

January 22, 2016

Town of Chester Planning Board
1786 Kings Highway
Chester, NY 10918

Attention: Mr. Donald Serotta, Chairman

Dear Mr. Serotta,

Siemens Industry, Inc. is encouraged by the cooperation with Town of Chester, the Chester Union Free School District and the residents of Chester about the future installation of a solar renewable energy system at the Johnson farm. Siemens, a Fortune 50 company and the Dow Jones “Best in Class” industry group leader for sustainable companies, would like to leverage our experience in saving energy and improving efficiency to help the entire Chester community. We hereby pledge our support to Chester by providing a preliminary energy assessment for both the Chester Township and the Board of Education. Furthermore, Siemens intends to incorporate the new solar energy system into the Science, Technology, Engineering and Mathematics (STEM) program that is already in place in the Chester Schools. The following is an outline of the energy assessment and STEM offerings for Chester, both of which will be provided at no cost to the town or schools.

I. Preliminary Energy Assessment

Introduction

Siemens will perform a preliminary energy assessment for all Chester Township, NY municipal facilities as well as school district facilities. The preliminary assessment includes a survey of building HVAC equipment, review of building operations, interviews with maintenance personnel, analysis of utility bills, and preliminary savings estimations. The study consists of a preliminary examination of how the facilities currently use energy, how they are operated, and potential recommendations for reducing utility and other operating costs. The steps and methodology used by Siemens to develop this study are outlined below.

Scope of Work

The scope of work for the study is as follows:

1. Utility bill analysis.
2. Evaluation of existing operating conditions.
3. Identification of facility improvement measures (FIMs).
4. Calculation of estimated utility cost savings for each FIM.
5. Documentation of each FIM.

Utility Data Analysis

A utility data analysis (UDA) will be performed for each of the sites. Electricity, oil, natural gas and water/sewer bills for a two-year period will be reviewed and tabulated in order to develop an understanding of the energy use patterns. This investigation will determine the overall energy dollars being spent at each site and also helped differentiate between baseline and weather-dependent energy consumption.

Preliminary Site Survey

A team of engineers will visit the sites to undertake the preliminary study. The facilities included in the survey will be investigated to understand exactly how each one operates. The following tests and evaluations will be performed as applicable at each site:

1. The physical characteristics of the existing building will be evaluated.
2. Indoor and outdoor lighting systems will be evaluated for proper light levels and electrical efficiency.
3. Heating, cooling, and domestic hot water systems will be investigated for energy savings opportunities.
4. The potential application of solar photovoltaic power (PV) will be considered.

Maintenance staff will be interviewed to determine standard operating conditions and occupancy patterns in each facility. The information collected will be compiled and potential FIMs will be identified based upon on-site inspections, review of plans, and utility bills. The information will be reviewed by the Siemens team to identify which opportunities would require further investigation.

FIM Identification and Evaluation

Each potential FIM will be analyzed for feasibility by the following method:

1. The necessary work required to accomplish the savings opportunity will be determined and outlined.
2. Standard engineering algorithms will be used to calculate energy savings. Savings will be derived from a combination of computer modeling and spreadsheet calculations depending on the FIM. The savings for these opportunities will be calculated using the information provided by the data collected from utility bills, site survey and accepted industry processes of calculation and evaluation.
3. Preliminary data will be compared to industry baseline data for equipment efficiencies.

FIM Recommendations

Evaluating each FIM independently does not provide the bottom line energy savings that will occur if more than one FIM is implemented. Interactions can occur between FIMs that will alter the savings attributed to each FIM and affect the final recommendations. The FIMs chosen for recommendation will be based on the following factors:

1. Effect on building maintenance.
2. Positive and/or negative interaction with other FIMs.
3. Useful life of the FIMs and life cycle costing.
4. Positive effect on staff comfort and working conditions as well as system reliability.
5. Discussions with maintenance staff regarding their specific interests and needs.
6. Upgrade facilities to current ventilation standards

Report Preparation

The final step in the preliminary study of the site's energy use is the preparation of the report. This report will contain a description of site energy-using components, as well as information on the building's construction, occupancy levels and schedules. Preliminary write-ups describing each viable FIM are presented along with resulting savings and costs.

II. Collaboration & Integration with Chester Schools' STEM Program

Siemens is a strong supporter of Science, Technology, Engineering and Math (STEM) initiatives globally. As part of the proposed Chester solar project, Siemens will collaborate with the Chester Union Free School District to develop a STEM program that will be linked to the proposed solar project.

Siemens has already had a preliminary conversation with the district Superintendent. A second call will be held on 1/22/2016 with the Superintendent and Siemens' National STEM Program Manager to further develop the concepts of the program. As the solar project moves forward an additional in-person meeting with Siemens' National STEM Program Manager will be held to finalize the program development plan, which will be implemented through a collaboration between Siemens and the school district.

We look forward to meeting with you to discuss further details of this program outline. If you have any questions or concerns, please feel free to contact me.

With kind regards,

John Drzymkowski
Account Executive
Siemens Industry Inc.