WM Group

Our Mission: To exceed your expectations

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March 28, 2008

Mr. Anthony Bonaffini
Yale University
2 Whitney Avenue, 5th Floor
New Haven, CT 06520

Re: SPP/Medical Campus Chilled Water System Modeling Update

Dear Tony:

Per discussions in our meeting of 3/13/08, we are pleased to submit our proposal to provide engineering services to update the existing computer model of the chilled water system served by the Sterling Power Plant (SPP).

A. Background

The Yale Medical School campus is supplied with chilled water from the Sterling Power Plant (SPP) through a network of direct buried and tunnel distribution piping. WM Group has developed a computer model of the chilled water distribution system in 2007 using earlier load data provided by Mr. Mike Kieley. Since the completion of the modeling, a new chiller has been added to SPP and new loads connected to the chilled water system. The objective of this project is to update the computer model with the most recent cooling loads and plant equipment.

B. Scope of Work

1. Data collection of the updated plant equipment, distribution piping and building loads from a peak cooling day in summer of 2007. This task includes a field trip to survey any piping changes.
2. Update the computer model of the chilled water system using the Pipe2008 software.
3. Develop Excel spreadsheets to facilitate data entry and analysis of results.
4. Analyze the results to answer the following questions:
   a. What is the minimum pressure needed to maintain all the building loads on a peak day?
   b. How many chillers and pumps will have to operate to maintain all building loads on a peak day?
   c. What should be the expansion tank pressure setting?
   d. Are there any bottlenecks in the system, and how can they be eliminated?
   e. What is the minimum pressure needed at the plant to avoid using the Hospital's secondary pumps?
5. Turn over electronic copies of the model to Yale personnel.

6. Attend meetings to present the model and results to Yale, and provide training. A total of two meetings are included.
7. Submit a letter report summarizing the work done and the results.

C. Compensation

Our fee shall be as follows:

Gather System Information	$4,000
Expand the Existing Model	$8,000
Troubleshoot Model	$4,000
Meeting	$5,000
Prepare report	$4,000
Engineering Fee	**$25,000**
Reimbursable Expenses	**$ 2,000**
Total	**$27,000**

Reimbursable expenses will be billed at cost plus 10% for courier, reproduction and computer plotting for formal submission and project related travel and living.

We appreciate this opportunity to offer our services to you. If you have any questions with regard to the above, please do not hesitate to contact us.

Very truly yours,

WM GROUP ENGINEERS, PC

Douglas Wen, P.E.
Vice President