

**SIEMENS**

**ATTACHMENT 3**

Industry

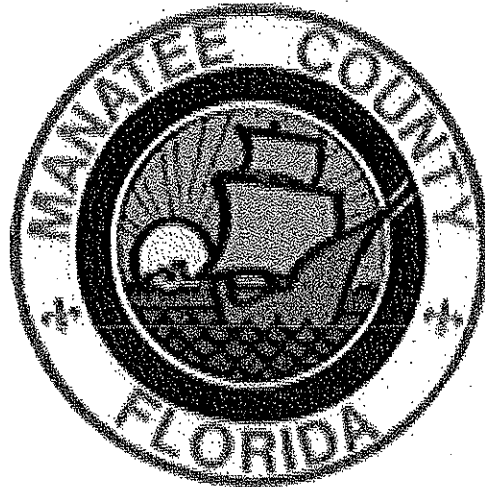
Proposal

MANATEE COUNTY

REQUEST FOR PROPOSAL #11-1065FL

ODOR AND CORROSION CONTROL SERVICES

Submitted to:  
Frank Lambertson - Contracts Negotiator  
Manatee County  
Financial Management Department  
Purchasing Department  
[frank.lambertson@mymanatee.org](mailto:frank.lambertson@mymanatee.org)



**Siemens Industry, Inc.**  
2650 Tallevast Rd  
Sarasota, FL 34243  
(941) 355-2971

June 28, 2011

Mr. Frank Lambertson, Contracts Negotiator  
Manatee County Financial Management Department, Purchasing Division  
1112 Manatee Ave. West, 8<sup>th</sup> Floor  
Suite 803  
Bradenton, FL 34205

**RE: REQUEST FOR PROPOSAL NO. 11-1065FL  
ODOR AND CORROSION CONTROL SERVICES**

Dear Mr. Lambertson:

Siemens sincerely appreciates the opportunity to participate in the above-referenced Request for Proposal. Siemens provides odor and corrosion control products and services to water and wastewater utilities around the world from our Municipal Services Group headquarters right here in Manatee County. We are pleased to be a valued partner of our hometown utility and we are proud to be a part of what makes Manatee County such a great place to live.

The past four years have been economically challenging for residents of Manatee County and for Manatee County Government. Siemens is dedicated to finding answers to the world's toughest challenges, and we have done that right here at home in Manatee County. As we have continued to develop and improve our technology portfolio, we have been able to lower Manatee County's costs while maintaining or improving the level of service we provide. In 2008 Siemens provided odor and corrosion control services at 71 pump station and treatment plant locations throughout the County at a total annual cost of \$2,221,000. In 2011 we are providing services at 74 locations and our total annual cost based on this proposal is \$2,130,000. This is an 8% reduction in treatment cost per site. Some of the initiatives we have used to achieve these results are:

- Expanded use of improved biological odor control systems which eliminate the use of costly chemicals. This also reduces the carbon footprint associated with manufacture and transportation of those chemicals.
- Use of Bioxide® Plus 71 technology. This technology provides the same odor and corrosion benefits as Siemens' Bioxide® at a reduced feed rate. It also reduces the accumulation of fats, oils, grease, and other floatables in pump station wet wells. Cost of odor treatment is reduced, frequency and cost of wet well cleaning is reduced, and the carbon footprint associated with chemical deliveries and vacuum trucks for cleaning is reduced.
- Expanded use of PRI-SC® technology, an innovative application of iron salts and hydrogen peroxide together which provides very cost-effective treatment in certain hydraulic conditions.

- Use of VaporLink<sup>sm</sup> technology which provides *continuous* monitoring of odorous gas levels at specific sites in the County. This data is uploaded to a website which is accessible by Siemens and County personnel and which provides e-mail and cell phone alarms if odor setpoints are exceeded.

Since our last proposal in 2007 material costs have continued to increase, yet we have been able to reduce the County's per-site treatment cost by 8% through development and application of technology. As in 2007, the pricing we have proposed includes a volume discount off of our list pricing, based on our sales volume with the County. Based on current Manatee County expenditures with Siemens, the County's volume is over double that which is required to remain in the pricing range proposed. However, in the event the County's volume should drop below the threshold values, additional surcharges would apply. Please see Section 13, Cost Summary, for details.

The Request for Proposal document has no pre-defined contract term. Siemens proposes that the contract be subject to indefinite annual renewals by mutual consent of both parties with contract prices adjusted at renewal as required by market conditions and with mutual agreement of both parties.

For over 29 years Siemens has successfully helped Manatee County control wastewater odors and protect wastewater infrastructure from corrosion. Together, our prompt and thorough response to odor and corrosion issues has maintained customer and neighbor satisfaction and protected the integrity of the wastewater collection system.

Thanks again for the opportunity to be of service, Mr. Lambertson. We eagerly look forward to a continued partnership with Manatee County. Should you have any questions regarding our proposal or if I can be of assistance in any way, please do not hesitate to call me at 928-0453.

Sincerely,

**Siemens Industry, Inc.**



Vaughan Harshman, P.E.  
Sales Representative

Encl.

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## Minimum Qualifications / Company Summary

Siemens is the one company focused on complete odor and corrosion control for the Municipal Wastewater Treatment industry. Our proposed program will use both liquid-phase and vapor-phase technologies to treat each odor and/or corrosion problem in the Manatee County Wastewater System with the appropriate balance of effectiveness and cost. Our local service and emergency response team will ensure that odor problems are addressed 24 hours a day, 365 days a year.

Since our company was founded in 1976 as a division of Davis Water and Waste Industries our primary focus has been odor and corrosion control. While other companies focus on specific technologies or technology groups for odor and corrosion control, we have continuously assembled, improved, and refined a broad technology and product offering with the goal of solving *any* wastewater odor problem effectively and with maximum cost-efficiency. Coupled with our offering of technologies and products is a commitment to service that is un-matched in the industry. Our goal is not to simply deliver a specific product or service to our customers, but to become a partner with our customers working to ensure that their phone does not ring with odor complaints. As you review our proposal, please note the following highlights of our offering:

### Experience and Knowledge

- Siemens has been in the wastewater odor control business for over 34 years.
- The Siemens team assembled specifically to service Manatee County has combined experience of over 100 years in odor and corrosion control.
- Two of the primary Siemens technical and managerial staff involved with Manatee County are Professional Engineers registered in the State of Florida (Vaughan Harshman, P.E. and Tom Corley, P.E.).
- Siemens is recognized by our peers in the industry for our odor and corrosion control expertise. In recent years two leading periodicals in the wastewater industry published feature articles on comprehensive, multi-technology odor and corrosion control strategies; the same approach used by Manatee County. Both of these periodicals turned to Siemens' expertise in this area. In 2007 Water Environment and Technology published a feature article on the Odor Control business and Mr. Harshman was one of a few industry experts the magazine sought out to interview. A copy of this article is included in the Appendices of our proposal.
- Siemens participates in odor and corrosion control industry groups on a regional and national level. Vaughan Harshman, P.E., is an active member of the FWEA and WEF Air Quality Committees.

- Siemens Municipal Services Group has provided products and services to communities on the west coast of Florida since our inception in 1976. We have worked closely with Manatee County Utilities for over 29 years. We understand that odor and corrosion in wastewater systems are affected by topography, temperature, water quality, population density, and population fluctuation and we understand the conditions and challenges that are unique to this region and to your system in particular.
- Siemens pioneered the Full-Service system-wide approach to odor and control. We have provided this type of program to Manatee County and to numerous customers throughout Florida and the United States, as you will see in our enclosed reference list.

### Service

- Siemens has conducted corrosion control studies for municipalities throughout the United States. A recent technical paper from one study is included in the Appendix of this proposal. All products utilized by Siemens for Manatee County will be provided by Siemens directly. Siemens is the Original Equipment Manufacturer of all equipment proposed for use in this contract. Siemens will not sub-contract any portion of the equipment supply or service. All of our service personnel are factory-trained in our own factory.
- All Siemens personnel involved with Manatee County are based in the Manatee/Sarasota area. Our staff is a minimum of three-deep in backup personnel in all aspects of executing your program (field service, engineering, management), with team members based in the Manatee/Sarasota area.
- The Headquarters for Siemens Odor Control Group are located in Manatee County. In addition to the extensive list of personnel specifically assigned to the Manatee County program, an extensive and experienced technical, engineering, and management staff is based in this facility and would be immediately available to Manatee County in any emergency situation.

### Technology

- Siemens possesses the most comprehensive and complete selection of odor and corrosion control technologies available. All technologies and products are provided and manufactured by Siemens directly, eliminating any bias for or against technologies or approaches that may involve "outside" firms or sub-contractors.
- Siemens is the only company that can offer the proprietary Bioxide® Plus 71 process for application of nitrate salts. Nitrate application is the County's preferred non-hazardous, liquid-phase technology.
- Siemens offers the most concentrated forms of environmentally friendly non-hazardous nitrate, reducing liquid volume and truck traffic for deliveries.

- Siemens is offering a complete selection of additional technologies including enhanced Bioxide<sup>®</sup> products, iron-based products, hydrogen peroxide, and PRI-SC<sup>®</sup>.
- Siemens is the only company with MIDAS<sup>®</sup> OCM, an ultra-high capacity activated carbon for sulfide and odor control.
- With the biofilter systems included in our proposal Siemens pioneered the application of multi-stage, multi-media biofilters for maximum effectiveness and redundancy.
- Siemens pioneered multi-stage chemical scrubbing with the Poly-Stage<sup>™</sup> and LO/PRO<sup>®</sup> systems, both of which are included in our proposal. These systems reduce operating cost, increase redundancy, and increase effectiveness over conventional single-stage chemical scrubbers.

## REQUEST FOR PROPOSAL #11-1065FL ODOR AND CORROSION CONTROL SERVICES

Manatee County, a political subdivision of the State of Florida (hereinafter "Manatee County" or the "County") will receive proposals from individuals, corporations, partnerships, and other business entities authorized to do business in the State of Florida, for the purpose of providing odor and corrosion control services.

**DEADLINE FOR CLARIFICATION REQUESTS:** Friday, June 10, 2011 at 5:00 PM shall be the deadline to submit all inquiries, suggestions, or requests concerning interpretation, clarification or additional information pertaining to this Request For Proposals to the Manatee County Purchasing Office. This deadline has been established to maintain fair treatment for all potential bidders or proposers, while ensuring an expeditious transition to a final agreement.

**TIME AND DATE DUE:** Proposals will be received until 4:00 PM on, Tuesday, June 28, 2011, at which time they will be publicly opened. All interested parties are invited to attend this opening.

### CONTENTS OF THIS REQUEST FOR PROPOSAL:

Section A: Information to Proposers	pages 2 - 8
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Drug Free Work Place Certification	Attachment B

**Important note: A prohibition of Lobbying is in place. Please review paragraph A.17 carefully to avoid violation and possible sanctions.**

### FOR INFORMATION CONTACT:

Frank Lambertson, Contracts Negotiator, PHONE (941)749-3042, FAX (941)749-3034  
frank.lambertson@mymanatee.org  
Manatee County, Financial Management Department, Purchasing Division

AUTHORIZED FOR RELEASE: 



REQUEST FOR PROPOSAL #11-1065FL  
Odor and Corrosion Control Services

SECTION A: INFORMATION TO PROPOSERS

PROPOSERS MUST COMPLY WITH THE FOLLOWING INSTRUCTIONS TO BE CONSIDERED FOR SELECTION:

A.01 OPENING LOCATION

Proposals will be publicly opened at Manatee County Purchasing, 1112 Manatee Avenue West, 8th Floor, Suite 803, Bradenton, Florida 34205 in the presence of County officials at the time and date stated on the cover sheet. All proposers or their representatives are invited to attend.

A.02 PROPOSAL INFORMATION AND PROPOSAL DOCUMENTS

**Bids and Proposals** on <http://www.mymanatee.org>

Bid or Proposal documents and the Notices of Source Selection related to those Bids or Proposals are available for download in a portable document format (.PDF) file on the Manatee County web page on the Purchasing tab under "Bids and Proposals". You may view and print these files using Adobe Acrobat software. You may download a free copy of this software (Adobe) from the County's web page if you do not have it.

**Manatee County collaborates with the Manatee Chamber of Commerce** on distributing solicitations using the RFP Tool web page on the Chambers website: <http://www.Manateechamber.com> to post Bid and Proposal documents in a portable document format (.PDF) file. This step is in addition to the posting on Manatee County Government web pages.

Manatee County may also use an internet service provider to distribute Bids and Proposals. A link to that service <http://www.DemandStar.com>, is provided on this website under the Tab "DemandStar". Participation in the DemandStar system is not a requirement for doing business with Manatee County.

Note: The County posts the **Notice of Source Selection** seven (7) calendar days prior to COMMENCING NEGOTIATIONS with the selected firms.

IT IS THE RESPONSIBILITY OF EACH PROPOSER, PRIOR TO SUBMITTING THEIR PROPOSAL, TO CONTACT THE MANATEE COUNTY PURCHASING OFFICE (see contact information on page one of this document) TO DETERMINE IF ADDENDA WERE ISSUED AND TO MAKE SUCH ADDENDA A PART OF THEIR PROPOSAL.

**A.03 REQUIREMENTS FOR FORMAT AND DELIVERY OF PROPOSALS**

Any proposals received after the stated time and date will not be considered. It shall be the sole responsibility of the proposer to have their proposal delivered to the Manatee County Purchasing office for receipt on or before the stated time and date. If a proposal is sent by U.S. Mail, the proposer shall be responsible for its timely delivery to the Purchasing Office. Proposals delayed by mail shall not be considered, shall not be opened at the public opening, and arrangements shall be made for their return at the proposer's request and expense.

Proposals must be submitted in the format specified in Section B hereof. The contents of each proposal shall be **separated and arranged with tabs in the same order as listed in the Subsections within Section B** identifying the response to each specific item thereby facilitating expedient review of all responses.

**A.04 CLARIFICATION & ADDENDA**

Each proposer shall examine all Request For Proposal documents and shall judge all matters relating to the adequacy and accuracy of such documents. Any inquiries, suggestions or requests concerning interpretation, clarification or additional information pertaining to the Request For Proposal shall be made in writing through the Manatee County Purchasing Office. The County shall not be responsible for oral interpretations given by any County employee, representative, or agent. The issuance of a written addendum by the Purchasing Official's Office is the only official method whereby interpretation, clarification or additional information can be given.

Addenda shall be posted on <http://www.mymanatee.org>

It shall be the responsibility of each proposer, prior to submitting their proposal, to contact the Manatee County Purchasing Office at (941)748-4501, ext. 3042 to determine if addenda were issued and to make such addenda a part of the proposal.

**DEADLINE FOR CLARIFICATION REQUESTS**

Friday, June 10, 2011 at 5:00 PM shall be the deadline to submit all inquiries, suggestions, or requests concerning interpretation, clarification or additional information pertaining to this Request For Proposals to the Manatee County Purchasing Office.

This deadline has been established to maintain fair treatment for all potential bidders or proposers, while ensuring an expeditious transition to a final agreement.

**A.05 SEALED & MARKED**

**One signed Original (please mark the original) and Four (4) copies** of your proposal shall be submitted in one sealed package, clearly marked on the outside "**Sealed Proposal #11-1065FL**" and addressed to:

Manatee County Purchasing  
1112 Manatee Avenue West, Suite 803  
Bradenton, FL 34205

**A.06 LEGAL NAME**

Proposals shall clearly indicate the legal name, address, email and telephone number of the proposer (company, firm, partnership, individual). Proposals shall be signed above the typed or printed name and title of the signer. The signer must have the authority to bind the proposer to the submitted proposal.

**A.07 PROPOSAL EXPENSES**

All expenses for making proposals to the County are to be borne by the proposer.

**A.08 EXAMINATION OF PROPOSAL**

The examination of the proposal and the proposer generally requires a period of not less than ninety (90) calendar days from the date of the opening of the proposals.

**A.09 DISCLOSURE**

Proposals become "Public Records" ten (10) days after the proposal opening or if an award decision is made earlier than this time as provided by Florida Statute 119.071 (1) (b). **No review of the proposal documents shall be conducted at the public opening of the proposals.**

Manatee County will make public at the opening, the names of the business entities that submitted an offer and any amount presented as offers without any verification of the mathematics or the completeness of the offer.

**A.10 ERRORS OR OMISSIONS**

Once a proposal is submitted, the County shall not accept any request by any proposer to correct errors or omissions in the proposal.

A.11 RESERVED RIGHTS

The County reserves the right to accept or reject any and/or all proposals, to waive irregularities and technicalities, and to request resubmission. Any sole response received by the first submission date may or may not be rejected by the County, depending on available competition and timely needs of the County. The County reserves the right to award the contract to a responsible proposer submitting a responsive proposal, with a resulting negotiated agreement which is most advantageous and in the best interests of the County. The County shall be the sole judge of the proposal, and the resulting negotiated agreement that is in its best interest and its decision shall be final. Also, the County reserves the right to make such investigation as it deems necessary to determine the ability of any proposer to perform the work or service requested. Information the County deems necessary to make this determination shall be provided by the proposer. Such information may include, but shall not be limited to: current financial statements prepared by an independent CPA; verification of availability of equipment and personnel; and past performance records.

A.12 APPLICABLE LAWS

Proposer must be authorized to transact business in the State of Florida. All applicable laws and regulations of the State of Florida and ordinances and regulations of Manatee County will apply to any resulting agreement. Any involvement with any Manatee County procurement shall be in accordance with Manatee County Code of Laws Chapter 2-26, as amended. Procedures and deadlines concerning protests related to this Request For Proposals shall be those which are set forth in §2-26-61 of the County Code.

A.13 CODE OF ETHICS

With respect to this proposal, if any proposer violates or is a party to a violation of the Code of Ethics of Manatee County per Manatee County Code of Laws, Article III, Ethics in Public Contracting, and/or Florida criminal or civil laws related to public procurement including but not limited to Florida Statutes Chapter 112, Part II, Code of Ethics for Public Officers and Employees, such proposer may be disqualified from performing the work described in this proposal or from furnishing the goods or services for which the proposal is submitted and shall be further disqualified from submitting any future proposals for work or for goods or services for Manatee County.

The County presumes that all statements made and materials submitted in a proposal will be truthful. If a proposer is determined to be untruthful in its proposal or any related presentation, such proposer may be disqualified from further consideration regarding this Request for Proposals.

A.14 COLLUSION

By offering a submission to this Request For Proposal the proposer certifies the proposer has not divulged to, discussed or compared his proposal with other proposers and has not colluded with any other proposer or parties to this proposal whatsoever. Also, the proposer certifies, and in the case of a joint proposal, each party thereto certifies, as to their own organization that in connection with this proposal:

- a. any prices and/or data submitted have been arrived at independently, without consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices and/or cost data, with any other proposer or with any competitor;
- b. any prices and/or cost data quoted for this proposal have not been knowingly disclosed by the proposer prior to the scheduled opening directly or indirectly to any competitor;
- c. no attempt has been made or will be made by the proposer to induce any other person or firm to submit or not to submit a proposal for the purpose of restricting competition;
- d. the only person or persons interested in this proposal as principal or principals is/are named therein and that no person other than therein mentioned has any interest in this proposal or in the contract to be entered into; and
- e. no person or agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees.

A.15 PUBLIC ENTITY CRIMES

In accordance with Section 287.133, Florida Statutes, a person or affiliate who has been placed on the convicted proposer list following a conviction for a public entity crime may not submit a proposal on a contract to provide any goods or services to a public entity, may not submit a proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit proposals on leases or real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 for Category Two for a period of 36 months from the date of being placed on the convicted proposer list.

A.15 PUBLIC ENTITY CRIMES continued

In addition, Manatee Code of Laws Chapter 2-26 Article V prohibits the award of County contracts to any person or entity who/which has, within the past 5 years, been convicted of, or admitted to in court or sworn to under oath, a public entity crime or of any environmental law that, in the reasonable opinion of the purchasing official, establishes reasonable grounds to believe the person or business entity will not conduct business in a reasonable manner.

To ensure compliance with the foregoing, the Code requires all persons or entities desiring to contract with the County to execute and file with the purchasing official an affidavit, executed under the pain and penalties of perjury, confirming that person, entity, and any person(s) affiliated with the entity, does not have such a record and is therefore eligible to seek and be awarded business with the County. **Proposer is to complete Attachment "A"**

A.16 DRUG FREE WORKPLACE

Drug Free Workplace Program: Manatee County has adopted a policy requiring Contractors to maintain a Drug Free Workplace (Resolution R-93-22). Proposers are asked to review the attached Resolution and provide either a certification of compliance with the program outlined in this Resolution or describe your firm's policy or program as it relates to maintaining a drug free workplace. This response will be considered with the other criteria described herein. **Proposer to complete Attachment "B"**

A.17 LOBBYING

After the issuance of any Request For Proposals, prospective proposers or any agent, representative or person acting at the request of such proposer shall not contact, communicate with or discuss any matter relating in any way to the Request For Proposals with any officer, agent or employee of Manatee County other than the Purchasing Official or as directed in the Request For Proposals. This prohibition begins with the issuance of any Request For Proposals and ends upon an award of the final contract, when all solicitations have been rejected, or when the request has been canceled. Violators of this prohibition shall be subject to sanctions as provided in the Manatee County Code of Law Chapter 2-26.

A.18 EQUAL EMPLOYMENT OPPORTUNITY

Manatee County, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 and the Regulations of the Department of Commerce (15 CFR, Part 8) issued pursuant to such Act, hereby notifies all prospective proposers that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, women or minority business enterprises will be afforded full opportunity to participate in response to this advertisement and will not be discriminated against on the grounds of race, color, creed, sex, age or national origin in consideration for an award.

A.19 AMERICANS WITH DISABILITIES ACT

The Board of County Commissioners of Manatee County, Florida, does not discriminate upon the basis of any individual's disability status. This non-discrimination policy involves every aspect of the County's functions including one's access to, participation, employment, or treatment in its programs or activities. Anyone requiring reasonable accommodation for the **public meetings** specified herein (i.e. Information Conference or Proposal Opening), should contact the person named on the first page of this document at least twenty four (24) hours in advance of the activity to request accommodations.

## SECTION B: FORM OF PROPOSAL

This section identifies specific evaluation factors which are to be given written responses. The contents of each proposal shall be **separated** and **arranged with tabs** in the same order as listed in Sections B.01 through B.03, identifying the response to each specific item.

The information that Proposers provide shall be used to determine whether the Proposer has the ability to perform the Scope of Services as stated in this Request for Proposal in a way which best meet the needs of Manatee County. A review with those Proposers reasonably susceptible of being selected for award may be conducted for the purposes of clarification of both ability and benefit to Manatee County. See Section C. Selection.

### B.01 MINIMUM QUALIFICATIONS

The Proposer must have completed a minimum of at least two (2) years of full-time experience providing odor and control services and be licensed under appropriate state, county, and city laws.

### B.02 ADMINISTRATIVE SUBMITTAL

- a. Proposal Signature Form.
- b. Public Contracting and Environmental Crimes Certification (Attachment A).
- c. Drug Free Work Place Certification (Attachment B).

### B.03 INFORMATION TO BE SUBMITTED

- a. Describe the Proposer's legal status, background, size, and history; include how long the proposed team has worked together performing this type of service. If relying on an acquisition or merger to meet the minimum qualifications, Proposer must identify the acquisition or merger and clearly explain how the minimum qualifications are met.
- b. Identify the names of the individuals of the Proposer's service provision team. Describe the qualifications, credentials and relevant experience of the team.
- c. Submit a manning level statement for your organization, detailing how many total employees work for your firm. List the temporary, seasonal, and part-time employees by number or ratio.
- d. Provide at least five (5) references with knowledge of your firm's performance providing similar services. List the names of senior level employees, the name of the entity, the dates of service, and the contact's active and viable telephone numbers.



- e. Provide a list of contracts, with name and addresses, that your firm has lost within the past three (3) years and state the reason for the loss.
- f. Submit a narrative explaining the direct economic benefit to Manatee County to be realized by selecting your firm. During the term of this engagement detail the revenue maximizing activities, employment, subcontracting, and support services contracting as economic stimulus that your entity may generate that would directly benefit Manatee County.
- g. Describe the latest processes used that are technically proven and most cost effective means possible.
- h. Discuss your service/maintenance program.
- i. Provide sample reports of odor and control analysis performed by your firm.
- j. The proposer shall provide a detailed description of their safety plan to control the environment of the work-site during on-site operations.
- k. A list of all warning notices and agreed upon consent actions levied against facilities within the State of Florida within the last three (3) years you were responsible for.
- m. Submit a cost summary for services include: labor rates; equipment/rental equipment; and required chemicals.
- n. Submit any other additional information which would assist the County in the evaluation of your proposal.
- o. Submit chemical reaction formulas for each product used to reduce H<sub>2</sub>S?
- p. Submit any other additional information which would assist the County in the evaluation of your proposal.

**NOTE:** The County reserves the right to make such investigation and solicit additional information or submittals as it deems necessary to determine the ability of any Proposer to perform the Scope of Services stated in this Request for Proposal.

## SECTION C: SELECTION

### C.01 EVALUATION FACTORS

Evaluation factors are price and perceived ability of the proposer(s) to efficiently perform the Scope of Services as generally outlined in Section E of this Request For Proposals. The County will be seeking to identify the proposal(s) which provide the solution to provide odor and corrosion control services as determined from the responses to this Request For Proposals and subsequent investigation.

### C.02 RELATIVE IMPORTANCE OF EVALUATION FACTORS

No weight has been assigned to the Evaluation Factors stated above.

### C.03 PRELIMINARY RANKING

A Selection Committee shall determine from the responses to this Request For Proposals and subsequent investigation as necessary, the proposer(s) most susceptible of being selected for award.

### C.04 IN-PERSON REVIEW OF PROPOSERS AND PROPOSALS

In-person reviews may be conducted with responsible proposers who are deemed reasonably susceptible of being selected for award, for the purposes of assuring full understanding of (a) conformance to the solicitation requirements, (b) the abilities of the proposer, and (c) the proposal submitted.

Proposers shall be available for presentations to and interviews with the Selection Committee, upon notification from the Purchasing Office. The date(s) and time(s) of any such presentations / interviews shall be determined solely by the County.

### C.05 SELECTION FOR NEGOTIATION

The proposer(s), whose ability and proposal is determined to be the most advantageous to the County, taking into consideration the Evaluation Factors set forth in this Request For Proposals, shall be selected to negotiate an agreement for the County determined Scope of Services.

### C.06 AWARD

Award is subject to the successful negotiation of an agreement covering the services to the County.

## SECTION D: NEGOTIATION OF THE AGREEMENT

### D.01 GENERAL

The following general terms and conditions apply to the proposal submitted for consideration and the subsequent negotiations:

- a. The proposal will serve as a basis for negotiating an agreement, but not compel adherence to its terms or conditions.
- b. Upon submission, all proposals become the property of the County which has the right to use any or all ideas presented in any proposal submitted in response to this Request For Proposal whether or not the proposal is accepted.
- c. All products and papers produced in the course of this engagement become the property of the County upon termination or completion of the engagement.

### D.02 AGREEMENT

The selected proposer shall be required to negotiate an agreement, in a form and with provisions acceptable to Manatee County.

The Purchasing Official will be presented the negotiated agreement as a best offer for consideration of award. The Purchasing Official shall determine whether to (a) accept the recommended award and approve the execution of an agreement, (b) reject the recommended award and direct further negotiations, or (c) reject the recommended award and direct the termination of negotiations.

## SECTION E: SCOPE OF SERVICES

### E.01 GENERAL OVERVIEW

The intent of the Request for Proposal and resulting contract is to obtain a Proposer to provide Odor and Corrosion Control Services for the Manatee County Utilities Department, Lift Station and Treatment Plants Divisions. The Proposer shall furnish the necessary personnel, materials, supplies, transportation, services and otherwise do all things necessary to provide Odor and Corrosion Control Services. The Proposer shall provide specific odor/corrosion treatment, related wastewater treatment plant issues/costs, establishing objectives and monitoring programs for odor/corrosion control treatment.

### E.02 GENERAL REQUIREMENTS

- a. Proposer shall provide the latest technically proven and most cost effective means of treatment possible. Proposer shall provide problem definition, treatment selection and ongoing monitoring process.
- b. Proposer shall establish a monthly communication link with County personnel as determined by the Wastewater Division Manager. The County shall have final approval of ongoing odor/corrosion control planning and adjustment process as wastewater collection/treatment systems continue to expand.
- c. Proposer shall, based upon treatment and budgetary objectives established by the Utilities Department, refine and adjust the existing odor/corrosion control program. The program shall include but not be limited to expanding services to wastewater treatment plants and designated pumping stations, adjusting the combination of current odor/corrosion products, and pilot testing additional treatment techniques as particular situations dictates alternative techniques and more cost effective programs.
- d. Proposer shall provide a service/maintenance program to include routine gathering of dissolved and atmospheric hydrogen sulfide data using portable and fixed devices at key monitoring points. The extent of the data collection will be approved by the Wastewater Division Manager and followed with regular written reports to the County. Proposer shall provide services that include traffic control, safety measures for both the public and workers, and shall coordinate all scheduling with County approval. Proposer shall have personnel available 24 hours-a-day, 7-days-a-week to respond to odor complaints and odor control equipment failures. Proposer shall respond within one hour of being notified of any odor control equipment failures.

- e. Proposer shall have the capability to provide continuous hydrogen sulfide monitoring for key odor and corrosion control points as identified by the County. The monitors shall record hydrogen sulfide at least once every five minutes. Recorded data shall be made available to the County within 24 hours, and shall automatically upload all recorded data to a website at least once every 24 hours.
- f. Upon authorization by the County, the Proposer shall be capable of installing temporary odor control systems within two days of notification to proceed.
- g. Proposer shall provide an introductory and organizational seminar regarding its services and staff members to the County representatives within thirty (30) days after contract award.
- h. The Proposer shall hold at least one (1) yearly workshop for County employees at a County designated location to describe the latest techniques in the odor and corrosion control treatment. An agenda and detailed outline of topics for the workshop shall be provided to the County at least thirty (30) days prior to each workshop as agreed to by the County.
- i. The Proposer shall work with the County in establishing priorities in performing all work. Proposer shall respond to all calls of odor complaints within two (2) hours.
- j. The Proposer shall be completely responsible for the control of the environment of the work site during on-site operations. All precautions shall be taken by the Proposer to protect the workers, public and County staff from any exposure to harmful or hazardous substances within the sewer system and from dangerous work materials and equipment.
- k. Proposer shall be fully responsible for the operation of their vehicles and handling of all materials related to the odor and corrosion control services at all locations within the County.
- l. Proposer shall be fully responsible for conforming to any and all requirements regarding handling, hauling, spill reporting and disposal of chemicals for the control services provided at each County work site in accordance with OSHA regulations and those that may be mandated by Federal or State Governments.

- m. Proposer shall prepare an annual report detailing the ongoing odor and corrosion control treatment program and any specific odor and control analysis that has been performed.
- n. Proposer shall inform the County of its planned work schedule and shall afford the County reasonable opportunity to observe and inspect the Proposer's work in progress.
- o. The Proposer shall provide a safety seminar every six (6) months to selected County employees describing all safety precautions necessary for odor and corrosion control chemicals that are in use and copies of MSDS sheets for those chemicals

**PROPOSAL SIGNATURE FORM**  
RFP #11-1065FL

SIEMENS INDUSTRY, INC.  
Firm Name

Mailing Address:

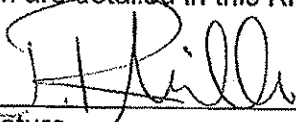
jennifer.r.miller@siemens.com  
Email

2650 TALLEVAST ROAD

(941) 359-7930  
Telephone Number

SARASOTA, FL 34243  
City, State, Zip Code

The undersigned attests to his or her authority to submit this proposal and to bind the firm herein named to perform the services offered in a two party agreement. If the firm is selected by the County the undersigned certifies that he/she will negotiate in good faith to establish odor and corrosion control services and as may be determined by the County which are detailed in this RFP #11-1065FL.

  
Signature

  
Witness Signature

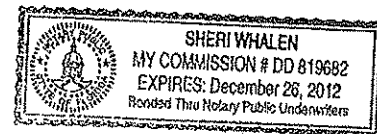
Date: 6/28/11

Date: 6/28/11

JENNIFER R. MILLER, V.P. & GEN MGR  
Name and Title of Above Signer

SHERI WHALEN, NOTARY PUBLIC STATE OF FL  
Name and Title of Above Signer

VAUGHAN HARSHMAN, SALES REPRESENTATIVE  
Name and Title of Firm's Representative for Manatee County



james.v.harshman@siemens.com  
Email for Firm's Representative for Manatee County

(941) 928-0453  
Telephone Number of Firm's Representative for Manatee County

ATTACHMENT "A"

PUBLIC CONTRACTING AND ENVIRONMENTAL CRIMES CERTIFICATION

SWORN STATEMENT PURSUANT TO  
MANATEE COUNTY CODE OF LAW

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

This sworn statement is submitted to the Manatee County Board of County Commissioners by JENNIFER R. MILLER;  
[print individual's name and title]

V.P. & GEN. MGR for SIEMENS INDUSTRY, INC.  
[print name of entity submitting sworn statement]

whose business address is: 2650 TALLEVAST ROAD, SARASOTA, FL 34243

and (if applicable) its Federal Employer Identification Number (FEIN) is 13-2762488. If the entity has no  
FEIN, include the Social Security Number of the individual signing this sworn statement: --

I understand that no person or entity shall be awarded or receive a county contract for public improvements, procurement of goods or services (including professional services) or a county lease, franchise, concession or management agreement, or shall receive a grant of county monies unless such person or entity has submitted a written certification to the County that it has not:

- (1) been convicted of bribery or attempting to bribe a public officer or employee of Manatee County, the State of Florida, or any other public entity, including, but not limited to the Government of the United States, any state, or any local government authority in the United States, in that officer's or employee's official capacity; or
- (2) been convicted of an agreement or collusion among bidders or prospective bidders in restraint of freedom of competition, by agreement to bid a fixed price, or otherwise; or
- (3) been convicted of a violation of an environmental law that, in the sole opinion of the County's Purchasing Director, reflects negatively upon the ability of the person or entity to conduct business in a responsible manner; or
- (4) made an admission of guilt of such conduct described in items (1), (2) or (3) above, which is a matter of record, but has not been prosecuted for such conduct, or has made an admission of guilt of such conduct, which is a matter of record, pursuant to formal prosecution. An admission of guilt shall be construed to include a plea of nolo contendere; or
- (5) where an officer, official, agent or employee of a business entity has been convicted of or has admitted guilt to any of the crimes set forth above on behalf of such an entity and pursuant to the direction or authorization of an official thereof (including the person committing the offense, if he is an official of the business entity), the business shall be chargeable with the conduct herein above set forth. A business entity shall be chargeable with the conduct of an affiliated entity, whether wholly owned, partially owned, or one which has common ownership or a common Board of Directors. For purposes of this Form, business entities are affiliated if, directly or indirectly, one business entity controls or has the power to control another business entity, or if an individual or group of individuals controls or has the power to control both entities. Indicia of control shall include, without limitation, interlocking management or ownership, identity of interests among family members, shared organization of a business entity following the ineligibility of a business entity under this Article, or using substantially the same management, ownership or principles as the ineligible entity.



Any person or entity who claims that this Article is inapplicable to him/her/it because a conviction or judgment has been reversed by a court of competent jurisdiction, shall prove the same with documentation satisfactory to the County's Purchasing Director. Upon presentation of such satisfactory proof, the person or entity shall be allowed to contract with the County.

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR MANATEE COUNTY IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT ANY CONTRACT OR BUSINESS TRANSACTION SHALL PROVIDE FOR SUSPENSION OF PAYMENTS, OR TERMINATION, OR BOTH, IF THE CONTRACTING OFFICER OR THE COUNTY ADMINISTRATOR DETERMINES THAT SUCH PERSON OR ENTITY HAS MADE FALSE CERTIFICATION.

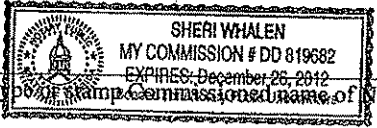
J. Miller  
[Signature]

STATE OF FLORIDA  
COUNTY OF MANATEE

Sworn to and subscribed before me this 28 day of JUNE, 2011 by JENNIFER R. MILLER

Personally known X OR Produced identification \_\_\_\_\_  
[Type of identification]

Sheri Whalen  
Notary Public Signature My commission expires 12/26/12



[Print, type name of Notary Public]

**Signatory Requirement** - In the case of a business entity other than a partnership or a corporation, this affidavit shall be executed by an authorized agent of the entity. In the case of a partnership, this affidavit shall be executed by the general partner(s). In the case of a corporation, this affidavit shall be executed by the corporate president.

## ATTACHMENT "B"

### Drug Free Work Place Certification

SWORN STATEMENT PURSUANT TO RESOLUTION R-93-22, ON DRUG FREE WORK PLACES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

This sworn statement is submitted to the Manatee County Board of County Commissioners by:

JENNIFER R. MILLER, V.P. & GEN MGR for SIEMENS INDUSTRY, INC.  
[print individual's name and title] [print name of entity submitting sworn statement]

whose business address is: 2650 TALLEVAST ROAD, SARASOTA, FL 34243

and (if applicable) its Federal Employer Identification Number (FEIN) is 13-2762488 (if the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: ---)

I understand that no person or entity shall be awarded or receive a county contract for public improvements, procurement of goods or services (including professional services) or a county lease, franchise, concession or management agreement, or shall receive a grant of county monies unless such person or entity has submitted a written certification to the County that it will provide a drug free work place by:

(1) providing a written statement to each employee notifying such employee that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance as defined by §893.02(4), Florida Statutes, as the same may be amended from time to time, in the person's or entity's work place is prohibited specifying the actions that will be taken against employees for violation of such prohibition. Such written statement shall inform employees about:

- (i) the dangers of drug abuse in the work place;
- (ii) the person's or entity's policy of maintaining a drug free environment at all its work places, including but not limited to all locations where employees perform any task relating to any portion of such contract, business transaction or grant;
- (iii) any available drug counseling, rehabilitation, and employee assistance programs; and
- (iv) the penalties that may be imposed upon employees for drug abuse violations.

(2) Requiring the employee to sign a copy of such written statement to acknowledge his or her receipt of same and advice as to the specifics of such policy. Such person or entity shall retain the statements signed by its employees. Such person or entity shall also post in a prominent place at all of its work places a written statement of its policy containing the foregoing elements (i) through (iv).

(3) Notifying the employee in the statement required by subsection (1) that as a condition of employment the employee will:

- (i) abide by the terms of the statement; and
- (ii) notify the employer of any criminal drug statute conviction for a violation occurring in the work place no later than five (5) days after such a conviction.


(4) Notifying the County within ten (10) days after receiving notice under subsection (3) from an employee or otherwise receiving actual notice of such conviction.

(5) Imposing appropriate personnel action against such employee up to and including termination; or requiring such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a federal, state, or local health, law enforcement, or other appropriate agency.

(6) Making a good faith effort to continue to maintain a drug free work place through implementation of sections (1) through (5) stated above.

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR MANATEE COUNTY IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT ANY CONTRACT OR BUSINESS TRANSACTION SHALL PROVIDE FOR SUSPENSION OF PAYMENTS, OR TERMINATION, OR BOTH, IF THE CONTRACTING OFFICER OR THE COUNTY ADMINISTRATOR DETERMINES THAT:

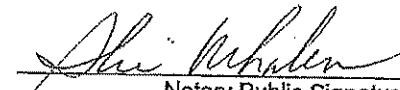
- (1) Such person or entity has made false certification.
- (2) Such person or entity violates such certification by failing to carry out the requirements of sections (1), (2), (3), (4), (5), or (6) or Resolution R-01-36 Section 4, E (1) (a) or
- (3) Such a number of employees of such person or entity have been convicted of violations occurring in the work place as to indicate that such person or entity has failed to make a good faith effort to provide a drug free work place as required by Resolution R-01-36 Section 4, E (1) (a).

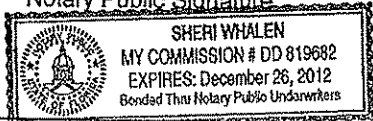
  
[Signature]

STATE OF FLORIDA  
COUNTY OF MANATEE

Sworn to and subscribed before me this 28 day of JUNE, 2011 by JENNIFER R. MILLER

Personally known XX OR Produced identification) \_\_\_\_\_  
(Type of identification)

  
Notary Public Signature My commission expires 12/26/12



[Print, type or stamp Commissioned name of Notary Public]



MANATEE COUNTY  
FLORIDA

June 14, 2011

TO: All Proposers

SUBJECT:

Request For Proposal (RFP) #11-1065FL  
Odor and Corrosion Control Services

ADDENDUM #1

The following items are issued to add to, modify and clarify the Request For Proposal document. Proposals are to be submitted on the specified time and date due, in conformance with the additions and revision listed herein.

1. Responses to the following questions:

The County will respond to the following questions by particular site as follows:

- a. How many locations are being treated?
- b. What are they currently being treated with?
- c. What are the flow rates (MGD) of the locations currently being treated?
- d. How much H<sub>2</sub>S (ppm) per locations currently being treated?
- e. How many are force mains/gravity?

**SOUTHWEST PLANT**

- a. How many locations are being treated?  
Two locations, the headworks and the gravity thickner.
- b. What are they currently being treated with?  
A 600 cfm biofilter and a 2500 cfm biofilter respectively.
- c. What are the flow rates (MGD) of the locations currently being treated?  
6 to 25 MGD avg and .05 to 0.75 MGD respectively.
- d. How much H<sub>2</sub>S (ppm) per locations currently being treated?  
Unknown.
- e. How many are force mains/gravity?  
Both are force main.

Financial Management Department

Mailing Address: P. O. Box 1000 Street Address: 1112 Manatee Avenue West, Ste. 803, Bradenton, FL 34206-1000  
WEB: [www.myanatee.org](http://www.myanatee.org) \* PHONE: 941.749.3014 \* FAX: 941.749.3034

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LARRY BUSTLE \* MICHAEL GALLEN \* JOHN R. CHAPPIE \* ROBIN DISABATINO \* DONNA HAYES \* CAROL WHITMORE \* JOE McCLASH  
District 1      District 2      District 3      District 4      District 5      District 6      District 7

### SOUTHEAST PLANT

- a. How many locations are being treated?  
One
- b. What are they currently being treated with?  
Biological and odor control system
- c. What are the flow rates (MGD) of the locations currently being treated?  
5.3 mgd.
- d. How much H2S (ppm) per locations currently being treated?  
0.
- e. How many are force mains/gravity?  
Two.

### NORTH PLANT

- a. How many locations are being treated?  
One headworks.
- b. What are they currently being treated with?  
Biological and odor control system
- c. What are the flow rates (MGD) of the locations currently being treated?  
4.1 mgd.
- d. How much H2S (ppm) per locations currently being treated?  
0.
- e. How many are force mains/gravity?  
One

### LIFT STATION

The following attached data is provided for the County's Lift Stations.

Attachment "A" – Odor Control Flow Charts (1 chart for each treatment plant)  
Attachment "B" – Post Treatment H2S  
Attachment "C" – Lift Station Spreadsheet

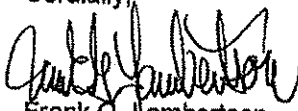
- f. What is the amount spent per year for Odor and Corrosion control programs?

\$2,400,000 (estimated)

- 2. No additional questions will be considered after the issuance of this Addendum.

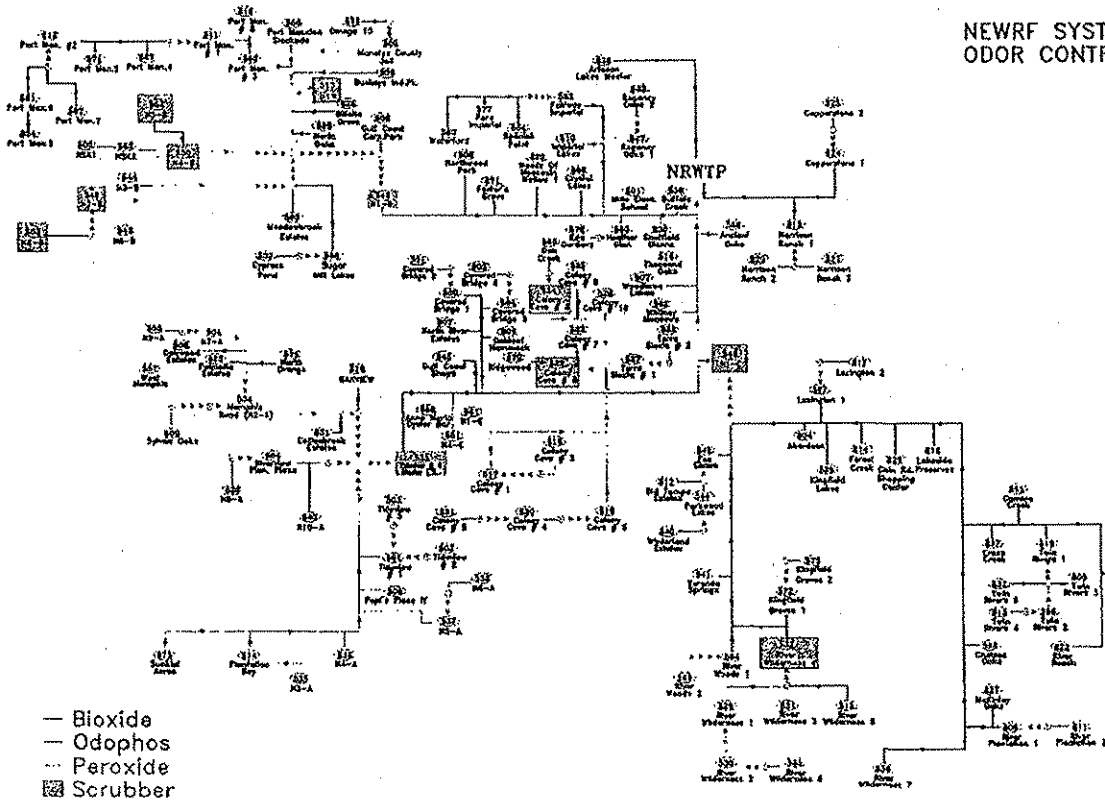
Proposals are to be prepared as instructed in this Request For Proposals and shall be received at Manatee County Purchasing Office, Suite 803, 1112 Manatee Avenue West, Bradenton, Florida, FL 34205 until 4:00 P.M., Tuesday, June 28, 2011.

Cordially,

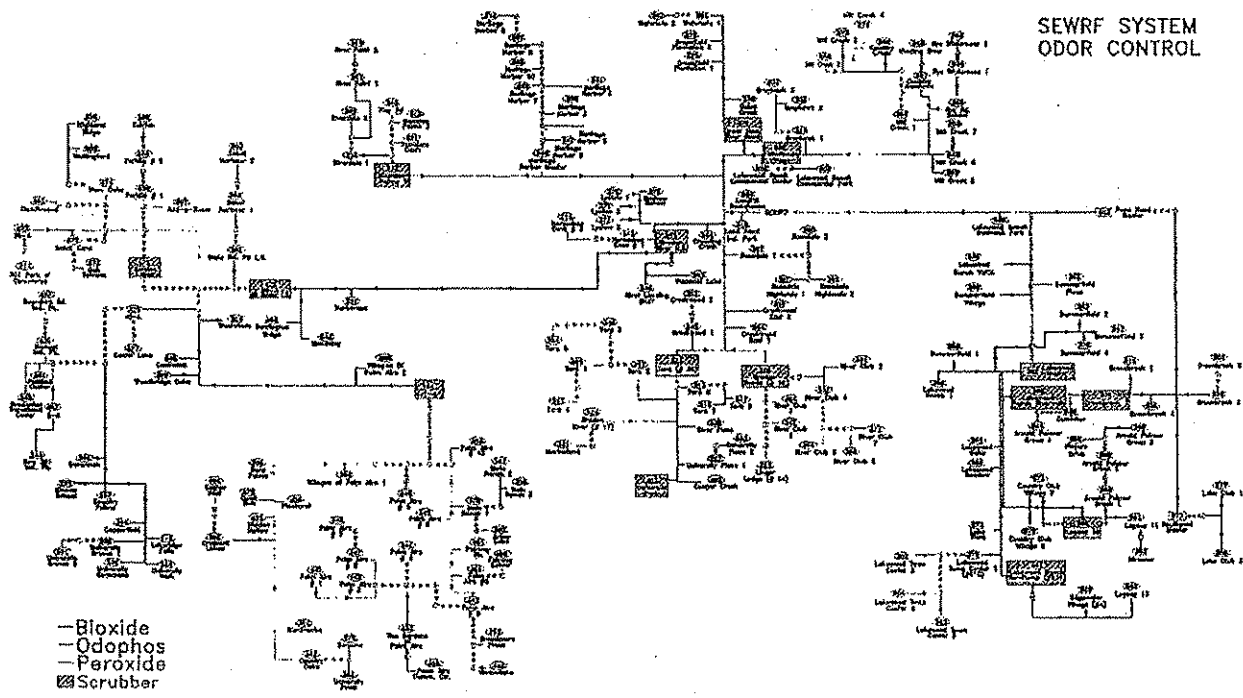
  
Frank G. Lambertson  
Contracts Negotiator

# ATTACHMENT "A"

## NEWRF SYSTEM ODOR CONTROL

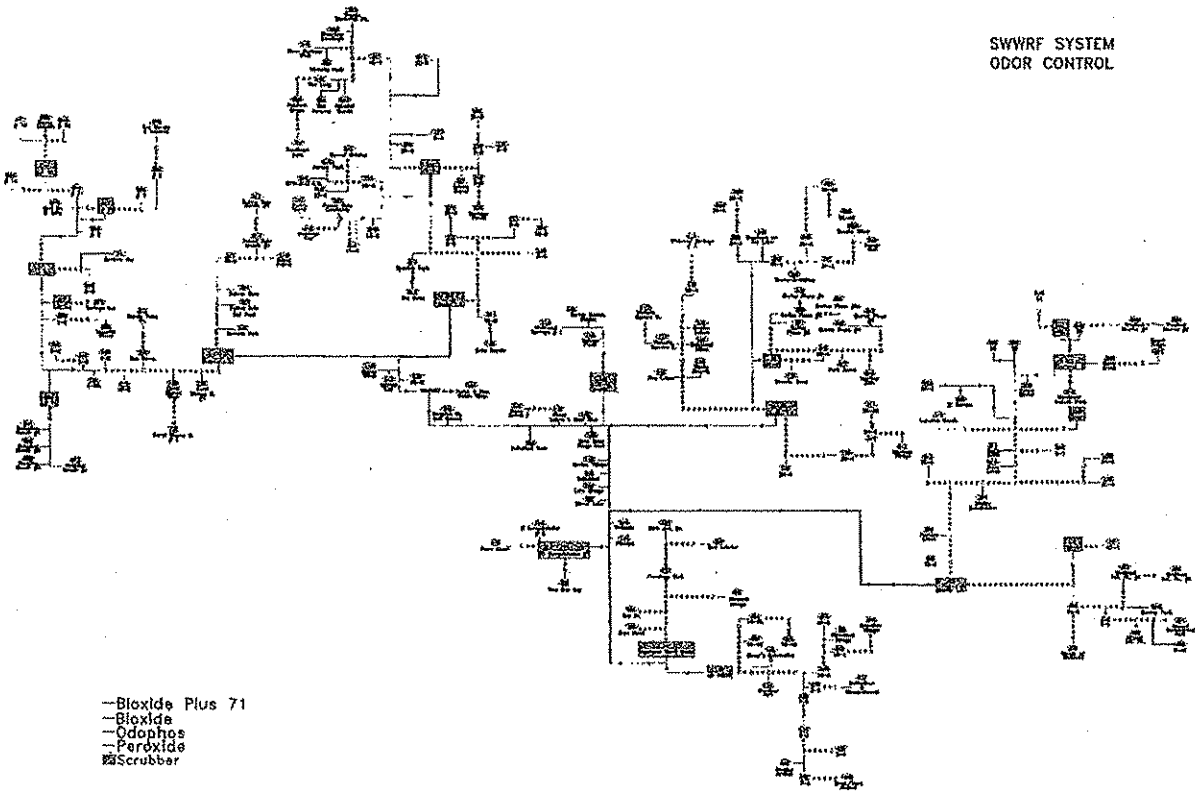


SEWRF SYSTEM  
ODOR CONTROL



- Biocide
- Odophos
- Peroxide
- ▣ Scrubber

SWWRF SYSTEM  
ODOR CONTROL



- Biocide Plus 71
- Biocide
- Odophos
- Peroxide
- ▣ Scrubber















Survey Sheet ID: 3264 Customer: [10593626] MANATEE COUNTY CLK CIR C Survey: Manatee County Southwest

Ltr Station	COG	Date	Site Hours	Time	Travel	Arrow	FS	MS	VID	FR	Level	FR	Level	FR	Level	O2	O3	FS	MS	US	MTU	NDS	ORP	pH	Temp	Mozz
					Notes	Out	(PPM)	(PPM)	Heads							Subst	PPM	Subst	Subst	Subst	Subst				YN	
10 (RTU #227)	Analysis	03/24/11	0.75	05:40 AM	4.0	216	240	✓	✓	✓			ESC-190				✓	120	✓	✓	0.2	✓	✓	✓	Y	
90 (RTU #228)	Analysis	03/24/11	0.75	06:45 AM	2.0	53	5	✓	2.10	✓						✓	30	✓	✓	✓		✓	7.04	25.3	N	
80 (RTU #229)	Analysis	03/24/11	0.25	10:30 AM	1.0	✓	✓	✓	✓	BP 71 34	BP 71 760	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	N	
120 (RTU #221)	Analysis	03/24/11	0.25	10:45 AM	1.5	✓	✓	✓	✓	Sample 15	Sample 443	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	N	
150 (RTU #218)	Analysis	03/24/11	0.5	01:15 PM	10	✓	✓	✓	✓	Colophos-24	Colophos-585	✓	✓			✓	0.0	✓	✓	✓	✓	✓	6.40	27.3	N	
FLANNING CAY (RTU #204)	Analysis	03/25/11	0.25	02:45 AM	22.5	✓	✓	✓	✓	✓	Bonde 915	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	N	
SEJANO (RTU #207)	Analysis	03/25/11	0.25	02:30 AM	0.5	✓	✓	✓	✓	✓	Bonde 225	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	N	
LS 215	Analysis	03/25/11	0.25	06:15 AM	6.0	✓	✓	✓	✓	BP 71 14	BP 71 980	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	N	
12 (RTU #58)	Analysis	03/25/11	0.5	04:30 AM	0.5	✓	✓	✓	✓	BP 71 8	BP 71 1025	✓	✓			✓	✓	✓	✓	✓	✓	✓	7.23	24.5	N	
7 (RTU #203)	Analysis	03/25/11	0.5	06:00 AM	27.5	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	N	
5 (RTU #71)	Analysis	03/25/11	2.0	08:20 AM	1.5	285	2	✓	5.0	2.23	Colophos-246	Colophos-4025	✓			✓	1.6	✓	✓	✓	✓	✓	6.59	23.8	Y	
1 (RTU #54)	Analysis	03/25/11	0.25	11:30 AM	1.5	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	N	
14	Analysis	03/25/11	1.0	12:15 PM	0.5	✓	✓	✓	✓	✓	PRISC 50 880	✓	✓			✓	4.6	✓	✓	✓	✓	✓	6.59	23.9	N	
SW 1 (RTU #305) BO-FILTER	Analysis	03/30/11	0.75	11:25 AM	0.0	2295	18	✓	10.0	1.59	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	N	
SW/WWTP HEADWORKS	Analysis	03/30/11	0.75	10:30 AM	0.0	250	4	✓	0.2	1.84	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	N	
304A (RTU #246)	Analysis	03/30/11	0.5	01:45 PM	0.5	177	5	✓	✓	✓	ESC 165	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	N	
WILDWOOD																										







# ATTACHMENT "C"

UPT STATION NAME/NO.	RTL#	WY/WT	STREET ADDRESS	GPM	ADRT	AVERAGE DAILY FLOW	FORCE MAIN SIZE	FORCE MAIN TYPE	FORCE MAIN TERMINATION LOCATION
F1	54 SW		111 8TH ST. S.	300	8.50	153,000	8" CIP		2850 45 E.M. N. SIDE OF CORTEZ RD. BRIDGE
F12	68 SW		501 MAGNOLIA AV.	600	7.00	262,000	8" CIP		1850 M.H. N. SHORE DR. & PALM AV.
F15	67 SW		420 N BAY BLVD.	260	7.00	105,000	8" CIP		1875 M.H. BAY BLVD. 200' OF BRIDGE
F7	71 SW		4300 GULF DR.	1850		794,673	18" X 20" DIP		19212 M.H. CORTEZ RD. @ WATER BOOSTER STATION
12-A MASTER	82 SW		8900 HOLMES BLVD.	800	7.20	348,900	10" CIP		350 #11 F.M. 68ST. & HOLMES BLVD.
12-B	139 SW		2007 BAY DR.	3000		NA	20" X 24" X 30" DIP		25044 27-A F.M. 34RD. ST. & 53RD. AV.
12-D	421 SW		7850 DESOTO MEMOR.	500	9.50	285,000	8" X 12" C 900		6450 M.H. BAYLAW. E. OF 88ST. CT. N.W.
12-A MASTER	218 SW		112 63AV. E.	3318		1,543,184	24" DIP		12913 12-A F.M. 34ST. W. & 60AV. W.
1-D MASTER	237 SW		1001 PALMA SOLA BLVD.	600	5.90	212,400	12" X 18" X 20" C 900		11591 M.H. 59ST. W. 25 S. OF MANLAW.
1-M MASTER	203 SW		1808 51ST. ST. W.	2608		945,407	20" X 24" CIP		12040 11-M F.M. 68ST. & CORTEZ RD. N. SIDE
20-A	453 SW		8730 44TH AVE. W.	3582		1,602,308	24" X 30" DIP		11326 S.W. R.T.P.
27-A MASTER	138 SW		5622 12TH ST. E.	851	3.80	140,516	8" CIP		1631 M.H. 6204 12ST. E.
2-C	57 SW		2484 53RD AVE. W.	2959		NA	20" DIP		3154 12-A F.M. 34ST. W. & 53AV. W.
301 PARK OF COMMERCE	311 SE		2307 AV. C.	400	6.20	148,800	6" CIP		10 85 F.M. AV. C. & 23ST.
30-AA	248 SW		2315 58TH AVE. E.	106	3.80	23,940	4" PVC		M.H. S. END 24RD. ST. E. OFF SR70. E. SIDE NEAR 5700 24ST. E.
30-EE	333 SW		4602 34ST. W.	1000	3.71	222,600	12" PVC		27-A F.M. 59AV. & 34ST. W.
31-A	126 SW		3831 11TH ST. E.	125	6.90	51,750	4" PVC		1175 M.H. 8RD. ST. E. & 46RD. AV. E.
31-A	302 SW		1710 47TH AVE. DR. W.	1482	7.70	712,404	14" CIP		2800 94-A F.M. 48AV. W. & 28ST. W. S.E. CORNER
38-A MASTER	429 SE		801 39AV. W.	480	10.30	296,840	8" CIP		1805 M.H. 14ST. W. & 38AV. W. N.W. CORNER
40-A	429 SE		5621 39TH ST. E.	2300		7,436,521	20" DIP		19550 S.E. W. T.P.
41-A	454 SE		3550 63RD. AVE. E.	750	5.50	247,500	8" DIP		41-A F.M. 69AV. & 39ST. E.
42-A	491 SW		8341 W. COUNTRY CLUB LN.	2000		473,582	16" PVC		M.P. NW CORNER 69AV. & 39ST. E.
B-D	225 SW		1560 80 AV. DR. E.	200	2.80	33,600	8" CIP		3800 12D F.M. BAYLAW. & 72 ST. N.W.
9-A	436 SW		6700 8AV. N.W.	750	3.20	144,000	8" DIP		5180 M.H. 7230 15ST. E.
9-D	228 SW		1160 ROME AV.	225	8.70	117,450	8" CIP		1840 15-D F.M. 67ST. N.W. & 14V. N.W.
BAYSHORE YACHT BASIN	101 SW		8604 5TH AVE. N.W.	1000	9.80	576,000	12" C 900		608 12-A F.M. FLORIDA BLVD. & 28ST. W. N.E. CORNER
BRADEN RIVER (#17)	324 SE		2201 S. RAOULPHE PL.	950		434,242	10" PVC		1200 ARVIDA 18" F.M. FFL R/W N. OF TAILFEATHERWAY
BRADEN RIVER HIGH SCHOOL	649 SE		6280 LINGER LODGE ROAD	600	2.24	80,280	10" PVC		120 89A RM. W. OF L.S.
BRADEN WOODS (#18)	326 SE		5295 60RD. ST. E.	430	1.00	25,200	8" C 900		800 1744 F.M. US 301. 40' E. OF G.C. ENTRANCE
COLONY COVE 8	522 NE		6555 98TH ST. E.	750		164,171	10" PVC		12-A F.M. BAYSHORE GDNS. PRVY. & 34ST. W. S.E. CORN.
COLONY COVE 8	522 NE		102 COLONY DR. N.	1100		275,285	12" PVC		6400 M.H. PALMA SOLA BLVD. & MANLAW. S.E. CORN.
EL CONQUISTADOR 1	104 SW		7600 LAKESHORE DR.	250	6.93	103,950	8" X 10" PVC		1900 FIRST M.H. NORTH OF 38ST. E. ON 37AV. E.
FLAMINGO CAY	208 SW		3760 EL. CONQ. PRVY	800		442,240	10" C 900		COUNTRY OAKS F.M. @ LOCKWOOD ROGE RD. & GLENBROOKE D
GARDEN LAKES	475 SE		10200 MANLAW.	320	3.81	72,860	8" PVC		5228 M.H. DAISY PLE. OF GREYHAWK LANDING BLVD.
GLENBROOKE	484 SE		5407 37ST. E.	1000	1.80	108,000	8" PVC		2850 M.H. W. OF MANATEE PALMS #1 L.S.
GREENBROOK 2	620 SE		4601 GLENBROOKE DR.	150	7.80	68,400	4" PVC		150 LAKEWOOD RANCH MASTER L.S.
GREENBROOK 3	637 SE		13324 ADVENTURE PLACE	300	9.80	178,400	8" X 8" C 900		825 THE MASTERS F.M.
KAY RD. (#10)	323 SE		12407 DASY PLAZE	343	4.58	88,484	8" C 900		6819 3RD. M.H. W. OF TOWN CENTER 1 L.S.
LAKEWOOD RANCH MASTER	362 SE		900 KAY RD.	200	1.50	18,000	8" PVC		7592 12' F.M. @ LAKEWOOD RANCH BLVD. & MASTERS AVE.
LAKEWOOD RANCH PLE. PUMP	603 SE		11600 CLUBHOUSE DR.	1520		965,444	12" C 900		PORT MAN STOCKADE F.M. @ PAT GLASS BLVD. & HARLEE RD.
LAKEWOOD RANCH RIVERWALK	602 SE		8155 LAKEWOOD RANCH BLVD.	1224	2.10	154,224	8" PVC		650 S.E. W. T.P.
LAKEWOOD TOWN CENTER 4	604 SE		7035 HONEYBUCKLE TRAIL	1427	6.30	539,408	8" X 8" C 900		3000 M.H. 37AV. DR. E. @ ST. E.
LEGACY 10	660 SE		7540 TOWN CENTER PARKWAY	381	3.80	84,038	8" PVC		3728 M.H. @ 17RD. ST. E. & 28RD. AV. E.
MANATEE COUNTY JAIL	566 NE		7055 LEGACY BLVD.	974	3.20	107,008	8" C 900		8100 MILL CREEK 1 M.H. @ 201 131ST. E.
MANATEE PALMS 1	313 SE		14470 HARLEE RD.	200	8.50	182,000	10" C 900		3397 MILL CREEK #2 F.M.
MANATEE WOODS	534 NE		115 KAY ROAD	700	4.90	205,800	12" PVC		4400 UPPER MANLAW. RD. F.M. @ SR64 AND UPPER MANLAW. RD.
MEMPHIS ROAD	358 SE		3600 33ST. E.	133	7.50	59,850	8" PVC		18675 11V. 44 RM. ERIE RD. ENTRANCE TO HEWTP
MILL CREEK 2	374 SE		1721 17ST. E.	775	8.20	381,300	12" PVC		12200 M.H. USA 1 & ERIE RD.
MILL CREEK 4	323 SE		13407 2AV. N.E.	85	2.90	16,580	8" PVC		11570 M.H. @ USA 1 & PALM VIEW RD.
MISSIONARY VILLAGE	548 NE		811 157TH ST. N. E.	487	2.50	70,050	8" C 900		4300 M.H. @ 69ST. E. & USA 1
N1C	548 NE		1201 117 ST. E.	300	9.50	382,700	8" C 900		7785 N4B M.H. @ 7400 BAYSHORE RD.
N1H	548 NE		2887 80 ST. E.	530	6.50	382,700	8" C 900		6811 M.H. @ 3313 SAV. W. BAYOU ESTATES
N2B	513 NE		3800 ERIE RD.	1400		974,287	16" PVC		4040 M.H. @ CANAL RD. & 21ST. E.
N4B	550 NE		11220 USA 1 NORTH	1490	5.50	481,800	12" PVC		P.A. 45 F.M. WHITEFIELD AV. & COUNTRY CLUB WAY
N5B	550 NE		328 47ST. W.	500	3.60	158,483	12" PVC		2400 M.H. @ 8255 BOBBY JONES CT.
N6B	553 NE		1211 72ST. E.	1080	1.10	218,000	10" PVC		3800 FOX CHASE M.H. @ 3303 92AV. E.
N7A	554 NE		8818 BAYSHORE RD.	800	0.30	71,280	10" PVC		14300 M.H. RCRA. RIVER CLUB BLVD. & ROYAL LYTHAM AVE.
PALM AIRE 3	443 SE		755 93ST. W.	315	1.60	41,280	6" PVC		
PALM IMPERIAL	577 NE		2888 18RD. AV. E.	430	8.80	166,320	6" PVC		
PARRWOOD LAKES	566 NE		7588 WHITEFIELD AV.	1000	5.80	348,000	8" PVC		
PERICO ISLAND	207 SW		6150 BOBBY JONES RD.	150	3.80	32,400	4" PVC		
RIVER CLUB 5	364 SE		2700 88AV. E.	150	4.00	36,000	4" PVC		
			407 107th C.W.	165	1.70	18,280	6" PVC		
			7515 RIVER CLUB BLVD.	180	10.20	97,520	4" PVC		

LIFT STATION NAME/NO.	RTU # /WWT/P	STREET ADDRESS	GP/M	ADRT	AVERAGE DAILY FLOW	FORCE MAIN SIZE	FORCE MAIN TYPE	FORCE MAIN TERMINATION LOCATION
LIFT STATION NAME/NO.								
RIVER WILDERNESS 4	532 NE	11721 OLD TAMPA RD.	500	2.00	60,000	70	PVC	MAIN FORCE MAIN TERMINATION LOCATION
RIVER WOODS 2	569 NE	11543 30TH COVE E.	205	3.70	45,510	6	PVC	9400 N.E. 130 M.H.
S-4	340 SW	1919 15TH ST. E.	100	3.90	23,400	4	PVC	4080 I.M.H. 3009 RIVER WOODS DR.
SABAL COVE	470 SE	2206 26TH AVE. E.	450	13.30	339,100	8	PVC	1780 I.M.H. 15ST. E. & 28AV. E.
SABAL HARBOR 1	470 SE	5240 33ST. E.	935	10.40	583,440	6	PVC	1370 I.M.H. 30AV. E. & 23ST. CT. E.
SABAL HARBOR 2	366 SE	4603 SABAL KEY DR.	550	5.15	169,950	6	PVC	700 36A FM. SR70 & 33ST. E.
SAMOSSET 1	382 SE	4624 USEPPA DRIVE.	298	3.20	96,652	4	CS900	2180 I.M.H. @ N.W. CORN. SR70 & 43ST. E.
SONOMA	306 SW	1801 34AV. E.	1150	4.70	279,876	12X16	PVC	1970 I.M.H. @ 4650 SABAL HARBOUR DRIVE
TARA 20 MASTER	878 SE	5329 NAPA DRIVE	138	4.70	36,916	4	CS900	6670 I.M.H. 35ST. E. & 59AV.
TARA 4	323 SE	7211 STONE RIVER ROAD	2000	1.00	5,400	18X20	CS900	1129 I.M.H. COUNTRY PKY.
TARA 5	351 SE	6311 STONE RIVER ROAD	90	1.00	5,400	4	PVC	2450 38A F.M. @ FP&L RWY @ SEWWTP
TIDEVIEW 4 MASTER	354 SE	6514 TURNER GAP RD.	125	1.30	9,780	4	PVC	1125 I.M.H. TARA 1, 6411 DREWRYS BLUFF
TRAVLERYS OASIS	535 NE	1335 41ST AVE. E.	1929	9.50	7,065,573	18X20	PVC	825 I.M.H. @ 825 PLEASANT HILL RD.
UNIVERSITY PARK	321 SE	632 67ST. CIR. E.	155	9.50	89,350	4	PVC	N.E. WWTP
UPPER MANATEES RIVER RD.	483 SE	6920 LANGLEY PL.	500	4.10	123,000	10X16X18	PVC	740 I.M.H. @ 6821 ALPINE LN.
WATERFORD	330 SE	1010 UPPER MAN. RIVER ROAD	920	6.10	267,096	6	PVC	13500 I.M.H. @ TARA 20 LIFT STATION
WATERLEFE 1	533 NE	5233 LAKEHURST CT	113	6.10	41,358	4	PVC	9700 MAN. PALMS FM. @ LENA ROAD & SR64
WILLOWOOD SPRINGS 2	394 SE	10035 WATERLEFE AVE.	498	4.10	122,508	6 X 8	CS900	4198 I.M.H. @ 8871 FOUNDERS CIR. IN FAIRWAY IMPERIAL
	1151 SW	3885 CARVIEW DR.	190	4.80	54,720	6 X 8	CS900	7747 ? GATES CREEK F.M., W. SIDE OF UMMR @ GATES CREEK EXT.

## Project Team

The following personnel have worked on the referenced odor/corrosion control projects and are part of the support team for Manatee County:

1. Vaughan Harshman, P.E. – Sales Representative/Project Manager
2. Jennifer R. Miller, PhD. – V.P. & G.M. – Municipal Services
3. Richard Lalama – Sales Director
4. Mike Murphy – Engineering Manager
5. Ed Middleton – Field Service Engineer
6. Craig Bliss – Service Center Manager
7. Charles Maltby – Field Service Supervisor
8. David Morano – Product Manager
9. Jim Harshman – Chemist/Product Development Manager
10. Mike Smith – Lead Service Technician
11. Wayne White – Field Service Technician
12. Larry Turner – Field Service Technician
13. Terry Chatlos – Lead Installation Technician

Each individual's specific duties and qualifications for this project are described in further detail below. A project team organizational chart follows the team member's qualifications.

### **1. Project Manager - Vaughan Harshman, P.E.**

**Responsibility:** Overall project coordination between Manatee County and Siemens including establishing communication contacts, resolving operation or technical issues, reviewing operating data, coordinating Review Board Meetings, and approving reports.

**Qualifications:** BSChE University of South Florida; Registered Professional Engineer-State of Florida; Twenty-five (25) years odor control product & equipment design, application, production, and service experience. Employed by Siemens since 1986.

## **2. Management Contact – Jennifer R. Miller, PhD.**

Responsibility: Management of Siemens for Manatee County Odor/Corrosion Program in financial and contract matters.

Qualifications: PhD in Polymer Science (16) years municipal odor control applications experience; general oversight responsibilities for current odor control program for Manatee County since 2006. Employed by Siemens since 2003.

## **3. Director of Sales - Rich Lalama**

Responsibility: Overall contract management and responsible for sales operations for Siemens.

Qualifications: 16 years of sales management. Employed by Siemens since 2011.

## **4. Applications Engineering – Mike Murphy**

Responsibility: Engineering oversight of Siemens activities in Manatee County including resolving operation or technical issues, reviewing operating data, and design activities for new applications.

Qualifications: BSChE University of South Florida; Eleven (11) years odor control product & equipment design, application, production, and service experience. Employed by Siemens since 2000.

## **5. Field Service Engineer – Ed Middleton**

Responsibility: Day-to-day project coordination between Manatee County and Siemens including routine service, resolving operational issues, troubleshooting, and odor complaint response.

Qualifications: Thirteen (13) years odor control product & equipment application, production, and service experience. Employed by Siemens since 1998.

## **6. Service Center Manager – Craig Bliss**

**Responsibility:** Assure all applicable chemical deliveries are made as needed and coordinate equipment service/installation/repair activities. Oversee basic QC checks on delivered chemicals. Coordinate monthly invoicing to Manatee County.

**Qualifications:** Twenty-four (24) years odor control experience in the areas of wastewater operations and service management – currently Service Center Manager. Employed by Siemens since 2005.

## **7. Field Service Supervisor – Charles Maltby**

**Responsibility:** Coordinate all field activities with Manatee County. Has direct supervision of all the technicians that work in the County.

**Qualifications:** Four (4) years odor control experience. Employed by Siemens since 2007.

## **8. Operations Manager – Tom Corley, P.E.**

**Responsibility:** Coordinate fabrication of odor control feed/storage and vapor phase systems.

**Qualifications:** B.S. Civil Engineering – University of Florida. Twenty Eight (28) years of wastewater and odor control experience. Employed by Siemens since 1973.

## **9. Odor Control Product Manager – David Morano**

**Responsibility:** Provide technical support on all aspects of liquid phase and vapor phase odor control.

**Qualifications:** BS in MIS from the University of South Florida; Twenty-three (23) years of odor control experience in the areas of analytical/field testing, equipment design/installation/service. Employed by Siemens since 1988.

## **10. Chemist/Product Development – Jim Harshman**

Responsibility: Oversee quality control issues for all liquid-phase products. Coordinate product development activities for new innovations in Manatee County.

Qualifications: BS-Natural Science, University of South Florida, MS-Combined Sciences, University of Mississippi; thirty-eight (38) years experience in the areas of wastewater and odor control operations, analytics, and design. Employed by Siemens since 1973.

## **11. Lead Service Technician – Mike Smith**

Responsibility: Install both liquid and vapor phase systems, respond to unscheduled equipment service/repair issues. Provide backup for performing basic survey checks to verify correct chemical feed rates.

Qualifications: Seven (7) years of experience in installing, maintaining, and optimizing performance of odor control systems throughout the Southeast; employed by Siemens 2004, currently Field Service Technician. Based in Sarasota, FL

## **12. Field Service Technician – Wayne White**

Responsibility: Perform basic survey checks to verify correct chemical feed rates. Install both liquid and vapor phase systems, respond to unscheduled equipment service/repair issues.

Qualifications: Six (6) years of experience in installing, maintaining, and optimizing performance of odor control systems throughout the Southeast; employed by Siemens since 2005, currently Field Service Technician. Based in Sarasota, FL

## **14. Field Service Technician – Larry Turner**

Responsibility: Install both liquid and vapor phase systems, respond to unscheduled equipment service/repair issues. Provide backup for performing basic survey checks to verify correct chemical feed rates.

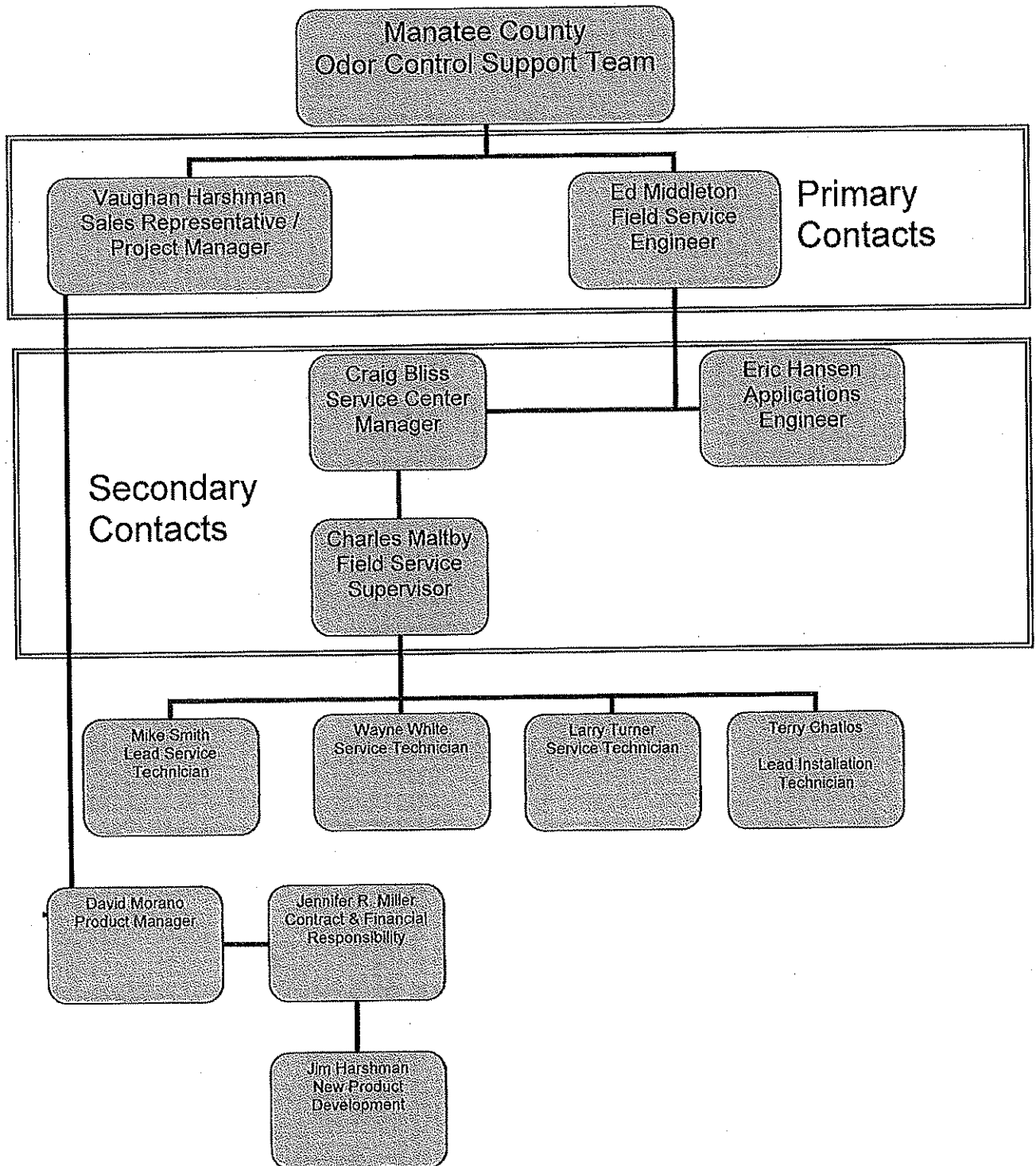
Qualifications: Eleven (11) years of experience in installing, maintaining, and optimizing performance of odor control systems throughout the Southeast; employed by Siemens since 2000, currently Field Service Technician. Based in Sarasota, FL

## **15. Lead Odor Control System Installation Technician – Terry Chatlos**

**Responsibility:** Install both liquid and vapor phase systems, and respond to unscheduled equipment service/repair issues, and perform basic survey checks to verify correct chemical feed rates.

**Qualifications:** Sixteen (16) years of experience in installing, maintaining, and optimizing performance of odor control systems. Currently installing odor control systems throughout Florida; employed by Siemens since 1995.





# SIEMENS

Industry

The following "key personnel" are available to offer professional assistance to the County:

1. Vaughan Harshman, P.E. – Sales Representative/Project Manager
2. Jennifer R. Miller, PhD. – V.P. & G.M. – Municipal Services
3. Eric Hansen – Applications Engineer
4. Ed Middleton – Field Service Engineer
5. Craig Bliss – Service Center Manager
6. Tom Corley, P.E. – Operations Manager
7. David Morano – Product Manager
8. Jim Harshman – New Product Development Manager

## BIOGRAPHY

**NAME:** Vaughan Harshman, P.E.

**CURRENT POSITION:** Sales Representative, West Florida  
Siemens

**EDUCATION:** B.S., Chemical Engineering  
University of South Florida, Tampa, FL

**REGISTRATION:** Florida Professional Engineer No. 52651

**MEMBERSHIPS:** Florida Water Environment Association  
FWEA Air Quality Committee  
Water Environment Federation  
WEF Air Quality Committee

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## PROFESSIONAL EXPERIENCE

Siemens, Sarasota, FL

1986 - Present

*Sales Representative* – Responsible for sales of Company products and services for the Western half of Florida. (2003 – Present)

*Technical Sales Manager (Product Manager)* - Responsible for directing sales, sales support, and product engineering for US Filter odor control products and related product lines. (1996 - 2003)

*Technical Service Manager* - Directed project engineering and technical sales support associated with individual odor control projects. (1994 - 1996)

*Project Engineer* - Engineered, managed and provided sales support for individual odor control projects. (1992 - 1994)

*Co-Op Engineer* - Performed various engineering activities related to product development and production. (1990 - 1992)

From 1986 until 1990 held various technician positions with Davis Water and Waste Industries, Inc. in the areas of chemical production, equipment production, product development, laboratory analysis, and field services.

## BIOGRAPHY

**NAME:** Jennifer R. Miller, Ph.D

**CURRENT POSITION:** Vice President & General Manager Municipal Services

**EDUCATION:** C.Dip.AF. Certified Diploma in Accounting, Finance and Management - Sandwell Management College, England. 1990  
Ph.D. Polymer Science – University of Lancaster, England. 1988  
B.Sc. with Honors Chemistry – University of Lancaster, England. 1985

**REGISTRATION:** CSci – Chartered Scientist

**MEMBERSHIPS:** C.Chem. M.R.S.C, Chartered Chemist and Member of the Royal Society of Chemistry

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## PROFESSIONAL EXPERIENCE

Dr. Miller has over 20 years of experience in the water treatment industry with specific knowledge in the design, development, and implementation of products, marketing strategies, and business development initiatives. In the last ten years she has focused on the application of oxidative chemistries to solve water treatment problems.

Siemens provides diversified products and services to the water and wastewater treatment market. Market coverage is primarily North America, including Canada and Mexico. Products and Service include inorganic salt solutions for applications in water treatment processes, biological process control technology and equipment, odor and air scrubbing equipment, wastewater residuals processing equipment and services and environmental analytical services.

As V.P. and General Manager Dr. Miller has responsibility for the business operations for Siemens Industry, Inc. direct Municipal Service business.

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## EXPERIENCE

**1/06- Present Siemens Industry, Inc.**

**1/08- Present V.P. and General Manager**

Responsible for operations of seven division service centers, technical sales support/applications engineering, research & development, and safety.

**1/06-12/07 FSOC Disinfection Manager**

Achieve revenue and income targets through the effective supervision of sales, operations, customer service, and technical support staff. Implement, lead and direct municipal sales and marketing strategies for disinfection chemicals, technologies and services nationally. Manage key chemical supplier relationships.

**1/03-12/05 ALTIVIA Corporation**

**Technical Marketing Director, Water & Environmental Technologies**

Managed sales and marketing, research and development, intellectual property, and regulatory affairs for water treatment chemicals, technologies and services. Product line included odor control chemicals, oxidants and disinfectants, coagulants, and corrosion inhibitors. Managed the development and commercialization of new products, market and pricing strategies, and marketing communication plans for new and existing products.

**6/95-12/02 Vulcan Performance Chemicals**

**7/98- 12/02 Technical Marketing Director**

Managed product development and marketing of specialty products to the North American market included the development of budgets and pricing strategies, market positioning, product commercialization, marketing communication and special projects.

# SIEMENS

Industry

**7/96-6/98 Business Director Paper & Industrial**

Managed a staff of twenty sales, technical and service personnel in the Paper and Industrial group and division research and development with annualized sales of \$7MM. Developed and executed revenue budgets, market segment sales plans, and the development and implementation of new products and services within the market segment.

**6/95-6/96 Marketing Director Oilfield Services**

Managed the profitability, strategic planning, development and implementation of marketing/ sales plans, and the development of worldwide distribution channels and the supervision of Oilfield products and services.

**1/88-5/95**

**Tenneco, Inc**

Held various positions in marketing, strategic planning, business development and research and development.

**9/81-9/83**

**British Petroleum**

Research Assistant Hydrocarbons Laboratory.

## BIOGRAPHY

**NAME:** Eric Hansen  
**CURRENT POSITION:** Applications Engineering Supervisor  
**EDUCATION:** B.S., Chemical Engineering  
University of South Florida, Tampa, FL  
May 1997

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## PROFESSIONAL EXPERIENCE

### Siemens - Sarasota, FL

*Applications Engineering Supervisor* 2008 - Present

Applications Engineer throughout Florida, the Western and Central United States for liquid phase and vapor phase odor control products. Direct supervision of Applications Engineers that are based in Texas and California. Direct responsibility for Applications in Florida. Design, cost, and implement odor control technologies and full service odor control programs. Hands on field knowledge with all products and extensive troubleshooting experience.

*Account Coordinator (Folsom, CA)* 2004 - 2008

Odor control account manager for the customers in California, Nevada, and Arizona. Responsible for the sales within the territory. Direct responsibility for the customers and their full service odor control programs.

*Applications Engineer* 2000 - 2004

Applications Engineer in Florida for liquid phase and vapor phase odor control products. Design, cost, and implement odor control technologies and full service odor control programs. Hands on field knowledge with all products and extensive troubleshooting experience.

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# SIEMENS

Industry

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## **Perry Equipment Corporation – Houston, TX**

*Sales Engineer*

*1997-2000*

Houston, TX - Design and cost gas and liquid filtration/separation vessels. Design and cost instrumentation packages for filtration/separation systems. Determine pricing discounts for customers. Directly responsible for sales in the Houston market. Prepare proposals. Provide technical support to customers via telephone and in person. Travel to customer sites. Troubleshoot process problems. Develop marketing strategies for filtration/separation products. Attend technical/commercial meetings with clients. Liaison between client and manufacturing. Create technical and commercial proposals. Familiar with ISO 9000 procedures

## **University of South Florida – Tampa, FL**

*Research Engineer*

*1996-1997*

Supercritical Fluids Technology Lab; Construction, experimentation and maintenance of a high pressure pilot plant for supercritical fluid processing of material under the guidance of Dr. Aydin K. Sunol. Named as an inventor on the patent.



# SIEMENS

Industry

## BIOGRAPHY

**NAME:** Ed Middleton  
**CURRENT POSITION:** Field Service Engineer  
**EDUCATION:** HS Diploma

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## PROFESSIONAL EXPERIENCE

### Siemens - Sarasota, FL

*Field Service Engineer*

*2003 - Present*

Currently responsible for coordination of all Siemens Odor Control services in Manatee and Sarasota Counties.

*Field Service/Startup Technician*

*2001 - 2003*

Responsible for field service and startup of vapor phase odor control systems across North America.

*Project Manager*

*1998 - 2001*

Responsible for project coordination and management for odor control projects, primarily in the Northeast United States.

### Other Employment:

*Construction Superintendent*

*25+ years*

Responsible for field construction for various companies in Florida and California.

## BIOGRAPHY

**NAME:** Craig D. Bliss  
**CURRENT POSITION:** Service Center Manager  
**EDUCATION:** Attended Flagler College  
Business Administration  
St. Augustine, Florida

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## PROFESSIONAL EXPERIENCE

**Siemens - Sarasota, FL**  
Service Center Manager 2005 – Present

Management of all field service activities for full service odor control customers within the State of Florida, responsibilities include scheduling routine and non-routine service work; assist Installation Manager on new installations and Fleet Manager on chemical deliveries.

**Sarasota County Government**  
*Manager of Water Reclamation Facilities* 1998 to 2005

Independently manage the administrative and technical functions associated with the operation and maintenance of nine water reclamation facilities and associated effluent disposal systems, approximately 500 lift stations and 400 low pressure sewer systems and several vacuum sewer systems.

*Chief Treatment Plant Operator* 1988 to 1998

Supervised the administrative and technical aspects involved in the operation and maintenance of multiple Water Reclamation Facilities.

**Sorrento Utilities**  
*Operations Superintendent* 1984-1988

Managed all field activities associated with water and wastewater utility.

## BIOGRAPHY

**NAME:** Thomas G. Corley, P.E.

**CURRENT POSITION:** Operations Manager

**EDUCATION:** B.S. Civil Engineering  
University of Florida - 1971

**REGISTRATION:** Registered Professional Engineer,  
Civil Engineering  
Florida, Georgia, South Carolina,  
North Carolina

**MEMBERSHIPS:** American Society of Civil Engineers  
National Society of Professional Engineers

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## PROFESSIONAL EXPERIENCE

<b>Siemens Industry, Inc., Sarasota, FL</b>	<b>1973 - Present</b>
<i>Operations Manager – Odor Control Group</i>	<i>1/10 to Present</i>
<i>Director of Operations – Biological Group</i>	<i>9/2005 to 12/2009</i>
<i>Operations Manager – Biological Group</i>	<i>10/95 to 8/2005</i>
<i>Operations – COO – Instrumentation Group</i>	<i>10/91 to 9/94</i>
<i>Operations Manager – Wastewater Group</i>	<i>7/88 to 9/91</i>
<i>Engineering Manager-Wastewater Group</i>	<i>9/83 to 6/88</i>
<i>Construction Manager-Wastewater Group</i>	<i>6/75 to 9/83</i>
<i>Staff Engineer – Wastewater Group</i>	<i>8/73 to 6/75</i>

Siemens Industry, Inc. provides diversified products and services to the water and wastewater treatment market. Market coverage is primarily North America, including Canada and Mexico. Products and Service include solutions for applications in water treatment processes, biological processes, controls technology and equipment, liquid phase odor control and vapor phase scrubbing equipment.

## USDA SOIL CONSERVATION SERVICE

*Project Engineer* 6/71 to 8/73

Responsible for preliminary and final designs for Flood Control work and the supervision of surveys and design data for the work.

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## BIOGRAPHY

**NAME:** David L Morano  
**CURRENT POSITION:** Product Manager  
**EDUCATION:** B.S., MIS  
University of South Florida - Tampa, FL

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## PROFESSIONAL EXPERIENCE

### Siemens, Sarasota, FL

*Odor Control Product Manager* 2003 to Present

Management of products including but not limited to Bioxide, Odophos, Bioxide Plus 71 and other liquid phase odor control products.

*Project Manager* 2000 to 2003

Management of full service odor control contracts including Manatee County RFP. Assisted in development of biofiltration product line (ZABOCS).

*Technical Services Specialist* 1992 to 2000

Management of projects including but not limited to the development of Bioxide AQ®. Managed IS operations across the warehouses and was the LAN/WAN manager. Implemented RRM, an enterprise based software for manufacturing and inventory control.

*Technical Services / Lab Technician* 1990 to 1992

Assisted in application development of Bioxide®. Responsibilities included optimization of a variety of odor control systems all over the country. Performed laboratory analyses.

### Patents:

US Patents #7,087,182, #7,138,049, #7,186,341, #7,285,207, and foreign patents: Methods and Apparatus for Reducing Nitrate Demands in the Reduction of Dissolved and/or Atmospheric Sulfides in Wastewater and related. 2006-2010. Coinventor with Hunniford and Harshman.

US Patent # 7,905,245: Dosing control system and method. 2011. Coinventor with McQuade.

# SIEMENS

Industry

## BIOGRAPHY

**NAME:** Jim Harshman

**CURRENT POSITION:** Product Engineer/Chemist

**EDUCATION:** B.S., Natural Science with teacher certification  
University of South Florida, Tampa, FL 1968

Master of Combined Sciences  
University of Mississippi, 1971.

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## PROFESSIONAL EXPERIENCE

**Siemens - Sarasota, FL** 1973 - Present

*Product Engineer/ Chemist*  
*Chemist/Research*

*2003 to Present*  
*1973 to 2002 (Part Time)*

Responsible for developing, testing and implementing new odor control products. Currently focused on the continuing development of Bioxide AE and Bioxide® Plus 71, and pH adjustment technologies. Historically worked on the development and implementation of Odophos®, Bioxide® and Bioxide AQ®

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**Sarasota High School – Sarasota, FL**

*Teacher*

*1968 to 2002*

Taught Chemistry I, Honors Chemistry I, AP Chemistry along with engineering concepts, algebra, general science, general math. Department Chair, 1994-2003, MaST Coordinator, 1995-2003

**Manatee Community College, Adjunct Faculty – Bradenton, FL**

*Chemistry Professor*

*1974 - 1980, 1987-1989*

Taught Chemistry and Physical Science courses at the College

## Patents:

US Patent #5,013,442 and European Patents: Aerobic Wastewater Treatment with Alkalinity Control, 1991. Coinventor with H. Forbes Davis.

US Patent #5,094,752: Aerobic/Anoxic Wastewater Treatment with Alkalinity Control, 1992. Coinventor with H. Forbes Davis.

US Patents #7,087,182, #7,138,049, #7,186,341, #7,285,207, and foreign patents: Methods and Apparatus for Reducing Nitrate Demands in the Reduction of Dissolved and/or Atmospheric Sulfides in Wastewater and related. 2006-2010. Coinventor with Hunniford and Morano.

US Patent #7,326,340 and foreign patents: System for Controlling Sulfide Generation. 2008. Coinventor with Hunniford and Morano.

US Patent #7,799,224: Wastewater Treatment Systems and Methods. 2010. Coinventor with Ward, Matheis, and Middleton.

## Publications:

"Hofmann Apparatus and Leak Rates of Gases", Chemistry Magazine, Vol 43, June 1970. Coauthor with George Melville.

"Calculation of Sludge Removal Rates for Wastewater Treatment Plants", The Overflow: Florida Water Resources Journal, 1974. Coauthor with Robert Tatum.

"Case Study for Alkaline Enhanced Odor Control in Municipal Sewage Collection Systems", Weftec 09 Conference Proceedings, 2009. Coauthors: Hudson, Fernandez, Hansen, Noyes, Matheis

"Case Study for Integrated Odor Control Using Nitrate Enhanced by Alkaline Material and Anthraquinone", Weftec 10 Conference Proceedings, 2010. Coauthors: Meyer, Harshman, Hansen, El Ajouz

## Major Conferences and Workshops:

1969: NSF Summer Institute in Chemistry, Beaver College, Glenside, PA

1970-1971: NSF Summer Institute, University of Mississippi, Oxford, MS

1972: NSF Summer Institute in Engineering Concepts, University of South Florida, Tampa, FL

1973: Nuclear Energy Conference, University of Florida

1981: International Conference on Chemical Education, University of Maryland, College Park, MD

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1982, 1983, 1984: FPCOA Short School, Lakeland, FL. Taught course in laboratory procedures.

1983: CHEM ED 83: Butler University, Indianapolis, IN. Made two presentations: "Chemical Equilibrium: A Laboratory Exercise Utilizing the Apple II Computer" and "Holding a Chemistry Open House".

1984: Florida Association of Science Teachers (FAST) Conference, Bradenton, FL

1988: FAST Conference, Tampa, FL

1989: Dreyfus Institute Workshop, Microchemistry Labs, Tampa, FL

1989: The High School MacIntosh Conference, Tampa, FL

1989: MacAcademy, Tampa, FL

1991: FAST Conference, Palm Beach, FL

1992: Summer Workshop, "Science, A Way of Thinking." Manatee Community College

1992: FAST Conference, Innisbrook, FL

1993: Florida Educational Technology Conference (FETC) , Tampa, FL

1994: Florida Educational Technology Conference (FETC) , Orlando, FL

1994: FAST Conference, Sarasota, FL

1994: Meeting of ACS "Strategic Directions in Educational Technology Committee," Washington, DC. Presentation with Michael Stuart: "Teaching the ChemCom Curriculum Using Multimedia"

1995: Florida Educational Technology Conference (FETC) , Orlando, FL

1995: FAST Conference, Orlando, FL, Presenter, with Michael Stuart, "Cooperative, Competency-based, Computer Interfaced Chemistry."

1998: FAST Conference, Tampa FL

1995-2001: Annual Junior Science, Engineering, and Humanities Symposium, University of Florida, Gainesville

1999, 2003: PITTCON (Pittsburgh Conference on Analytical Chemistry), Orlando, FL

2000: Chaperoned three students to International Science and Engineering Fair, Detroit, MI

2002: American Chemical Society National Meeting, Orlando, FL

2002: FAST Conference Organizing Committee, Sarasota, FL

2009: Weftec, Orlando, FL

2010: Weftec, New Orleans, LA

### Professional Memberships:

Water Environment Federation  
American Chemical Society  
National Science Teachers Association, 1969-2002  
Florida Association of Science Teachers, Life Member  
Sarasota Classified/Teachers Association-FEA/United-AFT, 1969-2002

### Professional Certification:

Florida Teaching Certificate 1968-2006  
Florida Wastewater Treatment Operator Certificate 1975-1996

# SIEMENS

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## Manning Level Statement

As of the end of May 2011 Siemens Municipal Services has 148 employees and 1 temporary employee. The headcount shows 50 employees reporting to the Manatee County, FL office location.



## Siemens Odor/Corrosion Control References

The numbered items below represent a partial listing of clients that utilize Siemens products and services for their odor control needs. These customers are serviced from one or more of the following service center locations:

- Sarasota, FL (Headquarters)
- Canton, GA
- Temecula, CA
- Wilmington, DE
- Granite City, IL
- Cedar Park, TX
- Kings Mountain, NC

### 1. Manatee County, Florida

5101 65<sup>th</sup> Street

Bradenton, FL 34210

Contacts: Mr. Jim Marble, Collection Systems Superintendent

E-Mail: [jim.marble@mymanatee.org](mailto:jim.marble@mymanatee.org)

Telephone: 941-758-4649

Fax: 941-795-3432

Time Frame: 31 years

Description: Currently twenty-seven Bioxide® feed locations, six Bioxide Plus® 71 locations, seven Odophos® Plus locations, One Odophos® location, two PRI-SC® peroxide locations and one Textone L location. Forty-nine vapor phase units. A comprehensive service contract covers all locations listed above.

### 2. City of Tallahassee, Florida

Contacts: Joe Cheatham

E-Mail: [joe.cheatham@talgov.com](mailto:joe.cheatham@talgov.com)

Telephone: 850-891-1009

Time Frame: over 13 years

Description: Siemens has a reputable history in providing liquid and vapor phase products and services to Tallahassee for over 13 years. Bioxide®, Alk AQUIT® 25, and PRI-SC® are currently in use by the city of Tallahassee.

### 3. Collier County, Florida

10500 Goodlette Rd.  
Naples, FL 34109

Contacts: Johnny Arteaga, Odor control specialist  
E-Mail: [juanarteaga@colliergov.net](mailto:juanarteaga@colliergov.net)  
Telephone: 239-597 5355  
Fax: 239 597 3504  
Time Frame: over 10 years

Description: Includes twelve Bioxide® and Bioxide® Plus 71 feed locations including monthly wet testing, optimization and equipment service. Vapor phase treatment equipment includes over 60 biofilters, and 12 wet scrubbers.

### 4. Lee County, Florida

Contact: Daryl Parker  
Email: [daparker@leegove.com](mailto:daparker@leegove.com)  
Telephone: 239 481 1953  
Fax: 239 466 0515  
Time frame: 9 years

Description: Includes 8 Bioxide® feed sites, 2 Alk AQUIT® 25, 4 iron salt feed site, 7 hydrogen peroxide sites. Four of the sites are iron/H<sub>2</sub>O<sub>2</sub> combinations are PRI-SC® sites.

### 5. Grand Strand Water & Sewer Authority, South Carolina

P.O. Box 2368  
Conway, SC 29528  
Contact: Mr. David Strickland  
Telephone: 843-443-8200  
Fax: 843-347-4680  
E-Mail: [dstrickland@gswsa.com](mailto:dstrickland@gswsa.com)  
Time Frame: 6 years

Description: Includes 3 ZABOCS Biofilters, two Odophos® feed sites and three Bioxide® feed systems with full service contract including liquid/vapor testing, dose adjustment, pump calibrations, spare parts and performance reporting. This system is a guaranteed not to exceed contract with fixed fee billing.

**6. Loxahatchee River Environmental Control District, Jupiter, FL**

2500 Jupiter Park Drive  
Jupiter, FL 33458  
Contact: Mr. Kevin Skellenger, Lift Station Foreman  
E-Mail: Not Avail.  
Telephone: 561-747-5709  
Fax: 561-743-3027  
Time Frame: 14 years

Description: Includes four large airflow scrubbers with service contracts and two Bioxide® feed sites. Service includes liquid/vapor testing, dose adjustment, pump calibrations, spare parts and performance reporting, maintenance, instrument calibrations, pump repair, spare parts and performance reporting.

**7. Lexington Fayette Urban County Government**

301 Lisle Industrial Ave.  
Lexington KY 40511  
Contact: Mr. Patrick McFadden, Odor Control Specialist  
E-Mail: patrickm@lfucg.com  
Telephone: (859) 425 2457  
Fax: (859) 425 2461  
Time Frame: 20 years

Description: Includes six Bioxide® feed systems with service including dose adjustment, equipment maintenance, remote monitoring, performance reporting, automated dosing systems and pump calibrations.

**8. Mount Laurel Municipal Utility Authority, Mt. Laurel, NJ**

1201 South Church Street  
Mount Laurel, NJ. 08054  
Contact: Mr. Mark Cimorelli  
E-Mail: mcimorelli@mltmua.com  
Telephone: 856 234-0062  
Fax: 856 866-1092  
Time Frame: 9 years

Description: Currently one Hydrogen Peroxide feed system, 16 Bioxide-AQ® feed systems with service contract. The service contract includes periodic liquid/vapor sampling, dose adjustment, pump calibrations, equipment maintenance, instrument calibrations, pump repair, spare parts and performance reporting.

**9. Camden County Municipal Utilities Authority**

1645 Ferry Avenue  
Camden, NJ. 08104

Contact: Mr. Mike Weaver  
E-Mail: weaver@ccmua.org  
Telephone: 856-541-5200 ext 2308  
Fax: 856-635-0605  
Time Frame: 17 years

Description: Currently 22 different chemical feed sites including Hydrogen Peroxide, BIOXIDE-AQ<sup>®</sup>, Nitrazyme, Textone L and VX-456. The turn key service contract includes periodic liquid/vapor sampling, dose adjustment, pump calibrations, equipment maintenance, instrument calibrations, pump repair, spare parts, performance reporting and inventory control.

**10. Sanitation District #1 of Northern Kentucky**

2999 Amsterdam Ave.  
Villa Hills, KY 41017

Contact: Mr. John Clark, Director of Plant Operations  
E-Mail: JClark@SD1.org  
Telephone: 859-547-1108  
Fax: 859-331-6675  
Time Frame: 6 years

Description: Includes sixteen Bioxide<sup>®</sup> feed systems, two Hydrogen Peroxide dosing sites, and one Bioxide-AQ<sup>®</sup>, with service including dose adjustment, equipment maintenance, remote monitoring, performance reporting, automated dosing systems and pump calibrations. Also, two carbon adsorbers and one Triplex wet chemical scrubber.

## Lost Contracts

Siemens Industry, Inc. clarifies that the scope of its response is limited to its Water Technologies Business Unit – Municipal Services and its primary U.S. based operations.

Customer/Contact	Contract Type	Reason for Loss
City of Fairhope, Alabama Daniel P. Ames, Purchasing Manager 555 South Section St. Fairhope, AL 36632	Bioxide with Full Service	Project was bid and awarded to alternate vendor.
City of Ocala, Florida Jane Hurley, Procurement Manager 2100 NE 30 <sup>th</sup> Avenue Ocala, FL 34470	Bioxide and Odophos with Full Service	Siemens lost a portion of the contract (a segment of the collection system) to an alternate vendor and technology based on price. A portion of the system has since been returned to Siemens based on performance.
Eustis, Florida Tracy Mullis Jeanes, Purchasing Director P.O. Drawer 68 Eustis, FL 32727	Bioxide with Full Service	Customer selected an alternate vendor based on unit price.

## Economic Benefit to Manatee County

Siemens' Odor and Corrosion Control programs are executed by our Municipal Services Group, which has its International Headquarters in Manatee County. We are a Manatee County based business. It is estimated that the \$2.1 million Odor and Corrosion Program conducted by Siemens for Manatee County has a direct stimulus of at least \$1 million annually to the economy of Manatee County. Please consider the following facts:

- Our Tallevast Road facility employs 50 persons, the majority of which live in Manatee County. Our business and a majority of our employees are Manatee County taxpayers.
- Most of the employees who do not live in Manatee County live in adjacent Sarasota County. They frequent Manatee County merchants when travelling to and from work and contribute to the economy of the region.
- Siemens' facility is a customer of Manatee County Utilities for our water and sewer services.
- Almost all of the equipment used in the Manatee County Odor and Corrosion Program is manufactured in our Tallevast Road facility.
- Non-specialty, locally sourced materials and parts for our equipment and service are purchased in Manatee County.
- Tools and supplies for our shop, service technicians, and office are purchased in Manatee County.
- Our only major subcontractor (electrical panel manufacturer) is located in Manatee County.
- Fuel for our service vehicles is purchased in Manatee County.
- Service for our vehicle fleet is provided in Manatee County.

The only major portions of our Odor and Corrosion Control Program which do *not* result in stimulus to the economy of Manatee County are the chemicals and specialty materials which we must procure from sources outside the County.

We are proud to be a partner of our hometown utility and a significant contributor to the economy of Manatee County.

## Odor Control Processes

Siemens has successfully provided Manatee County and numerous other municipalities and industries with odor/corrosion control products and services for more than 31 years. Siemens' line of odor / corrosion control processes have expanded over that time to include those listed below.

- Siemens possesses the most comprehensive and complete selection of odor and corrosion control technologies available. All technologies and products are provided and manufactured by Siemens directly, eliminating any bias for or against technologies or approaches that may involve "outside" firms or sub-contractors.
- Siemens is the only company that can offer the proprietary Bioxide® Plus 71 process for application of nitrate salts. Nitrate application is the County's preferred non-hazardous, liquid-phase technology.
- Siemens offers the most concentrated forms of environmentally friendly non-hazardous nitrate and sodium chlorite solutions, reducing liquid volume and truck traffic for deliveries.
- Siemens is offering a complete selection of additional technologies including enhanced Bioxide® Plus 71, Alk AQUIT® 25, Hydrogen Peroxide, iron salt products, and chlorite based products.
- Siemens is the only company with MIDAS® OCM, an ultra-high capacity activated carbon for sulfide and odor control.
- With the biofilter systems included in our proposal Siemens pioneered the application of multi-stage, multi-media biofilters for maximum effectiveness and redundancy.
- Siemens pioneered multi-stage chemical scrubbing with the Poly-Stage™ and LO/PRO® systems, both of which are included in our proposal. These systems reduce operating cost, increase redundancy, and increase effectiveness over conventional single-stage chemical scrubbers.

## VAPOR PHASE TREATMENT

- **Biofilters** – unique, modular biofiltration system. This vapor phase treatment technology uses no chemicals and provides complete or added odor control using natural biological organisms. Most applicable when space constraints are an issue. Engineered media and an enclosed design of the ZABOCS® and Whisper™ biofilter ensure predictable, long, reliable service life.
- **Biotrickling Filters** – plastic media biological odor control system. This technology provides the benefits of a biofilter with the ability to handle higher loadings of hydrogen sulfide – all in a very compact footprint.

- **Carbon Adsorption Systems** – using a variety of carbon types selected to meet the needs of individual applications, these systems provide complete, reliable odor control in cases where VOCs and complex organic odors are a problem. MIDAS Carbon by Siemens provides exceptional sulfide loading capacity which leads to prolonged life of the bed.
- **Wet Air Scrubbers**- a complete line of wet air scrubbers used to treat typical wastewater odorous gas emissions. These gas phase treatment products achieve continuous odor control under varying conditions with optimum chemical savings. Each system is designed by Siemens technical staff to meet the odor control requirements of the application.

### LIQUID PHASE TREATMENT

1. **Bioxide® Plus 71** - a patented process developed by Siemens to treat dissolved hydrogen sulfide and other odor compounds produced in the wastewater under septic conditions while using less product than standard nitrate products. Reduces FOG build-up in the system. Primarily used in long detention time force mains via metering treatment solution at pump stations.
2. **Bioxide®** - a process developed by Siemens to biochemically treat dissolved hydrogen sulfide and other odor compounds produced in the wastewater under septic conditions. Primarily used in long detention time force mains via metering treatment solution at pump stations.
3. **Aik AQUIT® 25** - a patented process that utilizes a fast dissolving alkaline source for controlling sulfide release and AQUIT that helps prevent formation of dissolved sulfides downstream of the application point. Treatment solution is metered into pump stations or manholes.
4. **AQUIT®** - a patented biochemical process that prevents dissolved sulfide formation in wastewater which contains no pre-existing sulfides. Treatment solution is metered into mains at the pump stations.
5. **Bioxide® AE** - patented processes developed by Siemens to biochemically treat dissolved hydrogen sulfide and other odor compounds produced in the wastewater under septic conditions. Bioxide AE uses an enhanced prevention mechanism along with the proven Bioxide® removal process to economically treat reduced sulfur compounds. Primarily used in long detention time force mains via metering a singular or dual treatment solution at the pump stations.



6. **Odophos® Plus/Odophos®/Ferric Sulfate** - aqueous solutions of ferric-ferrous sulfate (Odophos Plus), ferrous sulfate (Odophos), and ferric sulfate which treat dissolved hydrogen sulfide in force mains/gravity interceptors via metering at established dosage rates into key pump station locations.
7. **Textone L/Aktivox/Endimal (Sodium Chlorite)** – an oxidizing solution used for chemical oxidation of odor causing compounds in liquid-phase and biosolids applications. The Endimal 1500 formulation has the additional advantage of a non-hazardous rating.
8. **Hydrogen Peroxide** - an oxidizing solution used for chemical oxidation of odor causing compounds in liquid-phase applications.
9. **PRI-SC®** – Is a process of regenerating iron sulfide in solution by use of an oxidizer. This process is more selective towards hydrogen sulfide than a typical oxidizer and can provide a more cost-effective solution than either iron salts or oxidizers alone.
10. **VX 456®** – a proprietary mixed oxidant product designed to remove and control malodors in primarily biosolids. As delivered, VX-456 reacts rapidly with sulfides and other odor-causing compounds commonly found in biosolids and continues to control odors for an extended period of time (up to 12 hours). VX-456 does not contribute to solids formation and does not interfere with further processing of biosolids.
11. **Vaporlink<sup>sm</sup>** – Continuous atmospheric hydrogen sulfide data loggers with Internet access daily via Siemens Link2Site.com.
12. **Advanced Dosing Controllers** – an assortment of computer based controllers that utilize proprietary dosing models to optimally dose Siemens liquid phase odor control products.
13. **Chemical Feed and Storage Systems** – complete storage and metering equipment for all of the above liquid phase odor control products applications as well as other chemical storage and feed needs.
14. **Remote Level Monitoring** – Tank level monitors that report via cell modem to a central database. Tank level information is available on the Siemens website.

Siemens ability to offer such a vast array of odor control processes assures that the most cost efficient and effective options are always available. With headquarters located directly in Manatee County, additional service and operational costs associated with these processes are kept to a minimum.

## Service/Maintenance Program

1. Siemens will visit each odor control system as often as necessary to maintain acceptable operation and to meet the odor control goals established by the County. This shall not be less than once per month. Key/sensitive odor areas will be monitored continuously 24 hours per day with H<sub>2</sub>S monitors and accessible via the internet. The data shall be updated every 24 hours on the internet.
2. At each visit, Siemens performs the following tasks at a minimum:
  - a. Measure and record inlet and outlet H<sub>2</sub>S and/or NH<sub>3</sub> levels, as appropriate per vapor phase odor control installation. Troubleshoot system as necessary to correct high discharge levels.
  - b. Measure and record dissolved sulfides, H<sub>2</sub>S, nitrates, pH and temperature as appropriate at each control point for liquid phase odor control system. Adjust dosing profile as necessary to meet performance objectives.
  - c. Measure and record scrubbing solution pH via grab sample and compare to pH controller. Calibrate/troubleshoot/repair pH control system and/or chemical feed system as necessary.
  - d. Measure and record scrubbing solution chlorine residual. Calibrate/troubleshoot/repair ORP control system and/or sodium hypochlorite feed system as necessary.
  - e. Inspect and record scrubber and biofilter make-up water flow rate. Adjust as necessary.
  - f. Inspect chemical feed line wye strainers. Clean as necessary.
  - g. Visually inspect scrubber packing, biofilter media, spray nozzles, and pH/ORP probes for scaling or fouling. Perform cleaning procedure(s) as necessary.
  - h. Inspect all pumps and blower(s) for leaks and vibration. Correct as necessary.
  - i. Check calibration of chemical feed pumps, advanced dosing controllers, and H<sub>2</sub>S Monitors to assure proper dosing.

- j. Perform any other tasks/repairs necessary to maintain/achieve proper operation of the systems.
- k. In addition to the tasks described above, any and all calibration, lubrication, or other maintenance shall be performed in accordance with the methods and frequency specified by the Equipment Manufacturer.

### 3 Response time

Siemens provides same-day (within one hour) response to any emergency repair need or odor complaint within Manatee County. This is accomplished by the local Service Center located in Manatee County, FL.

Siemens provides complete technical support (including odor data collection, treatment demonstrations, analytical testing, investigation of odor complaints, and ongoing service of treatment equipment) in evaluating and treating odor/corrosion problems.

In order to ensure customers are serviced in a timely and professional manner, Siemens has invested substantially in modern manufacturing and distribution systems that include:

- A. Regional warehousing, production, and distribution facilities to ensure quality products and timely deliveries for all customers,
- B. State of the art production facilities capable of producing all Siemens chemical feed and scrubber systems to ensure customers receive quality treatment equipment customized for their particular needs.
- C. A control panel manufacturing facility that has been certified by Underwriters Laboratories to produce "UL Listed" panels, ensuring the highest level of quality and safety for electrical controls associated with Siemens systems.
- D. An integrated MIS based equipment/parts inventory that ensures Siemens can supply customers with repair/replacement parts or equipment within hours.

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Siemens employs substantial technical resources to evaluate odor/corrosion problems and design/install/service our treatment systems that include:

- A. Engineering and Product Development departments comprised of engineers, chemists, service managers and technicians with over 200 years combined wastewater and odor/corrosion control experience to ensure effective solutions are achieved for all types of odor/corrosion problems.
- B. Analytical Laboratory services available through our certified facility in Rothschild, WI. ensures product quality and supports any product application testing.
- C. An experienced team of equipment installation and service personnel to ensure each treatment system is installed and operated to Siemens high standards. Service staff tenure at Siemens averages more than ten (10) years.

It is important to note that Siemens owns the modern resources and employs the experienced personnel to meet all aspects of any odor/corrosion control program.

## Sample Reports

This section contains examples of reports and analysis that Siemens currently generates for the County. These examples are listed with a brief description below.

1. Sonoma – an example of preliminary investigation and implementation of an odor and corrosion control solution, including pre- and post-treatment continuous monitoring data.
2. Monthly Odor Control Report – An example of the monthly report that is submitted to the County every month.

## Safety Plan

The Siemens philosophy of Safety Management is that each employee has a key role in maintaining an accident free workplace – both on and off site. This is accomplished through training and awareness, and through various inspection processes.

Our facility has an established **Safety Committee** to provide leadership for the safety program and to promote safety awareness. They meet on a monthly basis to discuss the following:

- Follow-up on action items
- Review of accidents and safety statistics
- Report on monthly audit
- Issues brought before the committee
- Appropriate training programs
- Update action item list

Our facility also conducts **Employee Safety Meetings** on a monthly basis. These meetings are designed to:

- Review any accidents since the last meeting including causes and corrective actions
- Review monthly safety audit
- Discuss monthly (corporate) safety topic
- Discuss local safety issues
- Take questions and observations from employees

**Safety Audits** are conducted on a monthly basis. These inspections include not only the grounds, but also the equipment and techniques used by our employees including field personnel.

Siemens employees are trained in the following programs depending on their job classification and exposure to hazards. Employees not trained in these programs will not be able to work in the department or area until the training has been completed.

- ❖ Hazard Communications - Employees who work with or around chemicals will be trained in the following areas:
  - Material Safety Data Sheets- how to use them and where they can be found. These are supplied with each chemical delivery vehicle.

- Labeling requirements and reading labels – all chemical tanks are labeled using the proper Hazardous Material Information System label.
  - Hazards handling procedures, and first aid for the chemicals in use.
  - Hazards associated with non routine tasks
  - Contractor notification
- 
- ❖ Lockout/Tagout – Employees who service, maintain, or install equipment will be trained in Lockout/Tagout procedures. These are the only employees authorized to lockout power or stored energy sources. All other employees are aware that a locked out piece of equipment cannot be started except by the employee who locked it out.
  
  - ❖ Personal Protective Equipment – All field employees are required to wear safety glasses and steel toed safety shoes. They are also supplied individual P.P.E. bags which contain all of the safety items that they may need at the work site. They are required to have these with them at all times.
  
  - ❖ Confined Space Entry – Any employee required to enter a confined space such as a tank or Lift Station is trained to seek authorization from a Supervisor and file the appropriate forms before they begin. They are trained in the proper methods of entry and supplied the personal monitoring equipment to assure the environment is safe, and remains so throughout their service session.
  
  - ❖ Additional Programs include, but are not limited to: Bloodborne Diseases, Accident Reporting, Hearing Conservation, Fall Protection, Ladder Safety, and Driver Safety.

These programs are designed to ensure that all personnel maintain a safe environment at all times. Coupled with the additional measures such as cross-link polyethylene tanks, above ground storage of tanks within containment pads, GFCI breakers, and regular inspections of tanks and various site equipment, Siemens makes safety our number one priority.

## Warning Notices

Siemens Industry, Inc. clarifies that the scope of its response is limited to its Water Technologies Business Unit – Municipal Services and its primary U.S. based operations.

Siemens Industry, Inc. – Municipal Services has received the following notices:

- 10/19/07 sodium hydroxide released at Sarasota Service Center - 2650 Tallevast Rd Sarasota, FL currently in process with the State of Florida.
- 1/28/11 sodium hypochlorite released at LS 76 - 1160 N Congress Ave - West Palm Beach 33401 received EPA NOV for late notification of release.



## Cost Summary

The following provides a listing of the Odor/Corrosion Control Products and Services to be supplied by Siemens as deemed necessary to achieve the treatment objectives stipulated by Manatee County. This listing includes items currently being used by the County, as well as items the County may need in the future. While this list provides a substantially complete range of proven odor/corrosion control products and services, options for adding new advances in technology should be allowed to ensure the County maintains "state of the art" treatment.

Rate schedule below is categorized into three types of products/services:

- A. CHEMICAL/BIOLOGICAL PRODUCTS
- B. EQUIPMENT
- C. PROFESSIONAL SERVICES & OTHER PRODUCTS.
- D. PRICING ADJUSTMENTS AND SALES VOLUME SURCHARGES

## A. CHEMICAL/BIOLOGICAL PRODUCTS

TABLE A1

ITEM #	DESCRIPTION	PRICE
1	Bioxide	\$2.14/gallon
2	Bioxide Plus 71	\$3.15/gallon
3	Bioxide AE	\$2.47/gallon
4	Odophos	\$0.67/gallon
5	Odophos Plus	\$1.27/gallon
6	Ferric Sulfate (9%)	\$1.30/gallon
7	PRI-SC Odophos	\$0.77/gallon
8	PRI-SC Odophos Plus	\$1.50/gallon
9	PRI-SC Ferric Sulfate (9%)	\$1.54/gallon
10	50% Hydrogen Peroxide	\$0.390/lb
11	PRI-SC Peroxide	\$0.455/lb
12	VX-456 (Bulk Tanker)	\$1.12/lb
13	VX-456 (Tote)	\$1.40/lb
14	Aktivox (Bulk Tanker)	\$0.83/lb
15	Aktivox (Tote)	\$1.12/lb
16	Textone L	\$0.77/lb
17	Endimal 1500	\$1.49/lb
18	AQuit	\$15.00/lb
19	Alk AQuit 25	\$1.31/gallon
20	AE Plus 25	\$1.31/gallon
21	Sodium Hydroxide 25%	\$2.16/gallon
22	Sodium Hydroxide 50%	\$4.75/gallon
23	Sodium Hypochlorite	\$2.10/gallon

All product prices within this section include delivery, application equipment, ongoing maintenance, technical evaluation/support service, and technology licenses.

## B. EQUIPMENT

The following table represents monthly cost for new installations installed in Manatee County after October 1, 2011. All fees assume a minimum of 36 months for new sites.

Siemens will work with Manatee County on providing the most cost-effective solutions for odor and corrosion issues. The County will be charged the following rates based on air flow and H<sub>2</sub>S levels on sites with relatively stable hydrogen sulfide loading and typically low organic loads. This table represents Siemens primary vapor phase technology choices.

### Siemens Primary Vapor-Phase Technologies Monthly Costs

**TABLE B1**

ITEM	DESIGN AIR FLOW (cfm)	AVERAGE DESIGN H <sub>2</sub> S CONCENTRATION (ppmv)			
		A. <10	B. 10-150	C. 150-300	D. 300-500
1	Natural Draft	\$125.00	\$300.00	NA	NA
2	0-140	\$880.00	\$1,290.00	\$1,425.00	\$1,980.00
3	0-280	\$980.00	\$1,425.00	\$1,980.00	\$2,900.00
4	0-600	\$1,500.00	\$1,980.00	\$2,900.00	\$3,275.00
5	0-850	\$2,200.00	\$2,900.00	\$3,100.00	\$3,750.00
6	0-1150	\$2,600.00	\$3,100.00	\$3,275.00	\$4,250.00
7	0-1500	\$2,850.00	\$3,275.00	\$3,750.00	\$4,700.00
8	0-2000	\$3,050.00	\$3,750.00	\$4,250.00	\$5,050.00
9	0-3000	\$3,500.00	\$4,250.00	\$4,700.00	\$7,500.00
10	0-4000	\$3,975.00	\$4,700.00	\$5,050.00	\$10,500.00
11	0-5000	\$4,350.00	\$5,050.00	\$7,500.00	\$11,500.00
12	0-8000	\$6,800.00	\$7,500.00	\$10,500.00	\$13,960.00
13	0-12000	\$9,850.00	\$10,500.00	\$11,500.00	\$21,000.00
14	0-15000	\$10,800.00	\$11,500.00	\$13,960.00	NA
15	0-18000	\$12,980.00	\$13,960.00	\$21,000.00	NA

**Notes:**

1. A mobilization fee of 2 times the monthly rental fee shall apply for all units. A de-mobilization fee of 2 times the monthly rental fee shall apply for all units removed prior to 36 months.
2. If a chemical scrubber is required all applicable sodium hydroxide and bleach shall be charged in addition to the above

The following table represents monthly cost for existing installations installed in Manatee County prior to October 1, 2011. All fees assume a minimum of 24 months for existing sites.

**TABLE B2**

ITEM	DESIGN AIR FLOW (cfm)	AVERAGE DESIGN H <sub>2</sub> S CONCENTRATION (ppmv)			
		A. <10	B. 10-150	C. 150-300	D. 300-500
1	Natural Draft	\$100.00	\$250.00	NA	NA
2	0-140	\$792.00	\$1,161.00	\$1,282.50	\$1,782.00
3	0-280	\$882.00	\$1,282.50	\$1,782.00	\$2,610.00
4	0-600	\$1,350.00	\$1,782.00	\$2,610.00	\$2,947.50
5	0-850	\$1,980.00	\$2,610.00	\$2,790.00	\$3,375.00
6	0-1150	\$2,340.00	\$2,790.00	\$2,947.50	\$3,825.00
7	0-1500	\$2,565.00	\$2,947.50	\$3,375.00	\$4,230.00
8	0-2000	\$2,745.00	\$3,375.00	\$3,825.00	\$4,545.00
9	0-3000	\$3,150.00	\$3,825.00	\$4,230.00	\$6,750.00
10	0-4000	\$3,577.50	\$4,230.00	\$4,545.00	\$9,450.00
11	0-5000	\$3,915.00	\$4,545.00	\$6,750.00	\$10,350.00
12	0-8000	\$6,120.00	\$6,750.00	\$9,450.00	\$12,564.00
13	0-12000	\$8,865.00	\$9,450.00	\$10,350.00	\$18,900.00
14	0-15000	\$9,720.00	\$10,350.00	\$12,564.00	NA
15	0-18000	\$11,682.00	\$12,564.00	\$18,900.00	NA

1. If a chemical scrubber is in place all applicable sodium hydroxide and bleach shall be charged in addition to the above.

## C. PROFESSIONAL SERVICES & OTHER PRODUCTS.

The following services are offered in conjunction with odor control projects that do not include provision of technologies or services from Siemens that are found elsewhere in this contract:

### Fully Automated Odor Control Products

<u>Product Description</u>	<u>Proposed</u>
1 H <sub>2</sub> S Monitor	\$345/mo.
2. Advanced Dosing Controller & Monitor	\$420/mo

*Monthly fee includes Internet access to data. County shall be responsible for any necessary site improvements, utilities, and security required for the application of the products and services listed herein.*

### Professional Services:

<u>Service Description</u>	<u>Fee</u>
1. Engineer or Chemist	\$160.00/hr.
2. Technician	\$100.00/hr.
3. Professional Engineer (P.E.)	\$300.00/hr.

## D. PRICING ADJUSTMENTS AND SALES VOLUME SURCHARGES

The pricing included herein is proposed for the first annual contract period. Siemens Industry, Inc. proposes that the contract be subject to annual renewals at the mutual consent of both parties for as many years as deemed beneficial to both parties. We propose that prices be adjusted at the time of annual renewal per market conditions and by mutual consent of both parties.

The price lists reflect the price structure Siemens proposes for the first contract period. This pricing reflects a volume discount based on Manatee County's sales volume, which historically is well above the threshold values. Should volume drop below the thresholds listed, surcharges as defined would apply:

# SIEMENS

## Industry

1. Gross sales below \$500,000 yearly will increase all costs in this proposal by 5%.
2. Gross sales below \$250,000 yearly will increase all costs in this proposal by 10%.

Sales volume for pricing purposes shall be determined at contract start based on estimated budget and shall be reviewed at annual renewal unless sales volume levels change by 20% or more during the year.

The County shall be responsible for providing the following for each installation:

- 1) Level area and/or concrete pad as required
- 2) Electrical and water utilities, drain to sanitary sewer as required, within 10 feet of installed unit
- 3) Site security if necessary

In the event Siemens Industry, Inc. (Bidder) is the selected vendor for the products and services contemplated in this bid, Bidder desires to negotiate a mutually agreeable set of terms and conditions to govern such transaction (including negotiation of concepts such as warranty, indemnity, appropriate limitations of liability and other substantive terms and conditions). Bidder will not be obligated to supply products or services pursuant to such bid unless and until the parties have entered into an agreement with terms and conditions mutually agreed in writing by the parties.

### Siemens Industry, Inc., Water Technologies Business Unit Terms and Conditions

1. **Applicable Terms.** These terms, together with any quotation, purchase order or acknowledgement issued or signed by Seller (the "Seller's Documentation"), comprise the complete and exclusive statement of the agreement between the parties (the "Agreement") and supersede any terms contained in Customer's documents, unless separately signed by Seller. Whether the terms set forth herein are included in an offer, acceptance or acknowledgment by Seller, such offer, acceptance or acknowledgment is conditioned on Customer's assent to these terms. Seller rejects all additional or different terms in any of Customer's forms or documents. The Agreement governs the scope of work set forth in Seller's Documentation. For the purposes of this Agreement, goods shall include equipment, leased equipment and media goods (collectively, the "Goods").
2. **Payment.** Customer shall pay Seller the full fee as set forth in Seller's Documentation. Seller's price does not include, and Seller shall not be responsible for, any taxes, permits, tariffs, duties or fees (or any incremental increases to such taxes, permits, tariffs, duties or fees enacted by governmental agencies) unless specifically agreed in Seller's Documentation or otherwise by Seller in writing. If Seller is required to pay any such charges, Customer shall immediately reimburse Seller. All payments are due within 30 days after receipt of invoice. Customer shall be charged the lower of 1 1/2% interest per month or the maximum legal rate on all amounts not received by the due date and shall pay all of Seller's reasonable costs (including attorneys' fees) of collecting amounts due but unpaid. All orders are subject to credit approval.
3. **Scope of Services.** Seller shall provide the Goods and services specifically described in Seller's Documentation during normal business hours, unless otherwise specified in Seller's Documentation. Performance by Seller that is requested or required by the Customer outside of these hours will be charged at Seller's then current schedule of rates and will be in addition to the charges outlined in Seller's Documentation. Where the Customer requests additional Goods or services which are outside of the scope of work itemized in Seller's Documentation, Seller may provide those Goods and services at standard time and material rates and conditions then in effect.
4. **Ownership of Materials.** All devices, equipment, designs (including drawings, plans and specifications), estimates, prices, notes, electronic data and other documents or information prepared or disclosed by Seller in connection with the provision of Goods and services hereunder, and all related intellectual property rights, shall remain Seller's property. Seller grants Customer a non-exclusive, non-transferable license to facilitate Customer's use thereof. Customer shall not disclose any such material to third parties without Seller's prior written consent.
5. **Changes.** Seller shall not implement any changes in the scope described in Seller's Documentation unless Customer and Seller agree in writing to the details of the change and any resulting price, schedule or other contractual modifications. This includes any changes necessitated by a change in applicable law.
6. **Warranty.** Seller warrants to Customer that the Goods shall materially conform to the description in Seller's Documentation and shall be free from defects in material and workmanship and services shall be performed in a good and workmanlike manner. The foregoing warranty shall not apply to any Goods that are specified or otherwise demanded by Customer and are not manufactured or selected by Seller, as to which (i) Seller hereby assigns to Customer, to the extent assignable, any warranties made to Seller and (ii) Seller shall have no other liability to Customer under warranty, tort or any other legal theory. Customer's service warranty is ninety days from the date of the service provided. If Customer is purchasing Goods from Seller then Seller's warranty period for Goods (except for media goods) is the earlier of one year from acceptance or eighteen months from delivery. In the event of a warranty claim, Seller shall, at its sole option and as Customer's sole and exclusive remedy, repeat the service at its own expense, repair or replace the affected parts or refund the price paid to Seller therefor. If Seller determines that any warranty claim is not, in fact, covered by this warranty, Customer shall pay Seller its then customary charges for any additionally required Goods or service. Seller's warranty is conditioned on Customer (a) operating and maintaining the Goods in accordance with Seller's instructions, (b) not making any unauthorized repairs or alterations, and (c) not being in default of any payment obligation to Seller. Seller's warranty does not cover (a) media goods (such as, but not limited to, granular activated carbon media) once such media goods are installed and testing proves material conformance to Seller's Documentation; (b) damage caused by chemical action or abrasive material or misuse which has damaged the equipment serviced; and (c) improper installation (unless installed by Seller). **THE WARRANTIES AND REMEDIES SET FORTH IN THIS SECTION ARE SELLER'S SOLE AND EXCLUSIVE WARRANTIES THEREFOR. SELLER MAKES NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE.**
7. **Indemnity.** Seller shall indemnify, defend and hold Customer harmless from any claim, cause of action or liability incurred by Customer as a result of third party claims for personal injury, death or damage to tangible property to the extent caused by Seller's negligence. Seller shall have the sole authority to direct the defense of and settle any indemnified claim. Seller's indemnification is conditioned on Customer (a) promptly, within the warranty period, notifying Seller of any claim, and (b) providing reasonable cooperation in the defense of any claim.
8. **Force Majeure.** Under no circumstances shall either Seller or Customer have any liability for any breach (except for payment obligations) caused by extreme weather or other act of God, strike or other labor shortage or disturbance, fire, accident, war or civil disturbance, delay of carriers, failure of normal sources of supply, change in law or other act of government or any other cause beyond such party's reasonable control.
9. **Cancellation.** Either party may terminate the scope of work specified in Seller's Documentation by providing reasonable notice sufficient to avoid costs incurred by the other party. If Customer cancels or suspends any such scope of work for any reason other than Seller's breach, Customer shall pay Seller for work performed prior to cancellation or suspension and any other direct costs incurred by Seller as a result of such cancellation or suspension.
10. **LIMITATION OF LIABILITY.** NOTWITHSTANDING ANYTHING ELSE TO THE CONTRARY, SELLER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, PUNITIVE OR OTHER INDIRECT DAMAGES, AND SELLER'S TOTAL LIABILITY ARISING AT ANY TIME FROM THE SALE OR USE OF THE GOODS AND/OR SERVICES SHALL NOT EXCEED THE PRICE PAID TO SELLER THEREFOR. THESE LIMITATIONS APPLY WHETHER THE LIABILITY IS BASED ON CONTRACT, TORT, STRICT LIABILITY OR ANY OTHER THEORY.
11. **Leased Equipment.** Any leased equipment ("Leased Equipment") provided by Seller shall at all times be the property of Seller with the exception of certain miscellaneous installation materials purchased by the Customer, and no right or property interest is transferred to the Customer hereunder, except the right to use any such Leased Equipment as provided herein. Customer agrees that it shall not pledge, lend, or create a security interest in, part with possession of, or relocate the equipment. Customer shall be responsible to maintain the Leased Equipment in good and efficient working order. Upon the expiration or termination of this Agreement, Customer shall promptly make any Leased Equipment available to Seller for removal. Customer hereby agrees that it shall grant Seller access to the Leased Equipment location and shall permit Seller to take possession of and remove the Leased Equipment without resort to legal process and hereby releases Seller from any claim or right of action for trespass or damages caused by reason of such entry and removal.
12. **Miscellaneous.** If these terms are issued in connection with a government contract, they shall be deemed to include those federal acquisition regulations that are required by law to be included. No part of the Agreement may be changed or cancelled except by a written document signed by Seller and Customer. No course of dealing or performance, usage of trade or failure to enforce any term shall be used to modify the Agreement. If any of these terms is unenforceable, such term shall be limited only to the extent necessary to make it enforceable, and all other terms shall remain in full force and effect. Customer may not assign or permit any other transfer of the Agreement without Seller's prior written consent. The Agreement shall be governed by the laws of the State of Delaware without regard to its conflict of laws provisions.

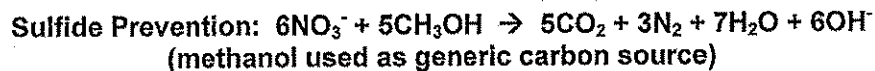
## Chemical Reactions for H<sub>2</sub>S Control

### Bioxide<sup>®</sup>/Bioxide<sup>®</sup> Plus 71/Bioxide<sup>®</sup> AE

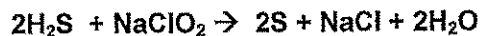
**Bioxide** is a process developed by Siemens Industry, Inc. to biochemically treat dissolved hydrogen sulfide and other odor compounds produced in wastewater under septic conditions. Bioxide is primarily used in long detention time force mains via metering treatment solution at pump stations.

There are two biochemical processes by which Bioxide controls hydrogen sulfide, "prevention" and "removal". Bioxide prevents the conversion of sulfate ion to sulfide ion through the supply of an alternate oxygen source (NO<sub>3</sub>-O). Bioxide is also used to remove existing sulfide from a liquid stream. Most applications use a combination of the two methods.

The following equations describe the biochemical processes utilized to treat sulfide with Bioxide.



**Bioxide Plus 71** combines the above Bioxide Processes with a chemical oxidizer which quickly reacts with sulfide in the wet well where applied. With Bioxide Plus 71 the following reaction enhances the reactions shown above:



**Bioxide AE** provides an alkaline source to elevate the pH of wastewater. Denitrification, as shown in the first two reactions above, is most efficient at a slightly elevated pH. Bioxide AE increases the pH slightly to allow the most efficient application of the above reactions.



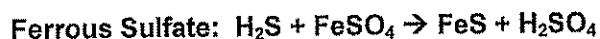
### Odophos®/Odophos® Plus/Ferric Sulfate

**Odophos** is an aqueous solution of ferrous sulfate which treats dissolved hydrogen sulfide in force mains and gravity interceptors by precipitating sulfide as insoluble ferrous sulfide.

**Ferric sulfate** provides an additional oxidation step in addition to sulfide precipitation.

**Odophos Plus** is a solution containing both ferrous and ferric sulfate.

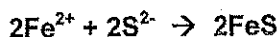
The reactions are as follows:



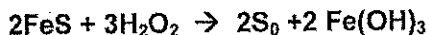
### PRI-SC®

**PRI-SC** is a multi-step treatment system, consisting of an iron salt applied at a pump station(s) upstream in the collection system. The iron reacts with dissolved sulfide to form ferrous sulfide (FeS), an insoluble precipitate. Then, using the PRI-SC process, hydrogen peroxide is applied to the flow at point(s) downstream. Hydrogen peroxide oxidizes FeS and regenerates the iron that is added upstream. Since the iron acts as a catalyst, PRI-SC makes it possible to achieve near theoretical use ratios for hydrogen peroxide. In addition, peroxide will regenerate the iron so that it can be used again to control sulfide at points downstream.

Step 1:



Step 2:

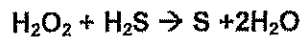


Step 3:



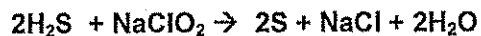
## Hydrogen Peroxide

Hydrogen Peroxide is applied to wastewater to remove dissolved sulfide and other sewer odors. Hydrogen peroxide, being a strong oxidizer, breaks down odorous compounds to simpler, non-odor producing components.



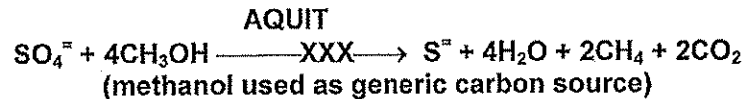
## VX-456®/Textone L/Aktivox/Endimal 1500

VX-456, Textone L, Aktivox, and Endimal 1500 are various formulations of the oxidizer sodium chlorite. The concentrations and additives of the various products render them more or less applicable in specific situations, but the base reaction with sulfide in all formulations is as follows:



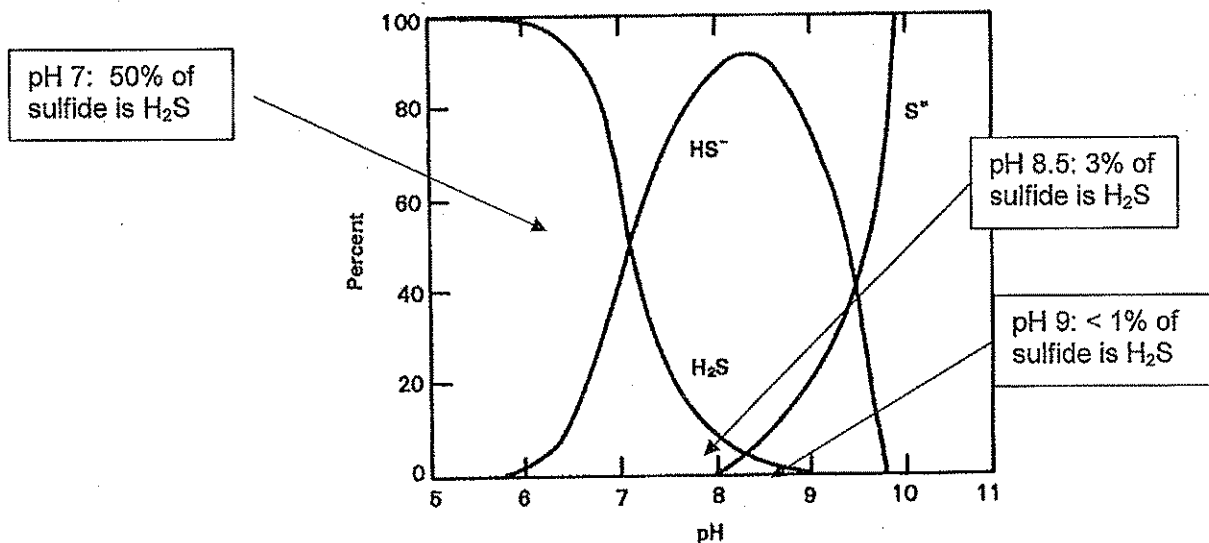
## AQUIT®/Aik AQUIT® 25/AE Plus 25

**AQUIT** is a biochemical process that prevents dissolved sulfide formation in wastewater. AQUIT contains anthraquinone, a metabolic modifier which blocks sulfate respiration. When treated with AQUIT, sulfate reducing bacteria are blocked from carrying out the following reaction:



**Aik AQUIT** combines the AQUIT Process for dissolved sulfide prevention with pH adjustment to prevent release of existing sulfide as H<sub>2</sub>S gas.

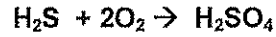
Hydrogen sulfide (H<sub>2</sub>S) is a partially soluble gas which exists in aqueous solutions (i.e., wastewater) in equilibrium with the hydrosulfide ion (HS<sup>-</sup>) and sulfide ion (S<sup>2-</sup>). At neutral pH of 7.0, roughly 50% of the sulfide in solution will be in the H<sub>2</sub>S form, which means it can be released to the atmosphere to cause odor and corrosion problems. At pH 9.0 less than 1% of sulfide is in the H<sub>2</sub>S form. This relationship is shown on the following graph:



**AE Plus 25** provides an option for controlling wastewater pH as described above without metabolic modification.

## Biofilters/Biotrickling Filters

Biofilters and Biotrickling filters provide an environment for absorption of sulfide and other odors from air streams and subsequent break-down of those odors by bacteria. The naturally-occurring bacteria which break down hydrogen sulfide are thiobacillus and the oxidation reaction is as follows:



## Wet Scrubbers

Wet scrubbers use both sodium hydroxide and sodium hypochlorite to remove hydrogen sulfide and other odors from air streams. The reactions used to solubilize and oxidize sulfide are as follows:

