SUSTAINABILITY

AND

ENERGY OPTIMIZATION PROPOSAL

For

City of Gautier, MS

&

ClearWater Solutions

July 3, 2013: Rev A

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ClearWater Solutions
3305 Gauttier Vancleave Road
Gautier, MS 39553

Attention: ***Mr. Chad Jordan, P.E.***

Schneider Electric
508 Upland Way
Anderson, SC 29621

T: 864.784.1002

SUBJECT: **Sustainability and Energy Optimization Proposal**

Dear Chad,

It was a pleasure meeting with you to discuss the operations and energy needs for City of Gautier MS water and wastewater distribution operation. Thanks for the meeting and subsequent walk through of the Pump and Lift stations on June 3, 2012. Further, the information forwarded by you was very helpful. Schneider Electric is pleased to submit a proposal of $10,000 based on the information provided and the on site pump and lift station walk through.

Details of the proposal are included for your review. Feel free to comment and please contact me with questions or to schedule a meeting to discuss the details and next steps to move a solution forward.

Yours truly,

Schneider Electric

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1. Introduction

1.1. Industry Overview

The objective of the work effort is to develop an Electrical Energy Assessment and Optimization Plan for ClearWater Solutions for the City of Gautier MS water and wastewater distribution system. The work involves identifying energy and utility savings projects and providing the associated economic analysis.

Schneider Electric will perform an on-site survey and the subsequent evaluation and analysis of utility systems, plant processes, and energy savings options.

1.2. Project Team

The Schneider Electric Team focuses on water and wastewater process and energy optimization. With current staffing of approximately 130 people, the division utilizes Professional Engineers and Certified Energy Managers in twenty two locations throughout North America. As projects are implemented, Schneider Electric can mobilize over 500 field employees dedicated to energy efficiency.

Schneider Electric will draw upon its team of experts to assist in the City of Gautier, MS. carrying out its Energy Assessment and Optimization Plan:

2. Statement of Work

The proposed work plan consists of three major tasks. These tasks provide an organized approach to collecting, analyzing, and documenting the necessary information to support the project objective. The results of these tasks will be compiled in a written Energy Action Assessment and Optimization Report. The task areas are as follows:

1. Utility Analysis

- Review and analysis of historical invoicing and power consumption from Mississippi Power at both plants and related pump stations.
- Benchmarking with similar utilities, and/or comparisons to Best Practices within the drinking water industry.

2. Facility Load Profile

- Facility tours, equipment familiarization, staff interviews, and assessment of office buildings.
- Analysis of pumps to determine applications and utilization for maximum power efficiencies at anticipated flow conditions.
- Conduct a minimum of 2 Meetings with ClearWater Solutions staff to include the following:
    - A kickoff meeting to review project..
    - One day meeting with appropriate team members to review processes and interview staff.
    - Follow up meeting to review and finalize data to complete report.

- Draft report review meeting and presentation for plant managers and others as required.

3. Opportunity Identification

- Identification of opportunities to optimize energy use at pump stations, treatment plants and Laboratory and General Manager's office building.
- Identification of opportunities to utilize alternative or nontraditional energy sources or rate structures.
- Preparation of brief report identifying energy conservation measures, practices, or projects to optimize electrical energy utilization.

2.1. Utility Analysis

The first task area at the facility will be to determine the energy and utility costs for pump, lift stations and other power usage areas. The total utility budget will provide the framework for the investigation.

We will gather utility rate schedules. We will also develop facility profiles and gather available data related to the consumption of utilities at the site.

The data required for this study includes billing information, consumption histories, rate tariffs, existing supply contracts, and future growth plans that will affect electric and fuel consumption. A request for information related to these energy and utilities will be developed and submitted prior to site visits to facilitate and streamline data collection.

The utility evaluation will involve analysis of existing rate tariffs, experimental riders, and other opportunities in regulated tariffs. Examples include totalization of multiple accounts, aggregation of loads, and load profiling for leveraging rate negotiations. Additionally, the team will conduct research to benchmark energy consumption with similar utilities, compare best practices within the drinking water industry and report findings in the final report.

2.2. Facility Load Profile

The second task area will be to examine the internal systems and equipment that account for the expenditures mentioned above. This will help us focus attention on the areas that have the greatest potential for savings. The Facility Load Profile will allow us as investigators to learn the various utility systems and determine their contribution to the overall utility costs at the site. In doing so, we will gain an understanding of their configurations and sequences of operation and will develop a basis for potential energy and cost saving recommendations.

2.3. Opportunity Identification

The utility cost data and facility load information will allow us to identify typical energy saving opportunities at the site. Here we will use our experience investigating, operating, and optimizing energy and utility system modifications in similar environments.

We will support our recommendations with estimates of dollar savings potential for each opportunity and approximate simple payback.

The site visit to pump and lift stations will allow for us to identify potential Energy Conservation Measures. Some of the detailed areas to be investigated are as follows:

2.3.1 Power Monitoring Analysis

An evaluation of the networking of the existing power monitoring equipment and overall coordination of information with the Mission RTU/SCADA system will be conducted. Gaining the ability to monitor power usage throughout the facility will allow for a better development of a baseline and benchmarking capability. In addition, key performance indicators can be developed with power and process integration such as wire to water efficiencies of pumps and overall process efficiencies.

2.3.2 Evaluation of Variable Frequency Drive Potential

Schneider Electric will evaluate all system Variable Frequency Drive opportunities and any Federal, State and private industry rebates, incentives or loan programs for energy, demand or load reduction programs.

In addition, the existing VFDs will be evaluated for the ability to communicate power data over the network to the RTU/SCADA system. This will also allow for better data to determine efficiency of your operations.

2.3.3 Pump Optimization

Pump Optimization and Scheduling will require an assessment of each pump and pump system. The evaluation will determine if pump optimization and scheduling is needed to improve efficiency. Also, an analysis of pumps and pump systems will be conducted to determine applications and utilization for maximum power efficiencies at anticipated flow conditions. Flow, pressure and other water balance data will be evaluated.

3. Financial Goals

The overall goals for any proposal from Schneider Electric would include the following:

- Recover cost of any detailed study in less than nine (9) months.
- Reduce Power Costs by at least 10% at current rates within 36 months.
- Identify components for replacement or upgrade where costs would be recovered within 36 months.
- Identify components for replacement or upgrade that also provide process improvements that recover costs within 60 months or less.
- Identify operational opportunities that could provide cost savings, improved process control, improved quality of work life or utilize "alternative" sources of energy.
- Identify energy conservation measures.
- Evaluate the feasibility of pump and blower optimization and scheduling program.

- Identify grant, incentive, rebate or other finance opportunities for retrofits or new installs.
- Review the overall reliability of the electrical, automation, security and power system to ensure basic plant operation during emergency situations.
- Foster a culture of effective energy usage and awareness for plant personnel.

3.1. Support and Implementation Services

Following completion of any assessment, ongoing support and implementation services for the assessment opportunities can commence. Schneider Electric can supply services and personnel to implement the opportunities per a negotiated fee for any or any group of opportunities. Price and

3.2. Price Schedule

A price for the Statement of Work listed is as follows:

Item	*Deliverable Description*	*Client Price*
1	Sustainability and Energy Optimization Assessment for individual items and the overall Water and Wastewater Treatment Plant, Distribution System and Associated Pump Stations	$10,000.00
2	Investment Grade Audit to Implement Performance Contract	TBD

To provide an investment grade audit for a performance contract, Schneider Electric would need to have a workshop with ClearWater Solutions Personnel as well as Finance Leadership. Further, the Performance Contract Process could extend to other facilities owned by the City of Gautier.