Thank you for inviting me to speak. It is important for our two organizations to work together since we have common interests in the communications policy area. I found that out personally as our two organizations coordinated our briefs this past year in the US Supreme Court case of *Nixon v. Missouri Municipal League*.

Let me introduce you to the American Public Power Association. APPA is a national service organization that represents the interests of more than 2,000 publicly-owned, not-for-profit electric utilities located in all states except Hawaii. Currently, approximately three-fourths of APPA’s members serve communities with less than 10,000 residents. Public power systems operated by municipalities, counties, authorities, states and public utility districts provide electricity to approximately 43 million Americans.
For many public power systems, community broadband services are a natural extension of their public service responsibilities. They already maintain certain broadband capabilities to distribute electricity efficiently and safely, so extension of broadband services to their customers is an easy expansion. Through a survey of its members at the end of 2003, APPA identified approximately 570 public power systems that offer some kind of community broadband services. Here are some examples of services rendered by our members: fiber leasing-156; internet service provider-134; cable modem-76; broadband resale-128.

I was given four questions to answer for this panel, and I will answer them in turn.

1. Why has there been a resurgence in interest in power line technology?

   For years there have been attempts to use the alternating current (AC) power lines to carry information by coupling radio frequency (RF) energy to the AC electrical wiring. However, because of the impedance and attenuation variations of power lines and noise from devices such as dimmer switches, appliances, computer switches, and electrical transformers reliable high-speed communications over power lines have been difficult. Moreover, where early attempts at using broadband over power lines were tried in Japan, the United Kingdom and in continental Europe emissions radiating from power lines interfered with other communications.

   Things have changed. Improvements in technology, including faster digital processing capabilities and the development of sophisticated modulation schemes, have produced new designs that can overcome technical obstacles. Moreover, the speed of the data flow over Broadband over Power Line (BPL) is now slightly faster than DSL and slightly slower than cable, with the promise of increasing speeds to accommodate not only voice
and data but video as well. In addition, at an estimated retail price of $35/month and potentially going lower, BPL is competitive with DSL and cable modem services.

There is also a digital divide which BPL may be in excellent position to bridge. In underserved areas—both distressed urban and rural—incumbent telephone and cable companies have been reluctant to make the capital investments to provide advanced broadband services because the return on investment in not as great as in wealthier and more densely populated areas. Moreover, the last four years have not been kind to communications companies. Because of the financial distress in the industry, it has been difficult for most communications companies to access the capital markets to make the investments in broadband infrastructure that are required to serve underserved areas. On the other hand, electric utilities already have the wire in place for the last-mile delivery of communication services to residences and businesses. Relatively speaking, the investments that are necessary to provide BPL in underserved areas are considerably less than the costs that would have to be incurred by telephone and cable companies. And because electric wires serve almost every home and business, BPL makes it feasible to provide advanced broadband services over power lines to almost everyone, everywhere.

And the demand for advanced broadband services has increased. Areas which are not being offered advanced broadband services cry out for help. When the telephone and cable companies fail to respond, potential customers seek out alternatives, especially their local governments that operate municipal utilities.

One more reason for the interest in BPL is the major role that BPL can play in the ability of an electric utility to enhance the operations of its systems. It can help support
functions such as reclosure operations, power quality monitoring, automated meter reading, automatic connect and disconnect, system security and voice over IP.

Now as I understand it, there are still some limitations. It will take several more years before the next generation or two of BPL technology will permit enough speed for high quality video and for reaching the most remote rural areas. Distance still makes a difference.

But overall, the technology of BPL has achieved the speed, the reliability, the cost and the interference avoidance to make electric utilities a viable third wire to the home, capable of competing with advanced broadband from telephone and cable companies.

2. Is BPL Truly a Panacea for Delivering Broadband to Rural and Underserved Areas?

It’s too early to tell whether BPL will be the killer technology for rural and distressed urban areas, but it certainly has the potential to bring in new services and competition.

Thus far, there are only a few utilities that are working with the five BPL manufacturers. The utilities are presently undertaking technical and marketing pilots to determine the best technology and equipment, the customer acceptance and satisfaction, and the pricing points for service. However, the reports back all seem to be favorable, and at least a couple of utilities have made the decision to provide BPL service on a commercial basis. One of those is Manassas, Virginia, a public power community.

As with DSL, the distance separating homes may make a difference in the feasibility of BPL serving the most rural residences. So it may take some time for those communities
to get served. As I understand it, the barriers to reaching the houses and businesses that are isolated are both technical and financial.

However, because electric utilities already have the wires to the premises, it’s possible to introduce BPL relatively quickly once a decision has been made by the utility to move forward. This should mean that many communities that have been cut off from the deployment of advanced broadband services should not have much longer to wait.

3. How Does BPL Fit into the Larger Equation?

Because wires run to almost every home and business in the service territories of electric utilities, universal service is entirely feasible. Government buildings, universities, hospitals, non-profits, homes and businesses are all in a position to receive advanced broadband services. The advantages of advanced broadband services should be as available in distressed communities and rural areas as they are in urban and suburban areas.

BPL can be the third wire into the home, and can serve as a new broadband competitor to DSL and cable modem services, or can serve as the only provider where neither DSL nor cable is present.

The electric utility has the expertise to install and maintain the infrastructure for BPL. It can choose to provide the voice, data and video services itself, or it can contract with competitive local exchange carriers or internet service providers to provide the information and customer services to subscribers.

4. How Can Government Spur its Development?
As a representative of the American Public Power Association, I must begin by saying that municipal utilities, like Manassas, can offer BPL. Of course, that will require the state and local governments to give municipal utilities the authority to do so, if they do not already have it, and for the federal government to preempt state legal barriers that prevent municipal utilities from providing these services.

The Federal Communications Commission will also have to ensure that the regulations that it is developing for BPL will not discourage manufacturer and utility investments. The regulations will have to not be too restrictive as to noise interference standards, will have to not require disclosure of critical infrastructure and proprietary information, will have to assure the utility that its investments in BPL are not threatened by enforcement actions, and will have to coordinate with the Federal Energy Regulatory Commission on jurisdictional issues. The FCC will also have to clarify the application of universal service, E-911 and CALEA requirements to BPL.

And state public utility commissions will have to provide guidance on allocation of assets and tariffs between electric service and broadband service.

Thank you, and I’d be glad to address your questions.