

UTILITIES DEPARTMENT



Wes Byne, P.E.
Director

MEMORANDUM

The Utilities Department is submitting the attached documents for approval by the Augusta Georgia Administrator and the Procurement Department in accordance with Article 10, Sec. 1-10-94, Item (c) Standard purchase contracts. The following items are addressed in the documents attached:

- | | |
|--|-------------------|
| 1. General project concept: | Hypo Generator |
| 2. Specific budget approval of Capital Purchase: | \$37,000.00 |
| 3. Source Selection Method: | Sole Source |
| 4. Capital Funds available in fund: | 506043520-5425110 |

TO: Approval: _____ Date: _____
Takiyah A. Douse
Interim Administrator, Augusta Richmond County

Approval: *[Signature]* Date: 6/3/24
Geri Sams,
Director, Procurement Department

FROM: Approval: *[Signature]* Date: 20 May 24
Wes Byne, P.E.
Director, Utilities Department

DATE: 5/20/24

SUBJECT: Inspection of the Electro Cells on the Hypo Generator

There are two Sodium Hypo Generator units with four Electro Cells that need to be inspected by De Nora to determine if the electro cells need to be taken out and replace the broken parts or if the need replacing quarterly throughout the year.

AUGUSTA UTILITIES DEPARTMENT IN-HOUSE REQUISITION

CHECK ALL THAT APPLY:

DATE: 9/11/2023

DIVISION Highland Water Filter Plant

FUND #: 506043520

SHIP TO:

Highland Water Filter Plant
2835 Central Ave.

- ☒ WATER
☐ SEWER
☐ SUPPLIES
☒ SERVICE
- ☐ EQUIPMENT
☐ TOOLS
☐ SAFETY
☐ OFFICE
- ☐ CHEMICAL
☐ GASES
☐ REPAIR
☒ MAINTENANCE
- ☐ LAB
☐ UNIFORM
☐ LIFT STATION
☐ OTHER

REQUISITION #

- ☐ IT
☐ SCADA
☐ INVENTORY
☐ BID ITEM
- ☐ ROUTINE
☐ EMERGENCY
☒ SOLE SOURCE
☐ PREFER ITEM

VENDOR: De Nora Water Technologies

ADDRESS: 1110 Industrial Blvd Sugarland, TX 77478

PHONE #: 281-274-8464

QUOTED BY: Herbert Barbee

ITEM #	ITEM DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
1.	Augusta Utilities			0.00		0.00		0.00
2.	Quarterly On-site	1	37,000.00	37,000.00		0.00		0.00
3.	Sodium Hypochlorite			0.00		0.00		0.00
4.	Generator Sub-System			0.00		0.00		0.00
5.	Inspection And			0.00		0.00		0.00
6.	Preventative			0.00		0.00		0.00
7.	Maintenance			0.00		0.00		0.00
8.				0.00		0.00		0.00
9.				0.00		0.00		0.00
10.				0.00		0.00		0.00
11.				0.00		0.00		0.00
12.				0.00		0.00		0.00
13.				0.00		0.00		0.00
14.				0.00		0.00		0.00
SHIPPING CHARGES								
TOTAL				37,000.00		0.00		0.00

JUSTIFICATION AND EXPLANATION FOR PURCHASE:

Quarterly service trips for Hypo Generators at Augusta Ga Highland Water Treatment Plant.

REQUESTED BY: Phillip Crossen

APPROVED BY: Chris Washington

Approved:

JUD Director



UTILITIES DEPARTMENT

Wes Byne, P.E.
Director

TO: Geri Sams
Director, Procurement Department

THRU: Wes Byne, P.E.
Director, Utilities Department

FROM: Chris Washington Highland Water Plant

CC:

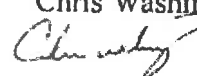
DATE: 5-20-2024

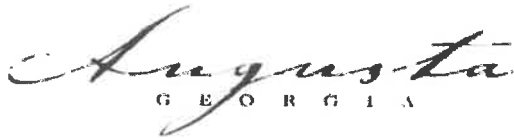
SUBJECT: JUSTIFICATION FOR SOLE SOURCE

De Nora Technologies built and installed the Sodium Hypochlorite Generators at the Augusta GA Highland Water Treatment Plant. De Nora Water Technologies are the only company that has parts and technicians to work on these two electric Hypo generator units. These generators are used in the water treatment process to make bleach. De Nora Water Technologies are the only company that supplies the parts and service with licensed technicians to be able to replace electro cells and replace broke or worn out parts on the units.

There are two Sodium hypo generator units with four Electro cells that need to be inspected by De Nora to determine if the Electros need to be taken out o replace broken parts or need replacing Quarterly throughout the year.


Approved:
AUG Director

Chris Washington

5/20/2024



Print Form

Sole Source Justification (Reference Article 6, Procurement Source Selection Methods and Contract Awards, § 1-10-56 SOLE SOURCE PROCUREMENT)

Vendor: De Nora Water Technologies E-Verify Number: 349621

Commodity: Highland Water Plant

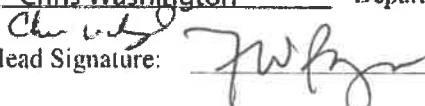
Estimated annual expenditure for the above commodity or service: \$ 37000.00

Initial all entries below that apply to the proposed purchase. Attach a memorandum containing complete justification and support documentation as directed in initialed entry. (More than one entry will apply to most sole source products/services requested).

1. SOLE SOURCE REQUEST IS FOR THE ORIGINAL MANUFACTURER OR PROVIDER, THERE ARE NO REGIONAL DISTRIBUTORS. (Attach the manufacturer's written certification that no regional distributors exist. Item no. 4 also must be completed.)
2. SOLE SOURCE REQUEST IS FOR ONLY THE AUGUSTA GEORGIA AREA DISTRIBUTOR OF THE ORIGINAL MANUFACTURER OR PROVIDER. (Attach the manufacturer's — not the distributor's — written certification that identifies all regional distributors. Item no. 4 also must be completed.)
- CW 3. THE PARTS/EQUIPMENT ARE NOT INTERCHANGEABLE WITH SIMILAR PARTS OF ANOTHER MANUFACTURER. (Explain in separate memorandum.)
4. THIS IS THE ONLY KNOWN ITEM OR SERVICE THAT WILL MEET THE SPECIALIZED NEEDS OF THIS DEPARTMENT OR PERFORM THE INTENDED FUNCTION. (Attach memorandum with details of specialized function or application.)
5. THE PARTS/EQUIPMENT ARE REQUIRED FROM THIS SOURCE TO PERMIT STANDARDIZATION. (Attach memorandum describing basis for standardization request)
6. NONE OF THE ABOVE APPLY. A DETAILED EXPLANATION AND JUSTIFICATION FOR THIS SOLE SOURCE REQUEST IS CONTAINED IN ATTACHED MEMORANDUM.

The undersigned requests that competitive procurement be waived and that the vendor identified as the supplier of the service or material described in this sole source justification be authorized as a sole source for the service or material.

Name: Chris Washington Department: 4416 Date: 5-20-2024

Department Head Signature:  Date: 20 May 24

Approval Authority: _____ Date: _____

Administrator Approval: (required not required) _____ Date: _____

COMMENTS:



De Nora Water Technologies LLC
1110 Industrial Blvd.
Sugar Land, TX 77478
281-240-6770
281-274-8492 Fax
www.denora.com

Quarterly Inspection and Preventative Maintenance Proposal and Contract

Date: 05/14/2024
Customer Name: Augusta Utilities
Site Name: Augusta Water Treatment Plant
Site Location: Georgia

Equipment: 2-CT1500
Proposal No: MC00219
Attn:

On behalf of De Nora Water Technologies. (DNWT) we are pleased to present our proposal for the 29 Palms Quarterly On-site Sodium Hypochlorite Generator Sub-System Inspection and Preventative Maintenance Contract.

Some specific benefits of the ClorTec® the Inspection and Preventative Maintenance Contract are:

- Optimize efficiency
- Reduced unplanned down time.
- Minimizes warranty calls.
- Update Maintenance Log for work performed
- Refresher training upon request at no additional charge: 1 per 12 month period.

We have enclosed a detailed proposal for your review and evaluation that has been prepared for your ClorTec® generation system at the Augusta Water Treatment Plant. This proposal also serves as the Inspection and Preventative Maintenance Contract when fully executed by both parties.

Please note that this is a standard DNWT product offering. This contract is based on acceptance of all terms and conditions contained herein and that they will supersede any other terms and conditions.

Please feel free to contact the undersigned should you have any questions.

Best Regards,

Robert E. Crutchfield

NA EC Service Manager

ClorTec®
On-Site Sodium
Hypochlorite Generation Systems
Quarterly Inspection and Preventative Maintenance Proposal and Contract

Augusta Utilities

MC00219

05/14/2024



De Nora Water Technologies, LLC
1110 Industrial Blvd.
Sugar Land, TX 77478
281-240-6770
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www.denora.com

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Scope of Supply

A ClorTec® Quarterly On-Site System Quarterly Inspection and Preventative Maintenance Contract

De Nora Water Technologies. (DNWT) is proposing this Quarterly On-Site Sodium Hypochlorite Generator system Inspection and Preventative Maintenance Contract consisting of Sections 1 through 7 herein for your On-site Sodium Hypochlorite Generation equipment:

De Nora will perform a quarterly inspection of the following subsystems, including:

- Hypochlorite Electrolytic Generator Skid or Rack whichever is applicable
- Rectifier
- Control Panel
- Water Softener
- Water Chiller/Heater
- Brine Pump
- Hydrogen Detector

The inspection for each of the above consists of the items on the check list in Section 6. In addition the electrode assemblies will be acid washed the first (3) quarterly visits and inspected for any abnormalities.

On the 4th quarterly visit the electrode assemblies will be disassembled, inspected, cleaned and if necessary washed with plant water pressure. A thorough inspection of the plates and all components will be made. If repair parts are required for the electrodes a separate quotation will be provided to the site for the specified parts, in accordance with the 5-year proration period of the warranty terms if applicable. The acrylic electrode assembly case tube is warranted 2 years from date of shipment if provided on a new system. Please see B below for more information on repair parts.

After the electrolytic cell has been re-assembled it will be run for a period of no less than 1 hour during which time hydrometer readings, temperature readings and concentration readings will be taken and recorded.

DNWT will also plan to provide a one (1) hour refresher training class on the 2nd and 4th scheduled visits, unless declined by the customer. Notice of customer declining the training must be made in writing 2 weeks prior to our scheduled visit.

This quarterly inspection and preventative maintenance contract is not a substitute for the owner/operator of the DNWT supplied equipment to perform preventative maintenance. Such preventative maintenance that owner/operator is responsible to perform includes monthly inspections as a minimum and more often if needed, and acid wash of the electrodes every 1000 hours minimum and more often if needed based on site conditions. All such inspections and acid washes must be recorded in the Maintenance Log otherwise warranty will be voided.

This quarterly inspection and preventative maintenance contract should be considered a minimum. Based on analysis of site conditions, site experience and the Maintenance Log, DNWT may recommend and quote more frequent visits.

B Repair or Replacement of Parts

During each quarterly visit, DNWT will inspect for any deficiencies in the subsystem. The inspection scope is listed in Section 6. DNWT will identify any parts that may need to be replaced or repaired. If parts are identified for replacement or repair, a separate quotation will be given for the required parts and associated

labor, if they are not already covered under an existing warranty. Once the quotation has been accepted and a purchase order received, DNWT will secure and replace the affected part. Should a return trip be needed to secure and install the parts for out of warranty equipment, DNWT normal service rates will apply and be added to the quotation. Parts in warranty and in warrantable condition will be repaired or replaced under the existing warranty terms for the affected parts.

If the customer desires root cause analysis of electrode failure DNWT will provide a quote accordingly. Water sampling and analysis as may be requested by DNWT will be provided by owner/operator at no charge to DNWT

C Technical Services

The listed services must be provided by a DNWT, ClorTec® factory trained technician or a factory authorized third party working under De Nora authority or direction. Failure to comply will void warranty if applicable, and De Nora will have no obligation to mitigate such failure.

Proposed services are based on one (1) scheduled trip for each described quarterly visit during the 12-month contract. Should additional trips be required due to circumstances out of De Nora's control, such as lack of access, lack of power, lack of water, lack of Owner authorizations/authority to perform, or the need for repair parts not identified prior to the visit a cost adder will apply.

D Acknowledgement and Acceptance of the Entire Contract

This proposal - and upon signature of acceptance of this contract - is for scheduled quarterly inspection and preventative maintenance services only. This is not a service contract and does not cover anything outside the scope of inspection and preventative maintenance services as described above in Section 1. Services will be performed in accordance with this proposal and contract, including the General Terms and Conditions in section 7. This contract does not alter or change the terms and conditions of any other contract between Augusta Utilities and DNWT that have been completed or are in process.

Customer's acceptance and signature on this Quarterly Inspection and Preventative Maintenance Contract Proposal constitutes the contract for the work. No other purchase order document is required by DNWT. However, in event of a customer purchase order issued subsequent to this Proposal /Agreement the purchase order must incorporate this Proposal /Agreement on its face, with the following statement: "The terms and conditions of the Proposal /Agreement MC00219 dated 05/14/2024 shall supersede any conflicting terms and conditions of this subsequent Purchase Order."

DE NORA WATER TECHNOLOGIES, LLC.

Date

Robert E. Crutchfield

NA EC Service Manager

ACCEPTED: Augusta Utilities

By: _____

(Sign)

Date Signed: _____

By: _____

(Print)

Title: _____

Proposal Contract for Annual Maintenance #: MC000219 Rev 0

Date ____

Initial _____

2 Technical Clarifications and Exclusions

A Clarifications

1. Inlet water and salt must meet the requirements stated in the standard operating conditions listed in section 5 for proper electrode operation and efficiency.
2. The De Nora provided Maintenance and Operation Log Book must be maintained by the customer and updated for this service
3. Removal of any obstructions to the equipment is the responsibility of the customer before De Nora's scheduled maintenance visit.
4. The site will provide additional man power to remove the cells when appropriate to reduce the need for a second technician thus lowering the cost to customer.
5. Customer to provide any special equipment to perform maintenance including but not limited to acid cart and hydrochloric acid in accordance with the specifications listed in section 5 (commercial grade 31% and diluted per the DNWT acid wash procedure).

B Exclusions from Scope and Price

1. Sales and all other taxes
2. Permits, Licenses and fees.
3. Any consumables or chemicals used to perform maintenance.
4. Disposal of any consumables or chemicals used to perform maintenance.
5. Consumable maintenance items including but not limited to pH, chlorine & chemical probes, reagents or buffers, hydrogen sensor modules, and filter cartridges.
6. Water sample and analysis that may be required to support the inspection process
7. All items not specifically listed in the Scope of Supply in Section 1.

3 Quarterly Inspection and Preventative Maintenance Contract Pricing

A Price

Service Item No.	Service Items	Price Per Unit	# Of Units	Price Per Visit	# Of Visits	Price per Year	Description
1	Inspection and Cleaning	\$2900.00	2	\$5800.00	3	\$17,400.00	Inspection and acid cleaning of the cells.
2	Travel Expenses for Inspection Acid Cleaning(a)	N/A	N/A	\$3400.00	3	\$10,200.00	Travel to and from site and associated expenses.
3	Inspection, Cell, Disassembly and Cleaning (b)	\$3000.00	2	\$6000.00	1	\$6000.00	Systems Inspection. Pulling out the electrodes, cleaning, inspecting, repairing any necessary hardware and placing system back on line. Parts are NOT included and are extra as needed.
4	Travel Expenses For Inspection, Disassembly and Cleaning (c)	N/A	N/A	\$3400.00	1	\$3400.00	Travel to and from site and associated expenses.
Total annualized cost including travel and expenses (c)(d)						\$37000.00	

(a) The price is based on only requiring 1 technician to do the acid wash.

(b) Travel expenses are based on multiple racks being cleaned during a single visit. If individual trips are required, travel expenses increase to \$3400 per visit per technician. The price is based on only requiring 1 technician to do the cell disassembly and cleaning.

(c) The annualized price for each system's quarterly inspection and preventative maintenance is \$18,500.00.

B Supplementary Parts and Services (Optional)

1	Supplementary Parts and Services not included in Table A above (a) \$0.00 T, M and E as agreed	\$0	Emergency service and parts charged by time, material and expenses.
Total annualized cost for A and B		\$0	

Proposal Contract for Annual Maintenance #: MC000219 Rev 0

Date: _____

Initial _____

- (a) Supplementary parts and services provided to Buyer covered by this Table B shall not exceed \$0. In the event that supplementary parts and services are required in excess of this limit, a separate order is required to be issued to Contractor in advance of provision of such parts and services.

Commercial Scope

B Billing Process and Payment Terms

DNWT's inspection and maintenance technician or authorized subcontractor technician shall confirm the date of each inspection and preventative maintenance within 2 weeks of the scheduled maintenance to be provided. The DNWT inspection and maintenance technician shall come to the site with a inspection and maintenance order that references this contract and describes inspection and the preventative maintenance item to be provided. After inspection and maintenance are complete, the technician shall obtain customer signature on inspection and maintenance order confirming inspection and maintenance was provided and is satisfactory. DNWT will invoice the customer for the amount in Section 3 herein for inspection and maintenance item provided with the customer's signed inspection /maintenance order attached. Payment terms are Net 30 days.

C Validity of Pricing

This proposal and its amendments and supplements shall remain valid for 30 days, after which it may be subject to price changes, unless extended in writing by DNWT.

D Inspection and Maintenance Schedule

Inspection and Preventative Maintenance Schedule for maintenance services for the 12-month period of this contract will be in accordance with the table below.

Date	Service
Week of TBA	Inspection and acid wash
Week of TBA	Inspection and acid wash
Week of TBA	Inspection and acid wash
Week of TBA	Inspection, electrode disassembly and cleaning

Changes to schedule during the 12-month period, shall be given by written notice by the customer not later than 2 weeks prior to the scheduled inspection and preventative maintenance service visit. Failure to provide written notice two weeks prior to scheduled inspection and preventative maintenance service may result in cancellation of the scheduled service item without penalty to DNWT.

It is the responsibility of the customer to provide access to the systems to be inspected and maintained prior to De Nora's arrival. Any time that DNWT technician spends waiting for access to be provided will be a charge billed at the current hourly rate of \$225.00 per hour.

E Contract Terms and Conditions

The DNWT proposal/contract MC00219 shall be governed solely by the Terms of this Proposal / Contract, and the General Terms and Conditions of the Quarterly Inspection and Preventative Maintenance Contract

Proposal Contract for Annual Maintenance #: MC000219 Rev 0

Date: _____

Initial: _____

in Part 7 herein. Any terms and conditions specified by any former or subsequent communications are expressly excluded.

F Insurance

DNWT will maintain insurance policies and limits as set forth in the General Terms and Conditions in Section 7. No other coverage or endorsements will be provided without additional compensation and the approval of DNWT management.

4 ClorTec® Standard Operating Conditions

Proper system operation and electrode warranty is subject to the end-user meeting the following conditions:

A Inlet Water Conditions

- Providing treated drinking quality potable water.
- Inlet Water Temperature: Inlet water temperature must be between 65°F-75°F [18°C-24°C].
- Inlet Water Pressure: Water Pressure must be maintained per system Process & Instrumentation Diagram.

B Salt Quality

Must contain no organic binders, flow control agents or resin cleaning material, and meeting the following specifications

NaCl:	
-dry basis	96.3% minimum
-wet	93.3% minimum
Calcium Sulfate	0.30% maximum
Magnesium Chloride	0.06% maximum
Calcium Chloride	0.10% maximum
Magnesium Sulfate	0.02% maximum
Insolubles	0.1% maximum
Moisture (as H ₂ O)	3.0% maximum
Lead	0.0007% maximum
Copper	0.0003% maximum
Iron (as Fe)	0.002% maximum
Fluoride	0.002% maximum
Manganese	<0.0002%

C Water Quality

Must be free of polymer additives, flocculants, coagulants and antiscalants. Salinity to electrolytic cell must be maintained above an average of 18,000 ppm Cl

pH	6.5 to 7.5
Hardness [Ca/Mg]	<10 ppm
Total Organic Carbon (TOC)	<2 ppm
Iron	<200 ppb
Manganese	<10 ppb
Nickel	<0.5 ppm
Fluoride	<1 ppm
Copper	<5 ppb
Cl ₂ (free chlorine)	<2 ppm

Proposal Contract for Annual Maintenance #. MC000219 Rev 0

Date _____

Initial _____

D Hydrochloric Acid specification

Specific Gravity (20°C)	1.16 g/ml
Appearance	clear
Conc.	30-33% w/w
Iron (Fe)	5-10 ppm (max)
Lead (Pb)	< 2 ppm
Copper (Cu)	< 1 ppm
Calcium + Magnesium	< 1 ppm
Silicon Dioxide	< 1 ppm
Free chlorine	< 1 ppm

E Operational Logs

- A weekly log of water hardness at outlet of water softener must be maintained by end-user. (See Maintenance and Operation Log Book in Maintenance Kit.).
- Operational Log must be maintained detailing maintenance activities and system usage. (See Maintenance and Operation Log Book in Maintenance Kit.)
- DNWT technician shall update the log for the worked performed.

Proposal Contract for Annual Maintenance #: MC000219 Rev 0

Date: _____

Initial _____

5 Maintenance and Inspection System Checklist

A Hypochlorite Generator Rack/Skid

- Check for any leaks.
- Check cartridge filter at rack and advise if replacement is needed.
- Check Gem Sensors for free movement.
- Verify flow rate on flow meters match HMI reading.
- Check all 3 flow meters for proper operation and no broken rods.
- Check cell straps are not too tight.
- Verify drain paddle switch does not stick.
- Verify operation of pressure gauge.
- Verify free movement of discharge ball valves.

B Electrolytic Cell and Electrode

- Observe status of electrode; is there bridging or is the electrode clean.
- If electrode is dirty, acid wash the system, check customer's maintenance log to see when last acid wash or cleaning was done.
- Are there loose pieces of hardware in the bottom of the electrode?
- Verify there are no warped plates.
- Remove cable clamps from buss bar and verify buss bar is coated with paste and tight.
- Re-attach cable clamps to buss bar and tighten to 50 ft. lbs. and coated with paste.
- Verify clam shell clamps are tightened to 50 ft lbs. and coated with paste.
- Verify level switch is not full of water and float operates correctly.
- Verify there are no leaks from temperature switch orifice or level switch orifice.
- Verify all wires are attached properly and not shorted together.
- Measure voltage of each cell to be sure that they are fairly equal to each other.

C Rectifier

- Verify lugs have paste and are tightened to 50 ft lbs.
- Check overall system for corrosion and any water drip marks.
- Verify the E-Stop switch operates with your meter.
- Verify rectifier is clean on the inside.
- Observe for loose wires or broken wires.
- While system is running verify voltage between positive and negative buss is what is reading at voltage meter on rectifier and at the cells and all match what is being shown on HMI.
- While system is running, verify current on cables is what is reading at amperage meter on rectifier and at the cells and all match what is being shown on HMI.

Proposal Contract for Annual Maintenance # MC000219 Rev 0

Date: _____

Initial _____

- Verify cables to SCR fuses are tight to 40 ft lbs.

D Water Softener and Concentration

- Measure water hardness before water softener.
- Measure water hardness after water softener.
- Check cartridge filter at softener and advise if replacement is needed.
- Check customer's maintenance log to see when last hardness test was done.
- While system is running obtain a sample of hypo and check temperature.
- Check customer's maintenance log to see when last hypo temperature was recorded.
- While system is running obtain a sample of hypo and check concentration.
- Check customer's maintenance log to see when last hypo concentration was recorded.

E Control Panel

- Inspect all wires for burn marks and loose connections.
- If there is a UPS present check battery voltage both under load and stand alone.
- Verify UPS operation by turning off main power.
- Verify voltage at 24VDC power supply is correct.
- Look for any arc marks around the bases of the control relays.
- Look for any arcing on the covers of the control relays.
- Verify all fuses are properly seated and there are no arc marks.
- Verify no wires are jumped out or bypassed, each one should be in it's own terminal.
- With a hand held vacuum cleaner clean the control panel.
- Verify there are no metal shavings anywhere in the panel.
- Determine age of PLC battery and suggest change if more than 2 years old.
- Verify HMI screen saver is working to prevent burn in.
- If fans are present clean filters, if filters are not present, note on report and have customer get new ones.

6

General Terms and Conditions of Quarterly Inspection and Maintenance Contract

Definitions. As used herein, the following terms shall have the following meanings:

– "Contract" means the Proposal, these terms and conditions, any additional terms and conditions expressly incorporated herein directly or by reference.

– "Contract Price" means the compensation to be paid by the Client to the Contractor in accordance with the terms of this Contract.

– "Contractor" means De Nora Environmental Water Purification, Inc. and its permissible successors and/or assigns. Any reference to actions taken or not taken by the Contractor shall include those actions taken or not taken on Contractor's behalf.

– "Services" means the services to be provided by the Contractor to the Client as identified in this Contract.

– "Work Site" means each site at which the Contractor is undertaking Services

Other terms not expressly defined above have the meaning so given to them in this Contract.

Construction of Agreement. Whenever the context requires, the gender of all words used in this Contract includes the masculine, feminine, and neuter. All references to Articles and Sections refer to articles and sections of this Contract, and all references to Attachments are to Attachments attached to this for all purposes. Captions, headings, cover pages, tables of contents and footnote instructions contained in this Contract are inserted only to facilitate reference and for convenience and in no way define, limit or describe the scope, intent or meaning of any provisions of this Contract. Words and abbreviations that have well known technical or trade meanings are used in this Contract in accordance with such recognized meanings.

Offer to Contract. Contractor's proposal and the accompanying documents referred to under the definition of the term "Contract" herein (including the terms and conditions set forth herein) constitute an offer to contract which may be accepted by the client within thirty (30) days from the date hereof (or within such shorter or longer period of time, if any is specified in the Contractor's proposal) and only on the exact terms hereof. This Contract shall not be binding on the Contractor unless it is executed by the Client and a duly executed copy is delivered to the Contractor within the period of time specified above.

Entire Agreement. The terms and conditions set out herein are the entire terms and conditions of this Contract and any prior or contemporaneous understandings or agreements, oral or written, are merged herein. There are no representations or warranties, agreements, or covenants other than those expressly set forth in this Contract. This Contract may be amended or modified and/or any right or obligation arising under this Contract may be waived from time to time only by a written instrument executed by the Client and the Contractor. The failure of either party at any time to enforce any of the provisions of this Contract shall not constitute a waiver of such provision.

Quality of Work and Materials. The Services to be provided hereunder shall be performed by qualified personnel in accordance with standards generally acceptable in Contractor's industry. Contractor shall use the effort, skill, diligence and quality control/quality assurance measures expected of a qualified firm performing services of a similar nature to the Services to be performed by the Contractor pursuant to this Contract. Materials furnished by the Contractor if any, shall be current, of merchantable quality and in compliance with any technical standards or specifications incorporated into this Contract. When certain materials are specified by a reference standard Contractor may select any suitable commercially acceptable material meeting the standard.

The Services are of such nature that no certainty of results can be assured by the Contractor and the Contractor makes no warranty concerning the

accuracy or completeness of any data, the effectiveness of any material used, recommendations given, or the results of the services rendered.

There are no warranties or conditions, express or implied, statutory or otherwise as to the merchantability or fitness for a particular purpose of any equipment, material and supplies utilized in the performance of the Services

The Client's sole and exclusive remedy at law or equity, whether in contract, tort or other theory of law is limited to the repair, or the replacement, or credit for the equipment, material or supplies proven to the satisfaction of the Contractor, acting reasonably to have been defective.

Access. Client shall secure and maintain rights of access for Contractor to the Work Site. Client shall advise Contractor of any limitations or restrictions affecting access and Contractor shall abide by such limitations or restrictions. Should Contractor be denied free access to a Work Site for any reason not within the control of the Contractor, Client shall pay Contractor during the time of such denial at the rates set forth in the Contract.

Compliance with Law. The parties shall comply with relevant laws, regulations and/or official government orders in performing their respective obligations hereunder.

Contract Schedule. The Contractor's completion of the Services within a reasonable time shall constitute the Contractor's full compliance with any specific schedule requirement, if any, contained in this Contract. The date of completion provided in this Contract, if any, is approximate and is based upon prompt receipt by Contractor of all necessary information and data required to be supplied by the Client, and is subject to weather, unforeseen site conditions and all Force Majeure events.

Additional Work. The Client may add, delete, modify, alter, or accelerate the Services to be performed hereunder, including without limitation, order changes to the Services, or require the Contractor to perform additional services but only through a duly executed change order. All change orders shall be in writing and require the signature and acceptance by the Contractor prior to becoming effective. Unless agreed to otherwise by the Contractor, all such change orders shall reflect the parties' agreement regarding price and proposed completion date. The General Terms and Conditions shall apply to such change order.

Employee Safety. Contractor shall be responsible for the safety, efficiency and adequacy of its employees and any vehicles and/or machinery, equipment or materials furnished or utilized by the Contractor during the performance of Services. Contractor, however, shall not assume any obligation or incur any liability for personal injury or property damage caused by (i) unsafe site conditions not created by the Contractor or by any of its agents, employees and subcontractors, (ii) work being performed by other parties not related to the Contractor, (iii) the negligence of the Client, and/or (iv) the negligence of any third party not related to the Contractor.

Risk of Loss. Any losses or other liabilities resulting from theft, damage or unauthorized use of Client's property, by any party other than Contractor, shall be borne by the Client.

Force Majeure. Any event of Force Majeure that directly or indirectly causes a party to be unable to perform its obligations under this Contract shall not be deemed a breach of this Contract. Force Majeure means any event beyond the reasonable control and is not a result of the willful or negligent act, error or omission or failure to exercise reasonable diligence on the part of the party claiming to be affected thereby, including but not limited to acts of God, explosion, flood, fire, hurricane, tornado, sabotage, or similar acts of a public enemy, nation or industry-wide strikes, acts of terrorism, blockade or insurrection, riots, acts of civil disturbance, or rules or regulations of any governmental authority asserting jurisdiction or control, the compliance with which makes performance of the Services impossible. The occurrence of such event shall suspend the obligations of the affected party for only so long as the impact of such event continues.

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The obligation to pay amounts due and owing shall not be suspended by such event. The party affected will use commercially reasonable efforts to mitigate the effect of the event.

Ownership of Documents and Inventions. (a) All tracing, specifications, computations, notes and other original documents as instruments of service are and shall remain the property of Contractor unless otherwise provided by law; (b) All inventions, discoveries and copyright in work of authorship, including those in formative stages, made by the Contractor (either alone or jointly with the Client) shall from the time of conception or, in the case of works of authorship from the time of creation be the property of Contractor.

Approval of Work. Services performed by Contractor shall be deemed approved and accepted by Client at the time service has been performed and Client signifies acceptance by signature on Service Order. Under all circumstances, final payment of the Contract Price shall be deemed as conclusive evidence that the Client has accepted all Services provided.

Payment Terms. Unless specifically stated otherwise, all payments are due Net 30 days from the date of invoice. Any payment delayed beyond thirty (30) days from the specified due date, unless occasioned by fault of the Contractor, shall be subject to one and one-half (1.5) percent per month penalty on the unpaid balance.

Taxes. The prices hereunder do not include any sales, use, excise, ad valorem, property or other taxes. Client shall pay all such excise, sales, use and other taxes associated with the Services imposed directly or indirectly, by any governmental authority or agency with respect to this Contract and the Services provided, other than taxes imposed on Contractor's net income or Contractor's payroll. Client shall pay directly or reimburse Contractor for any such taxes that Contractor may be required to pay, including without limitation, sales and/or use taxes that Contractor may be required to pay in connection with Contractor's purchase or use, in performing the Services hereunder, of equipment, supplies, material and/or subcontracted services.

Default and Termination. The persistent or repeated failure or refusal of either party to comply with the terms of this Contract shall constitute a default. Upon default by one party, the other party shall send written notice. Such notice shall clearly specify the nature of the default and provide the defaulting party thirty (30) days to cure the default. If the default is capable of being cured within thirty (30) days but is not cured within thirty (30) days, the Contract shall terminate at midnight of the thirtieth day following receipt of the default notice. In the case of default that cannot be cured within thirty (30) days, this Contract shall not terminate so long as the defaulting party has given written notice to the other party that the defaulting party has commenced and is diligently pursuing a cure. Evidence of such cure shall be provided from the defaulting party to the reasonable satisfaction of the other party. In the event of any termination, Contractor shall be paid for all services rendered through the date of termination, including any mobilization costs incurred by the Contractor to transport equipment or personnel to the job site. For purposes of this section, the failure of the Client to pay Contractor in accordance with the payment terms of this Contract shall be considered such a substantial failure for which no notice or opportunity to cure is required. In the event of a substantial failure on the part of the Client Contractor, in addition to the right to terminate set forth in this paragraph, may also elect to suspend work until the default in question has been cured. No delay or omission on the part of either party in exercising any right or remedy hereunder shall constitute a waiver of any such right or remedy on any future occasion.

Indemnification. Each party (the "Indemnifying Party") shall defend, indemnify and hold harmless the other party, its shareholders, officers, directors, agents and employees, and their respective successors and assigns (each is referred to herein as an "Indemnified Party") against any and all liability for damages, costs, losses, penalties and expenses, including reasonable attorney's fees, resulting from any claim asserted by a third party for wrongful death, bodily injury and/or property damage which are caused solely by the willful or negligent acts of the Indemnifying Party. However, to the extent that both Client and Contractor are determined to be negligent and the negligence of both is the proximate cause of a claim against either party for any of the damages subject to indemnity as set forth above, then in such event, Client and Contractor shall each be responsible

for the portion of the liability equal to its proportionate share of the total negligence.

Contractor's Liability. In the event that claims(s) raised against the Contractor on account of this Contract, or on account of the Services performed hereunder, is/are covered under the insurance policies required of the Contractor hereunder, the Contractor shall not be responsible for any loss, damage or liability beyond the policy amounts contractually required hereunder and the limits and conditions of such insurance policies. With respect to any other causes of action and/or claims arising under this Contract or otherwise arising as a result of, or on account of, the Services provided hereunder, Contractor's total aggregate liability shall not exceed the Contract Price.

Consequential Damages. In no event shall Contractor be liable, either directly or as an indemnitor of Client, for any special, punitive, indirect and/or consequential damages, including damages attributable to loss of use, loss of income or loss of profit even if Contractor has been advised of the possibility of such damages.

Insurance. Contractor shall procure and maintain through the period of this Contract, at Contractor's own cost and expense (a) general liability insurance in the amount of one million dollars (\$2,000,000) per occurrence and aggregate; (b) automobile liability insurance in the amount of one million dollars (\$1,000,000) and (c) worker's compensation insurance in accordance with all statutory requirements.

Disclosure of Information and Cooperation of the Parties. (a) Each party agrees that it has disclosed, and it will continue to disclose, any and all information it now has, or may have in the future, to the extent that such information is relevant to the other party in performing its duties and obligations hereunder; (b) Each party hereto agrees that it will cooperate in good faith with the other and its agents, employees, representatives, officers, contractors and subcontractors to facilitate the performance of the mutual obligations set forth in this Contract.

No Third Party Beneficiaries. This Contract is entered into solely between, and may be enforced only by the Contractor and Client, and this Contract shall not be deemed to create any rights in third parties, including clients, suppliers, or customers of a party, or to create any obligations of a party to any such third parties.

Notices. Wherever under this Contract one party is required or permitted to give notice to the other party, such notice shall be in writing and shall be delivered personally, sent by facsimile transmission, sent by nationally recognized express courier or sent by certified, registered, first class mail, postage prepaid, but not by electronic mail. Any such notice shall be deemed given when actually received when delivered either personally, by facsimile transmission or by express courier, or if mailed, on the fifth day after its mailing, postage prepaid to the recipient party.

Governing Law and Venue. This Contract and performance under it shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania. Venue for any action shall be in the appropriate court located within the Commonwealth of Pennsylvania.

Severability. If this Contract contains any unlawful provision, the same shall be deemed of no effect and shall, upon the application of either party, be deemed stricken from this Contract without affecting the binding force of the remainder.

Successors and Assigns. Neither Client or Contractor shall assign or transfer any rights under or interest in this Contract including, but without limitation, moneys that may become due or moneys that are due without the written consent of the other, except to the extent that any assignment or transfer is mandated by law or the effect of this limitation may be restricted by law. Notwithstanding the foregoing, Contractor may subcontract any or all of its obligations hereunder to a third party and/or assign its rights and obligations under this Contract to an affiliate upon the writ