

Conservation Commission Energy Committee Meeting
Thursday, August 23rd, 2018
Parks and Recreation Conference Room, 2nd Floor, Town Hall

In attendance: Robert Brady, Steve Hall

Also in attendance: Patricia Sesto, director; Sarah (Nahabedian) Coccaro, conservation resource manager

1. **Call to order-** 9:02 am by Ms. Patricia Sesto
2. **Approval of Minutes**
 - a. August 9th, 2018- minutes approval moved to next meeting.
3. **Update on Town Hall audit and other Eversource topics**

Electricity bills 101:

Ms. Patricia Sesto asked the committee members for an explanation of the language and costs on the Town's electric bills. This stemmed from possibly inaccurate electricity costs identified in the SWA audit report for the Town Hall.

Mr. Robert Brady and Mr. Steve Hall explained: the cost of electricity is made up of two components: the energy production and the transmission of the energy. Within these costs, other charges are included, such as taxes, fees and maintenance, etc. Mr. Brady and Mr. Hall likened it to buying a book on-line: The purchase includes both the book and the shipping/handling. TransCanada produces the energy. There is also the delivery charge, which is from Eversource (this includes energy and delivery). Eversource charges to move the energy to each meter. This is listed as "Distr Cust Srvc Chrg" and is a flat rate fee of \$350. There is also a charge for your use of their infrastructure, which includes installation and maintenance of such infrastructure. It's called "Prod/Trans Dmd Chrg". A customer is billed based on the maximum demand of that month or the previous month per kVa. kVa is the term used to describe the amount of electrical power that a meter can feed to a building or site. Mr. Brady gave the analogy of a highway: cars can only fit across the highway based on how many lanes there are.

Within the delivery charge, there are also kWh charges. The delivery charge is both a demand charge (covers the cost of the truck, personnel) and an energy charge.

Mr. Brady and Mr. Hall continued to explain terms used on the electricity bill. FMCC is the Federally Mandated Congestion Charge, which is a delivery charge related to transmission (load pocket charge), which is expressed at two different rates (on/off peak).

Mr. Brady discussed the email sent to Ms. Coccoaro on August 22nd and the calculations he did. See attached email below.

Ms. Sesto asked to clarify the difference between demand charges and energy costs. Again, Mr. Brady and Mr. Hall used the Amazon example. The book (energy) you buy from Amazon (TransCanada). They must run it through pipelines to get to Greenwich. Demand charge is a measure of the stress put on the delivery system; like a service charge. This is really noticeable in residential bills, but not in commercial properties. Mr. Brady did say that if you updated equipment to lower use, either more efficient or lowered the use, you would also see a lower demand charge.

Mr. Brady and Ms. Sesto discussed having Peter Malkin (Empire State Building energy retrofit) to do a presentation in the fall. The purpose of the presentation would be to give businesses the opportunity to come listen to a success story and be encouraged to implement their own energy efficiencies. Mr. Hall recommended Andy Ashforth, Steve Solar, who teaches at NYU on sustainable development and who used to be on the RTM, and Bruce Becker (Becker and Becker). Mr. Hall agreed to help think of other companies to invite. Also, recommended to contact the folks at CT Energy Network and invite- <http://www.ctenergynetwork.org/who-we-are.html> . Mr. Brady recommended the chairman of Fuel Cell, Inc. in Danbury. Ms. Sesto asked that the Committee start generating an invitation list and think about a name for the presentation. An example was "Building Energy Efficiency: building case study- Empire State Building". Date and location TBD, but possibly thinking October time frame.

The committee agreed the audit report was not accurately reflecting the cost, nor the savings available and should be redone, including the can-dos and should-dos. Mr. Brady expressed that there are ways to reduce peak demand, not by changing equipment, but by changing operations.

Mr. Hall recommended the firm Celtic Energy to help us identify load bearing. This company is not tied to Eversource or GreenBank. Ms. Sesto discussed with the Committee that this company might be best during the "action-phase" or implementation of the report once it is written. The report will have two-parts: Town buildings/Town Hall and public (residential, commercial buildings). The Committee identified the need for having a separate implementation committee. Mr. Brady recommended that in the future, the Town should move to combined billing instead of 180+ meters/customers and negotiate a better price. Eversource offers a way for large businesses to back out during high demands, but because we have so many meters, Eversource doesn't look at us like one customer, but as multiple.

Ms. Sesto recommended looking at a case study within our report. One of our meetings would be a presentation to incorporate into the report.

Mr. Hall recommended that during the Malkin presentation, he should mention why this makes sense economically and how that transfers to the tenants. His “green leases”. How does he market that? Finally, Mr. Brady recommended having Mr. Malkin align both economic and environmental benefits.

4. Strategic Energy Planning

i. Identification of desired presentations, needed information.

ii. Action items:

1. Communicate to SWA about charges they missed.
 - a. PS and SC to set up an in-person meeting with SWA in lieu of next meeting (9/13/18) to include Committee members.
2. Committee members to compile invite list for Malkin presentation.
 - a. Date and location TBD.
3. Steve Hall will pick a date for presentation on co-gen for Committee. Bruce Becker speaker (Committee happy to change date/time to fit Mr. Becker’s schedule).
4. PS to follow up with Dan Watson

5. Next meeting – September 13th 27th, 2018 @ 9:00am

- a. Agenda topics

6. Adjourn- 10:02am

Email correspondence from Mr. Brady.

8/22/18

Sarah,

The Town receives two bills each month for electricity at Town Hall. One is from Eversource and includes the metered kWh and kW for energy and demand respectively. Copies of the 7/23 and 6/25 Eversource and TransCanada bills (unfortunately not the same period) are attached.

The Eversource charge for the previous month was \$13,815, the TransCanada charge was \$12,849 for 176,256 kWh. The overall total is 15.1¢/kWh which is comparable to SWA's number. The energy only component is \$12,849 + \$3,805, for a 9.4¢/kWh energy charge. The balance is the customer service charge of \$350 and demand charges of \$10,166. The demand charge is 642.2 kVA for a unit price of \$15.83/kVA. This last amount should be used in evaluating equipment efficiency. In considering electric loads, e.g. pumps, fans, etc., the kW to hp conversion is 1 kW is 1.33 hp or 1 hp is 0.75 kW. At \$15.83 kVA/mo, reducing the size of a fan motor by 3 hp would save \$570/yr in demand charges, and if it ran 5,000 hours per yr, it would save 11,250 kWh which is about \$1,057 per year in energy cost or a total of \$1,627 per year. If 5 year simple pay-back is your threshold, you'd be winning if you spent less than \$8,100 to save the 3 hp!

SWA did not do this analysis. The report should be returned marked "incomplete" and they should be asked to finish their work.

Regards,

Bob Brady