Postings: from the desk of Jim Brodrick

Last week was a busy one for DOE's Municipal Solid-State Street Lighting Consortium. It held its first annual meeting, immediately following the Illuminating Engineering Society of North America (IES) Street and Area Lighting Conference (SALC) in Huntington Beach, CA. And right after the Consortium's annual meeting, there was another important Consortium event: the first regional workshop, which was just a short drive away in Los Angeles and covered the Southwest Region. On top of that, Cree announced last week that the U.S. participants in its LED City® program would join forces with the Consortium, so we were delighted to welcome them into the fold.

Both Consortium events last week were well-attended – nearly 100 at the annual meeting, and more than 50 at the regional workshop. And just as we've been seeing at other recent conferences, the presence of SSL was very prominent at the SALC, where it seemed nearly everyone was presenting on some aspect of LEDs, compared to almost no one just four years ago. That's pretty rapid progress, which is precisely why we launched the Consortium – to help municipalities better evaluate the LED street lighting products that are coming on the market in earnest.

At the Consortium meeting in Huntington Beach, attendees broke up into small group discussions that focused on such key topics as education, demonstrations, specifications, and remote monitoring and control. Remote monitoring and control, of course, is a major factor behind the widespread interest in LED

street lighting, so there was a great deal to say on that front. As for education, everyone agreed it's a top priority, but Consortium members span a wide spectrum in terms of their SSL knowledge – from those still grappling with what an LED is, to those who've already ascended quite a ways up the learning curve. The Consortium will provide a framework for peer-to-peer collaboration, so that cities better acquainted with SSL street lighting – some LED City members, for example – can help their counterparts get up to speed.

But to help that learning process along, over the course of the next 12 months we'll also be holding a series of six one-day regional workshops on the basics, located with the intent that no one has to travel more than 500 miles to attend. These will be "LED 101" type affairs, focusing on such things as how the technology works and the key differences between SSL and conventional products. Last week's regional workshop in Los Angeles was the first of these. It delved into such topics as evaluating LED luminaires, calculating light loss factor, understanding LM-79 and LM-80, and conducting cost-benefit analyses. These regional workshops will also provide forums where local and regional issues in solid-state street lighting can be addressed, and will allow neighboring municipalities to share their knowledge and experience.

On another front, I'm excited to report that we're moving ahead with plans for our first Consortium demo, to take place in Kansas City, MO. Kansas City has a consistently enforced street lighting spec, so the lighting throughout the municipality is very uniform in terms of installed products (which are all from the same vendor), performance, and spacing. The result is an uncommonly consistent baseline, which should make for good apples-to-apples comparisons between the incumbent technology and whatever LED products are selected. The goal is for the demonstration to start in the next few months, so that initial results are available in time to report them at the IES

Roadway Lighting Committee meeting in early March of next year.

The Consortium is simultaneously developing a solid-state street lighting specification. That's not a simple task, for one thing because there's so much variation from city to city, and even from application to application within a given city – which means that a "one size fits all" approach isn't likely to be of much use. What's more, just looking at luminaire characteristics doesn't guarantee equivalence; you have to consider the application, so that the design delivers the light in such a way that you're properly applying the LED technology. Just to provide a simple illustration: a luminaire that uses half as much energy doesn't save anything if you have to use twice as many of them to produce required light levels.

That's part of the challenge of developing this specification. It's a thorny issue that requires a lot of technical depth and understanding, and we're still in the process of coming to grips with it. At this point it looks like the spec will be more like a model guideline that each city can adapt to its own purposes. In the meantime, there are some useful outdoor lighting resources – including specifications, fact sheets, GATEWAY reports, and CALiPER reports – available online at www.ssl.energy.gov/related_materials.html.

Despite the progress that's been made in SSL street lighting, cost still remains an issue, and one particular need that was identified was for the Consortium to come up with some sort of guidance for putting together the financing for LED street lighting replacement products, and also possibly some kind of mass-procurement arrangement. This would be of particular help to smaller cities, but the larger ones have expressed an interest as well. The Consortium will be looking into these issues going forward, along with others that are identified as having broad appeal across the membership.

It's estimated that there are 35 million street lights in the U.S. They consume as much electricity each year as 3.9 million households, and generate greenhouse gas emissions equal to that produced by 8 million cars. Converting a significant portion of these street lights to LED technology could make a real difference, both in terms of energy savings and a cleaner environment. DOE's Solid-State Street Lighting Consortium is working to help cities make good decisions on SSL purchases, in order to maximize these benefits. To learn more about the Consortium, or to join, visit www.ssl.energy.gov/consortium.html.

As always, if you have questions or comments, you can reach me at postings@lightingfacts.com.