

Hillsboro Energy Commission Approved Minutes
December 22nd, 2021; **Bolded items are things to-do**

Meeting opened at 6:07 PM. Attendance: Brett Cherrington, Chairman; Adam Charrette, Vice-Chairman; Sue Durling; Jon Daley; Andrew Tiebout, Senior Project Manager for Affinity LED Lighting left at 7:15PM; Peter Salvitti Efficient LED Lighting Systems arrived at 7:00PM and waited in the other room until 7:15PM.

Street Light Bid

We met with the selectmen on the 8th and made our recommendation for Efficient and subsequently Affinity LED contacted Laura Buono to see if there were some misunderstandings or missing information that he could fill in. Jon and Brett had phone conversations with both companies and we decided to invite both representatives from Affinity and Efficient to attend this meeting to give us further information and answer any questions that we might have. Adam and Jon took a trip last night through Henniker (LED conversion done by Affinity) and Bradford (LED conversion done by Efficient).

Affinity LED Lighting

Andrew gave us a presentation about his company and specifically the proposal for Hillsboro. He talked about the founder and his goals for affecting climate change through LED conversions. The company is also committed to US-based manufacturing and employs veterans in their Dover manufacturing plant.

He made the point that the payback periods are quite different between the two proposals, and in Andrew's opinion, they are closer than they might appear because Efficient was only calculating the kWh hour savings, and Affinity calculates both the kWh savings and the net book value cost reduction of the old bulbs.

Andrew had a slide that directly compared the two proposals, and thinks that it might be the case that Affinity's proposal might have more costs included – it was his opinion that Efficient's proposal had add-ons for recycling, police detail, first year of labor warranty, etc. *When we looked at the bid afterwards, that turned out to not be true. The final cost for Efficient was correctly quoted at \$40K.*

The LED drivers are the highest point of failure. The power conversion is moved into the LED module for power efficiency and longevity.

He pointed out the lifetime hours for Affinity's bulbs claims 170,000 hours and Efficient claims 100,000 hours. Eversource estimates 3000 hours per year.

Andrew has a troubleshooting guide that he is pretty happy with in that it tends to help the electrician have one trip rather than multiple trips by not noticing all of the problems that might be occurring.

Eversource is responsible for the maintenance, but they often will approve Affinity to take care of the problem, rather than Eversource sending their own electricians. We contact Affinity when there is a problem with light. They take over the process from there. If Eversource handles the problem, they would bill us and we would get reimbursed by Affinity for those charges.

Per pole cost is quite different: Affinity \$134, Efficient is \$65. Affinity includes their analysis in that cost.

Audit: Affinity hires an outside company to do the audit. They will also go through and look for non-ledgered lights, checking for private lights, unmetered lights on highway or fire department buildings. Those unmetered on the buildings are not able to be replaced under the normal switch process, unless those lights are switched over to the street light ledger and are included as part of the buyout.

Eversource has written incentives that don't make sense in terms of the wattage of LED lights, that in some cases, the bulbs are too low to meet the incentive rate, but Eversource will still provide incentives.

Networked controls: The current NH tariff does not cover any cost savings for having a networked control and they are still billed at the “normal” rate. In 2022, there is a new tariff coming, but it hasn’t been specified yet. They aren’t quite sure what it is going to look like, but it will be something like an estimate will be done at the beginning of the year, and then there will be a catch up at the end of the year, looking at the reports from the software that reported how often the light was on, etc. They used to use a mesh-type network and had troubles with it, and have converted to a Verizon/cell-phone type network and they have been quite happy with this plan. The cost per device is \$6 per year to add network capability to a fixture (they do have longer contracts available which can lower that cost). Networked devices are able to report about power and outages, etc. If the networking node fails, it would default to photo-cell mode.

Color temperature: 3000K is the lowest they have. New England is not typical throughout the country – many places want higher temperatures. Some medical association has declared that 3000K is low enough to not affect circadian rhythms, etc. He thinks 3000K is better for safety and color rendering. He suggested that if you tell residents that they will take a few weeks to “burn-in” and settle, they will get used to it and not realize that it is whiter than it used to be.

Henniker uses 80W bulbs most everywhere.

Questions for Affinity Lighting:

If we want to remove a light, are we in charge of that process, or is Eversource? We are. Eversource should have history to find out why a particular bulb was installed decades ago, etc.

Are there are standards for specifying which light goes in which intersections, etc. Yes.

Do all lights have to be networked all-or-nothing? No.

Can motion sensors be included in these controls? No. Street lights don’t ever have motion sensors.

We didn’t see any shields in Henniker; are we strange in caring about that? No. He isn’t familiar with what happened specifically in Henniker, but does know some towns care a lot about shields, etc. and others are more interested in strictly cost savings and count on the vendor to make all the decisions, and the town will deal with complaints later. He did say that shields cost \$20 and installation is free if installed at the initial install.

We noticed that there are a number of lights that weren’t upgraded in Henniker heading down past the police station. Was that purposeful, or perhaps those fixtures weren’t on the ledger? He brought up Henniker’s drawing and his graph shows all of the lights have been upgraded. He didn’t know why they were old.

Efficient LED Lighting

The only shield that they use is a back shield – it will keep the light basically to the pole, maybe a little bit to the sidewalk. For lights that are mounted 45 degrees or otherwise needs a different beam shape, there are different bulbs that can be chosen to put light in the right place. The lens above the diode is the difference.

The Lumec/Signify lights have been around a long time, and they will be able to support the lights “forever” no matter if Efficient LED is still around or not.

Efficient does street lighting as well as interior building lights, etc.

Warranty? Very few failures, maybe five have failed total, including one that was shot with a shotgun.

People are used to seeing 30% efficacy lights (high pressure sodium lights lumen output tapers down quickly, but then continues to last for a long time).

Stoddard ordered 4000K bulbs and a few people complained and wished they had ordered a lower temperature. Peter prefers 4000K himself. He thinks 3000K is good, but doesn't recommend going to a 2700K bulb – he has installed 2700K bulbs in his house and says the color doesn't look good, doesn't appear to be the same color as incandescent bulb.

Photocell is the most likely part to fail; it will likely fail in the powered position. He had one light that turned into a strobe light (driver error). Later he said the failures were the driver.

They are supposed to be 20 year lights. The warranty for the actual light is 10 years. The 10-year labor warranty quoted in the proposal is \$4000.

He hasn't ever had a town request to remove lights, so he doesn't know what the process is. He will check with Eversource about that tomorrow.

He is willing to look through the lighting as he goes through the ledger and make some better recommendations for which bulbs goes where. He thought that 15W bulbs would be good for the residential streets, and 35W would most likely be good in the busier areas, maybe increasing to 45W, but might not even need that much light.

His high priorities for the company are an excellent safety record and having happy customers who give good references for future work.

Post Presentation Conversation

We talked extensively through lots of issues and the questions and answers raised. Many good things about each company. The committee liked the environmental commitment on Affinity's part with the reusable boxes/plastic. Efficient LED's installation and monthly costs are lower. Adam made a motion to pick Affinity LED Lighting as the town-wide LED project. Sue seconded. Vote: 3-1.

Next meeting at January 13th.

Meeting adjourned at 10:00 PM, motion to adjourn by Sue, seconded by Jon, passed unanimously.

Respectfully submitted,
Jon Daley