facultative bacteria normally present in wastewater to metabolize hydrogen sulfide and other odor-causing, reduced sulfur containing compounds. The material shall provide nitrate-oxygen to the wastewater to support this biochemical mechanism. This nitrate-oxygen shall be applied via a calcium nitrate salt solution. The material shall be chemically stable, allowing continuous removal of sulfide contributed by side streams downstream of the application point. As a result of the biochemical process, the material shall provide the additional benefit of biochemical oxygen demand (BOD) reduction in the wastewater.

The Authority is aware that the purchase of Bioxide® Plus products from Siemens constitutes an implied license to practice the processes described in United States Patents #6,309,597, #7,087,172 and #7,285,217. Bioxide® is a registered trademark of Siemens Water Technologies. Thus, all suppliers must include the cost of any licensing fees in their bid price. All bidders are required to submit, with their bid, a license allowing the Authority to practice any applicable BIOXIDE® PLUS Processes as described in the

patents listed above. This license must be submitted on the letterhead of the company that owns the patents listed above and the letter must be signed by an officer of that Company.

1.03 SUPPLIER/SERVICES

- A. The supplier of this material shall be one recognized and established in the field of wastewater odor control. The supplier must provide a list of 10 references currently using the specified product for control of hydrogen sulfide and other compounds. The list shall contain telephone numbers and contact names. At least five of these references must have used the material for 5 or more years. Failure to provide this list will result in rejection of the bid.
- B. The supplier shall provide feed rate optimization services upon the Authority's request. There shall be no additional charges for these services.
- C. The supplier shall have at least two distribution centers from which product can be shipped. The addresses of these facilities must be provided with the bid. One of the distribution centers must be within 125 miles of the Authority's system.
- D. The supplier shall provide the complete feed system at the West Keansburg PS location and at possible future locations as directed by the Authority. The feed systems shall contain the following as a minimum standard:
- 1- Feed control system enclosed in a lockable stainless steel enclosure containing the following:
 - 2- 24-Hour Time Clocks
 - 1- 316 SS Control Enclosure
 - 1- 15 Amp Circuit Breaker, 115 volt
 - 1- Ground Fault Convenience Receptacle
 - 5- On/Off Switches with LED Indicator Lights
 - 1- Calibration Cylinder with Flow Control Valves
 - 2- Dry Contact to Receive Signal from Remote Source
 - 2- Positive Displacement Chemical Feed Pumps

All piping, Valves, Filters etc needed to complete the system

The supplier will be responsible for the replacement/repair of any defective components during the life of the contract.

The existing storage tanks will be used for the storage of BIOXIDE® at these pumping stations.

- E. The supplier shall be capable of manufacturing and providing complete storage and feed systems for the material. These systems shall include storage tanks, feed pumps, and control panels. The supplier shall be an Underwriters Laboratories

Listed manufacturer of Enclosed Industrial Control Panels. If during the course of this contract, the Authority requires additional feed locations, the supplier shall provide survey services to identify the problem and shall provide recommendations for correcting the problem. Any additional feed systems required shall be provided at no additional cost under this contract.

- F. The supplier shall indemnify and hold harmless the Authority and its Officers, agents, employees, or any other interested party from any and all liability, including costs and expenses, associated with any product license or patent infringement resulting from the supply and application of the supplier's material.
- G. The supplier shall be Siemens Water Technologies of Sarasota, Florida, or approved equal.

1.04 SUBMITTALS

The supplier must include the following information with their bid:

- A. Material Safety Data Sheet for the material, showing the CAS number of the material.
- B. Reference list as described under Paragraph 1.03A.
- C. Written statement that licensing fees are included in the bid price per 1.02.
- D. List of material distribution points as described under Paragraph 1.03D.
- E. Technical documentation detailing the process by which the material controls hydrogen sulfide. This documentation must: clearly show the stoichiometry of the biochemical reaction, describe a minimum of three case studies, and clearly demonstrate compliance with Paragraph 1.02.
- F. Proof of Underwriters Laboratories (U.L.) approval per Paragraph 1.03E.
- G. Product data sheet that shows compliance with all requirements listed in paragraph 2.01.
- H. Typical drawing of the feed systems to be provided as detailed in 1.03D.

1.05 SUBSTITUTIONS

The material shall be provided in strict compliance with these specifications. The Authority has undertaken extensive testing of various products to determine which products may be suitable for this specific application. Any bid for a material with

deviations from these specifications shall be considered non-responsive and shall not be considered.

Should vendors wish to request an opportunity to test their products at our sanitary sewer pump stations, for consideration with future bids, they may do so by submitting a formal request in writing to the Executive Director, Robert C. Fischer.

PART 2 - PRODUCT REQUIREMENTS

2.01 TECHNICAL REQUIREMENTS

- A. The material supplied shall be an aqueous solution containing a minimum of 3.5 pounds of nitrate-oxygen per gallon and having a minimum specific gravity of 1.42.
- B. The material shall be capable of reducing the dissolved hydrogen sulfide concentration in wastewater to less than 0.1 mg/l.
- C. The material shall be free of any objectionable odor-producing compounds.
- D. The pH of the material shall not be less than 4.0 nor greater than 9.0.
- E. The freezing point of the material shall be less than – 5 degrees F.

2.02 SAFETY REQUIREMENTS

- A. The material shall contain no hazardous substances as defined by both the Federal EPA's and State CERCLA lists.
- B. The material shall be exempt from Federal DOT placard requirements.
- C. Recommended handling procedures for the material shall require protective gloves and safety glasses only. Any material recommending more sophisticated equipment (i.e., face shield, body suit, etc.) during routine handling shall not be considered.

PART 3 - EXECUTION

3.01 DELIVERY

- A. The material shall be delivered by tanker trucks with a maximum volume of 5,000 gallons. Due to limitations at some of the sites, the supplier must also be able to make deliveries in smaller non-articulating, straight trucks. Access to some sites is limited and deliveries via tractor-trailer type trucks may not be possible.

- B. The supplier shall be responsible for the safe, clean delivery of the material into the Owner's storage tanks. The supplier shall be responsible for any damage to the Owner's storage tank and feed system that is directly attributable to product quality or improper delivery practices. The supplier shall provide prompt clean-up of any spills made during delivery.
- C. The supplier shall be responsible for the proper labeling of storage tanks in compliance with local, state and federal requirements. The supplier shall not deliver the material into any tank or vessel which is not properly labeled.
- D. Delivery Locations

Deliveries of Annual Chemicals shall be made to the following locations as directed:

- a.) Wastewater Treatment Plant, 100 Oak Street, Union Beach, New Jersey
- b.) West Keansburg Wastewater Pumping Station, 13 Tenth Street, Hazlet, New Jersey
- c.) Matawan Wastewater Pumping Station, 60 Main Street, New Jersey

3.02 PRICING

- A. The supplier shall provide pricing in terms of price per gallon of solution delivered. The minimum nitrate-oxygen content and specific gravity of the solution must be provided and must be expressed as pounds nitrate-oxygen per gallon of solution. All charges, including freight, testing services, equipment, maintenance, etc. shall be included in the per gallon bid price.
- B. The price shall be valid for delivery quantities of 2,000 gallons or more per shipment.
- C. In some cases, it may be necessary to split deliveries between two locations. The vendor will provide this service at no additional cost to the Authority. Any charge for multiple stops shall be included in the per-gallon bid price.

3.03 Length Of Contract:

The contract shall be for a period of 365 days (one year). Thereafter, the BRSA reserves the right to extend the Contract for up to two (2), one year extensions, subject to agreement by the contractor and the availability and appropriation annually of sufficient funds as may be required to meet the extended obligation. Should BRSA renew the

Contract, the prices shall be per the original Contract as cumulatively adjusted pursuant to any previous adjustment or extension and shall not exceed the change in the index rate for the 12 months preceding the most recent quarterly calculation available at the time the contract renewed. On the 10th month of the Contract period, the Contractor must submit in writing their request for a contract extension with or without an increase. Requests for Contract increases shall only be considered if the Contractor can satisfactorily demonstrate to BRSA that they have experienced increased costs with respect to labor, materials and transportation.

***** END OF SPECIFICATION SECTION *****

Bayshore Regional Sewerage Authority Wastewater Treatment Plant Location Map

