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HEARING ON: ENERGY REDUCTION AND ENVIRONMENTAL SUSTAINABILITY IN SURFACE TRANSPORTATION

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Energy Savings by More Effectively Controlling Streetlights

Chairman Oberstar, Ranking Member Mica, and Members of this Subcommittee, my name is Dave Tilley, and I am the President of Crawford Green Systems. I thank you for the opportunity to testify today before the Subcommittee on Highways and Transit on "Energy Reduction and Environmental Sustainability in Surface Transportation."

I am pleased to introduce a new technology that will have a direct, immediate, and significant impact on energy savings as well as provide money savings and reductions in CO2 emissions realized when we reduce electric use. We have developed a switch to control streetlights, which can save over 50% of the energy used by those streetlights. This information is not intended to attempt to sell the switches, but to make Members aware of a new technology that is available to address the need to save energy, money, and reduce CO2 emissions.

The switch uses a standard photocell, as is used on many streetlights today to turn streetlights on at sunset and off at sunrise. What we have done is added a timer so that the streetlight can be turned off late at night when traffic volume has decreased and turn the light back on again early in the morning when traffic volume increases. The installer can easily program the time at which the streetlight can be turned off and on. An example might be to turn the lights off at 11:00 at night and on again in the morning at 5:00. It is important to note that we are not recommending that all streetlights across the country be turned off – some are needed to be on all night for either traffic safety, or in populated areas they must be kept on for security reasons.

There are over 50 million streetlights across the US. As an example of the tremendous savings this technology could produce, if only 2 million of those lights were controlled by this technology and if those lights use 1,000 watt bulbs:

- We would save 4.38 billion kWh in electric usage annually.
    - That is enough electricity to power every home in the state of Rhode Island for a year.
- At a rate of $0.14 per kWh, we would save over $613 million dollars annually.
- The design allows a switch to be sold for about $100, so it is economically attractive.
- From an environmental standpoint, a coal-fired power plant produces about 4 tons of CO2 annually to generate enough electricity for a 1,000 watt streetlight. By turning off a streetlight for six-hours per night, we can eliminate 2 tons of CO2 emissions per year. Compound that over 2 million lights and we save 4 million tons of CO2 emissions per year.

As a real world illustration of how this technology can help, consider Millersburg PA, a town of about 2,500 people. In December 2008, Millersburg announced that they were terminating the employment of their Police Chief due to budget constraints. Utilizing technology such as I present here would reduce energy costs, freeing that money up for other important uses such as their police chief. Currently, Millersburg is investigating if and where this technology could be implemented, and how much money it could save them. Keep in mind, once implemented, the technology will continue to save money for towns like Millersburg for years to come with a modest one time investment.

Of course, as good as these savings are, safety and security is paramount. Most of the streetlights in the US are owned or rented by cities, towns, and boroughs. It is up to the individual municipality to determine which streetlights can be turned off, and when they can be off. Recently, the town of Bow NH turned off over 200 streetlights permanently to save money. They have identified streetlights that they feel can be turned off without sacrificing safety and security.

This is a brief overview of what is newly available. Additional information is available at www.crawfordgreensystems.com.

Once again, thank you for this opportunity to share this important new technology with the Committee. There are many new ways in which we can address energy reduction and environmental sustainability in surface transportation legislation, and I hope this information will help you as you tackle the daunting task of crafting these new policies for this country.