



PROPOSAL TO:

City of Texas City



Advanced Oxidation Process (AOP-16)
Odor Control – Lift Station 10

Date: October 2, 2025

Proposal Number: 2025-WA191

TIPS: Vendor #11969, Contract 250503

Lift Station Odor Control

In-Pipe Technology (IPT) is pleased to present this proposal to The City of Texas City for the capital purchase of 4 AOP-16 Lift Station Odor Control units and associated Piping and Bracketry to be installed at Lift Station #10 in Texas City, TX. The units use photohydroionization (PHI) to produce safe, environmentally friendly hydroxide ions that are very efficient at oxidizing hydrogen sulfide (H_2S) to reduce odor problems from lift station wet wells. Via the venturi effect created by an airflow eductor, negative pressure is created in the headspace of the wet well to slowly draw hazardous gases from the wet well and oxidize them inside of the unit itself.

Please see the attached equipment cut sheet and specification for details on the units' benefits and operation. In general, an average of 80-95% reduction in H_2S gases can be achieved. For stricter control of H_2S emissions requiring either 100% removal or less than 5 parts per million (ppm), small amounts of activated carbon can be added to the exhaust of the AOP-16 as a polishing step.

The cost of the units is detailed in our pre-negotiated pricing with TIPS, less associated discounts.

The AOP-16 is meant for continuous operation. Maintenance of the AOP-16 should be performed every 10,000 hours or every 14 months. In general, maintenance involves replacing the (6) PHI (UV) light cells, and ensuring other components are operating as intended (and replaced as needed). If the unit is left installed and not operational, there is a significant risk of damage and corrosion to the internal PHI mechanisms from exposure to H_2S . Please see below for a schedule of maintenance options available.



Summary of Scope

- The supply of four (4) AOP-16s at Lift Station #10, including all required piping and bracketry connecting the units together for parallel operation.
- Installation of the units to the lift station exhaust valve. The exhaust valve must be detached of any other equipment prior to installation.
- **Electrical hookup to each unit** at 110v MUST be performed by the City or a City-approved licensed contractor.
- Sufficient space on a concrete pad must be provided by the Contractor or the City.

Available Maintenance Services

Maintenance can be performed by City personnel (maintenance manual to be provided upon installation). Alternately IPT can perform the following services (**prices are per unit**):

- **Full Service - \$500/month.** This includes a full replacement of all parts (as identified on our parts list) every 10,000 hours, monthly inspection on the unit and the monthly replacement of any optional additional carbon as required.
- **Full Service Plus \$1,500/month.** We will continuously monitor via H2S Acrulog (which remains our property) and fully replace the parts (as identified on our parts list) every 10,000 hours. Includes a monthly inspection on the unit, monthly replacement of carbon filters (if selected), and monthly reporting of H2S levels at the exhaust of the unit.
- **Monthly Inspection and Carbon Filter Replacement if needed - \$300/month.** We will inspect the unit monthly and notify the customer if/when the unit requires maintenance – we also will replace the carbon (if using) monthly.
- **One Time Service (recommended every 10,000 hours/14 months of operation) -\$4,000.** We will replace all 6 PHI cells and any other parts as necessary (provided the unit has not corroded due to H2S gasses allowed in due to the unit being inoperative) and ensure the unit is ready for an additional 10,000 hours of operation.
- **Replacement Activated Carbon and filter bags- \$500/50lb box.**
- **Complete replacement of internal PHI unit - \$7,500** (e.g. if unit is left installed inoperative and is corroded due to exposure to H₂S gasses for a prolonged period of time)

Purchasing Quote

Proposal Number: 2025-WA191
 Date: October 2, 2025
 Reference: LS10 AOP-GZ
 Availability: 6-8 weeks ARO
 Delivery: Included
 Validity: Proposal valid for 30 Days

To:
 Quiddity Engineering
 6330 West Loop South, Suite 150
 Bellaire, TX. 77401
 Phone: (979) 307-6183
 E-mail: dolf@quiddity.com
 Attn: David A. Olf, PE
 Project Engineer

From:
 In-Pipe Technology, LLC
 725 N. Central Ave.
 Wood Dale, IL 60191
 Phone: (630) 509-2488
 E-mail: dfagans@in-pipe.com
 Attn: Douglas Fagans
 Chief Commercial Officer

<u>Item</u>	<u>Qty</u>	<u>Item Code #</u>	<u>Description</u>	<u>Price per each</u>
1	4	IPT-AOP-16	Purchase of AOP-16 (including delivery and installation)	\$35,000
			TIPS Discount of 10% per unit	(\$3,500)
2	1	IPT-AOP-ACCS	Piping and Bracketry for parallel operation	\$14,000
Total Amount				\$140,000

**Please add any selected maintenance services to the total Purchase Order amount*



Because Efficiency Counts

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Delivery: Included
Validity: Proposal valid for 30 Days

Terms

Refer to attached IPT standard Terms and Conditions.

Thank you for your consideration. We look forward to reviewing the proposal with you.

OFFERED BY:

IN-PIPE TECHNOLOGY, LLC

A handwritten signature in blue ink that reads "Douglas G. Fagans".

Douglas G. Fagans
Chief Operating Officer

TIPS Information:

Vendor Number: 11696

Contract Number 250503 MRO (*Maintenance, Repair and Operations of Facilities and Grounds*) *Supplies, Equipment, Tool Rental, Sales and Services*

In-Pipe Technology Odor Control Unit (IPT-AOP-16) Advanced Oxidation Process System for Wastewater



THE LOW COST IPT-AOP-16 ODOR CONTROL SYSTEM OF ADVANCED OXIDATION GAS PRODUCTION IS DESIGNED TO PROVIDE ODOR DESTRUCTION

IPT-AOP-16 Odor Control Unit produces advanced oxidation gases

High intensity UV light produces Advanced Oxidation gases (Ozone, Hydroperoxides, Super Oxide Ions, Hydroxides and Ozonide Ions)

Destroys odor molecules, bacteria, and organic pollutants

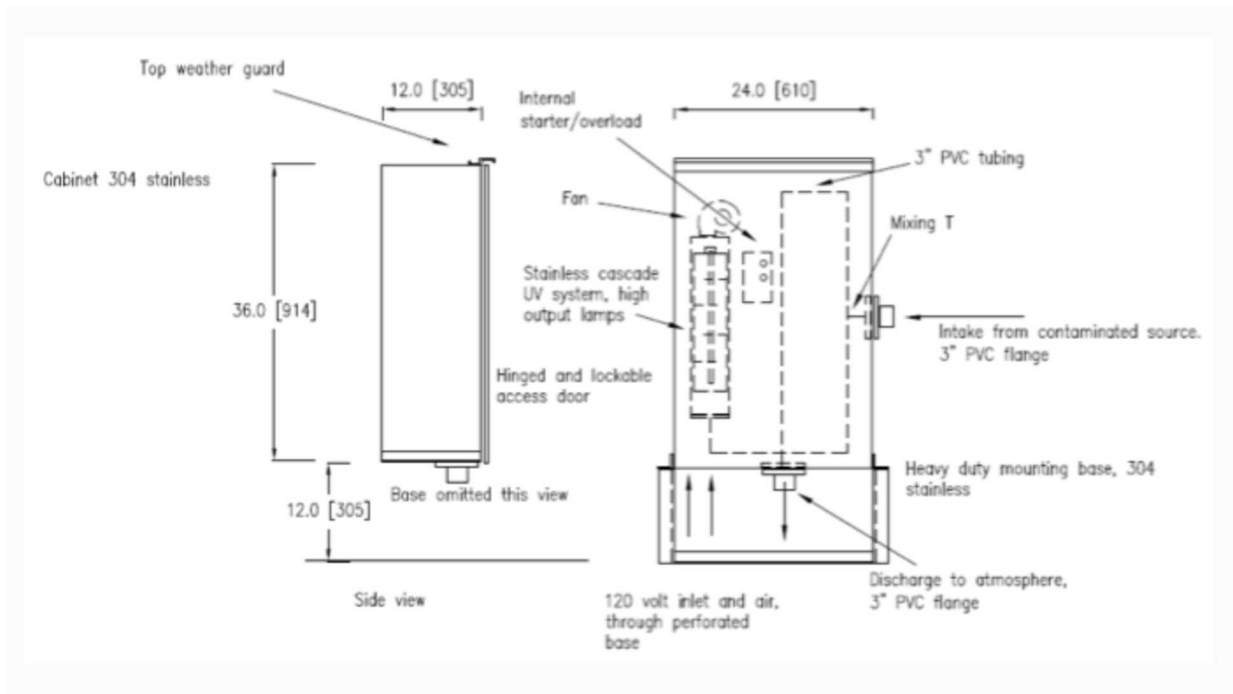
Highlights

10,000 hours average cell life	All stainless steel
Plug and play, fully automatic, system	Easy to use and install, versatile and portable
No costly and complicated chemicals	Leaves no residue
Automatic Unattended Operation	Environmentally friendly
Low Maintenance	Low power consumption, 110V or 220V
Safety Service Cut Off Switch	On off indicator light
High-Capacity Blower	Eliminates odors

Specification Table

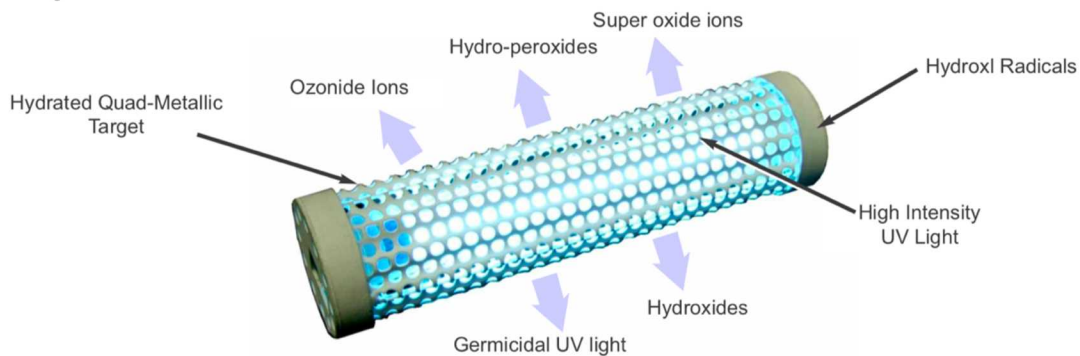
Model	IPT-AOP-16
Design Criteria	One IPT-AOP-16 unit for approximate 4,000 ft ³ of foul air
Voltage	110V, 60Hz, Low:1.36 A, High: 2.17A 220V, 50/60 Hz, Low: 0.68A, High: 1.09A
Weight	Approximate 250 lbs
Material	Stainless steel
Color	Green
Dimensions	30" x 48" x 24"
Enclosure/shade for outdoor installations	Recommend a simple structure like a lean-to for shade
Inlet/Outlet	3" PVC Flange
Controls	On/off, High/low (Six cells on high setting - three cells on low setting)
Fan volume	100 CFM
Number of Phi cells	Six (6)
Phi cell	Life approx. 10000 hours
Oxidation gases	Hydro peroxides, Ozone, Super oxide ions, Ozonide ions

Internal Piping Schematic and Clearances



Mechanism

The IPT-AOP-16 Odor Control Unit utilizes a high intensity UV light technology which when targeted on a hydrated Quad-Metallic target in a Ozone atmosphere creates Ozone, Hydroperoxides, Super Oxide Ions, Hydroxides and Ozonide Ions. The Ozone produced is a safe low concentration, produced by a targeted high intensity UV light technology. This method is far safer than the traditional ozone generators. Targeted UV ozone generators do not produce nitric oxide gas or nitric acid and they have a very high efficiency rating. The additional oxidizers provide a broader range of applications and redundant oxidation gases. All gases are very aggressive friendly gaseous oxidizers. The gaseous oxidizers produced revert back to oxygen and hydrogen after they oxidize the organics, bacteria, odor or gases.



Lab results



Figure 1. Before and after bacteria samples application of IPT-AOP-16 Odor Control Unit

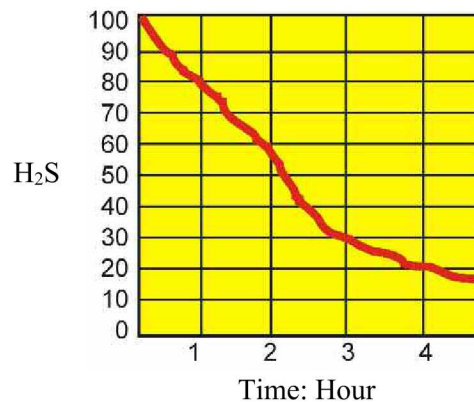


Figure 2. H₂S concentration changes plot as a function of time



TIPS Vendor Purchase Order Processing Procedure

1. When completing a TIPS purchase, the TIPS Vendor must provide a **TIPS Quote** to the TIPS Member with the **TIPS Contract Number referenced**.
2. If the Member decides to proceed with the purchase, the Member must submit the **TIPS Quote & PO (payable to the awarded TIPS Vendor), both referencing the TIPS Contract Number**, to tipspo@tips-usa.com unless you are an "Automated Vendor."
3. If you are **not** an "**Automated Vendor**" and you receive a PO directly from the TIPS Member, either immediately submit, or direct the Member to immediately submit, the TIPS Quote & PO, **both referencing the TIPS Contract Number**, to tipspo@tips-usa.com as "Confirmation Only."
4. **Member payment** will be made directly to the Vendor by the Member as agreed by the parties.
5. Vendor will submit **Vendor Administrative Fee** to TIPS upon receipt of payment by the Member. Administrative fees are paid for products or services only.

Need Assistance? 866-839-8477

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