

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

**Case 06-M-0043 – Proceeding on Motion of the Commission to Examine Issues Related
to the Deployment of Broadband over Power Line Technologies**

**Comments of the City of New York
On Order Initiating Proceeding and Inviting Comments**

March 13, 2006

The City of New York (City) hereby submits its comments on the January 25, 2006 Order Initiating the Proceeding on Motion of the Commission to Examine Issues Related to the Deployment of Broadband over Power Line Technologies. The City agrees with the New York State Public Service Commission (Commission) that broadband over power line (BPL) has great potential in offering a variety of services to utilities and end-users and, therefore, supports the Commission's proceeding to investigate the further potential for, and unique technical and regulatory issues related to, BPL technologies. The City urges the Commission to establish procedures that will overcome any existing challenges to BPL's deployment, particularly for use in multi-dwelling units (MDUs) where most of the City's tenants and homeowners reside.

Background

BPL, while still in its infancy, presents a wide variety of promising applications that are of particular interest to New York City. BPL offers the prospect of a third broadband wire to the homes and businesses, using the power lines or utility wires to potentially transmit data, voice, and video. Even in areas of New York City already served by existing broadband services, such as digital subscriber line (DSL) and cable modem, an alternate broadband platform would provide welcome competition and more diversified forms of service to City residents.¹ BPL also offers the potential to help utilities and residents alike

¹ New York City is already well served by cable modem service and DSL. Cable franchisees reported more than a year ago that all homes in the five boroughs were eligible for cable modem service, as required by the terms of their franchises. Additionally, Verizon reported that 85-90% of all telephone lines in the five boroughs are eligible for DSL. See *Telecommunications and Economic Development in New York City: A Plan for Action* (March 2005) at 19-20, accessible at http://www.nycedc.com/About_Us/TelecomPlanMarch2005.pdf. These data do not take into account those City residents using the many hundreds of WiFi hotspots around New York City or those using fiber connections. Nevertheless, adding another broadband option is likely to reduce the cost of broadband service overall, as well as create incentives for the broadband providers to diversify services. Additionally, the City has identified particular areas – especially older industrial areas – that lack a high level of broadband service and would benefit from another high-speed option.

reduce energy costs and streamline energy use, providing another significant benefit to New York City, which is at risk of overtaxing its energy supply in the future.

The BPL applications mentioned above are beginning to be used in a few commercial, trial, and internal deployments in New York City. These offerings are of two different varieties, which the Federal Communications Commission (FCC) calls “access BPL” and “in-house” BPL.² Both types of BPL have been successfully tested to a limited degree in New York City and have demonstrated great value in their trials to date, as discussed below.

1. Access BPL

Access BPL (or the transmission lines for delivery of telecommunications services and energy management functions) has been used to a far lesser degree in New York City than in several other locales.³ However, there are some small-scale applications here. In Manhattan, Consolidated Edison Company of New York, Inc. (Con Edison) uses it to monitor water, temperature, and humidity levels in the First Avenue steam tunnel, and for transmission of voice communications within the tunnel. Outside of the City, in Briarcliff Manor in Westchester County, Con Edison is testing BPL on the grid and to the home. By using BPL on its grid, Con Edison expects to be able to detect interference and other load management problems early on.

While the use of access BPL is limited in the City, the potential for utility management and cost savings through a “smart grid” is clear. Use of BPL for automated

² *In re Carrier Current Systems, including Broadband over Power Line Systems*, FCC 04-245 (2004) (“Report and Order”).

³ In Cincinnati, for example, Current Communications is using the power lines run by Cinergy to delivery broadband service to more than 50,000 homes. In Manassas, Virginia, the City of Manassas teamed up with ComTek Communications Technology, a BPL provider, to make BPL available to every home in the city.

meter reading, load management, outage detection, and other enhanced applications for energy-related purposes would help a utility make its network more efficient, reliable, and cost-effective. Ultimately, BPL may offer the potential for such advances as distribution system fault-predictive capabilities, thus making the networks more secure.

In addition, the Commission policy articulated in various electric Orders⁴ has been to encourage the use of dynamic pricing mechanisms, including time-of-use rates and real time pricing structures. BPL offers the prospect of permitting advanced load controls, curtailment of peak system loads via Internet connections, and even load reduction without the need for manual intervention through the use of automated controls and advanced telemetry.

2. In-Building BPL Services

In-building BPL service to the resident (or what the FCC terms “in-house BPL”⁵) offers its own set of benefits, particularly for end-users. As discussed above, BPL to the home or business promises another broadband option for New York City’s residents, expanding the array of choices and price points available. Because it rides on the electric wiring in a building, tenants might also use in-building BPL to remotely control their heat, air conditioning, and other energy applications; remotely monitor video from security cameras in public spaces; or monitor activity or air quality within the home. BPL applications can also be used for elevator shaft monitoring and maintenance. Such cost-saving and security-enhancing applications are particularly valuable in New York City’s

⁴ Order on Expansion of Voluntary Real Time Pricing Programs in PSC Case No. 03-E-0641 (Issued and Effective October 30, 2003) at pp. 2-3, 11-13; Order Instituting Further Proceedings in PSC Case No. 03-E-0641 at pp. 1-5 *passim* (Issued and Effective September 23, 2005)

⁵ “In-house” BPL is often referred to as power line communications (or PLC). The City prefers the term “in-building” service as we are referring primarily to BPL service within MDUs using the electric wires within a building to provide broadband to the tenants, but using some other mode of bringing the signal to the building, such as wireless broadband or fiber.

multi-dwelling units or MDUs, where energy costs remain high, and security concerns may exist in some areas.

In-building BPL service is now offered commercially in New York City by one company, Microwave Satellite Technologies (MST), using Telkonet's patented BPL solution. This service is currently offered in several of the Trump properties on Manhattan's West Side, and will be installed in the remaining Trump buildings over the next few years. Currently, residents in several Trump buildings are able to get voice and broadband Internet service over in-building BPL, and soon should be able to get video through IPTV delivered over BPL. Additionally, Con Edison has engaged in a pilot project with Ambient Technologies to conduct a trial BPL program in an MDU in Manhattan. This pilot has demonstrated the success of BPL for high-speed Internet, video streaming, video conferencing and calling, video surveillance, electricity load control, and outage reporting.

The City is encouraged by the BPL applications exhibited so far and looks forward to continued innovation and investment in BPL applications. The City urges the Commission to provide clarity and guidance that will foster research and development in BPL's applications, as well as BPL deployment, particularly in the multi-dwelling context. Even though BPL is still a new technology, it has shown great potential for enhancing economic development and quality of life by expanding broadband options and online applications, reducing energy costs, and promoting the development of new services.

Position of the City of New York

The City generally supports the regulatory and business model approaches proposed in the Commission's Order, except for the distinctions noted herein. Regarding commercial deployment of BPL, the City endorses a business model that is most likely to foster the

development of new BPL products and services to the end-user resident, and generally supports the Commission's tentative conclusion that a business structure that promotes the least level of direct electric utility involvement is most likely to promote deployment of BPL. Such a structure may be particularly important for the in-building context, where companies unaffiliated with the utility controlling the electric lines may want to provide new service(s) to the residents, as MST and Telkonet are now doing.

On the other hand, the City would be reluctant to see the Commission bar utilities from piloting new BPL applications entirely. We believe that the pilots already undertaken by utilities have been fruitful in demonstrating a number of ways that BPL can benefit tenants and others living in MDUs. BPL also provides a potentially useful tool for utilities in managing load control, detecting outages at an early stage, and managing the network capacity overall.

The City, therefore, encourages a carve-out for discrete trials or demonstration projects for the purposes of advancing new developments in the technology and its applications. The Commission can revisit the need for such a carve-out in the next year or two, once BPL is a more fully developed technology.

Additionally, the City recommends that the Commission initiate a conference or collaborative process to explore the development of BPL technology and the results seen from the use of different regulatory approaches, such as those adopted in Texas and proposed in California, to determine whether the benefits of affiliate transactions outweigh the burdens of regulatory oversight. The Commission should review the lessons from other states before issuing final rules in this area. One focus area for such a technical conference could be an examination of whether a BPL role for utility affiliates can be developed without deterring

the independent entrepreneurial BPL projects that are clearly needed to make progress in realizing the potential for wide deployment of this emerging technology.

1. Access BPL and the Need for Structural Separation

To the extent that it promotes competitive behavior and increases the range of consumer choice, access BPL represents the sort of innovation that the Commission should encourage with a constructive regulatory environment. In addition, access BPL providers that are not incumbent distribution utilities or their affiliates should be met with a lightened regulatory scheme, and where warranted, with the absence of regulation that could stifle innovation in this important new electronic realm. As noted above, doing so would help advance goals the Commission has already espoused in other proceedings.

A valid general concern of the Commission is in ensuring that regulated utility ratepayers do not subsidize unregulated entities. The Commission can and should require jurisdictional companies to provide a detailed accounting of their financial transactions, including the involvement of unregulated entities. However, the Initiating Order here raises legitimate issues for the Commission and its Staff on the practicability and wisdom of doing so in a dynamic and novel marketplace as is now emerging for BPL.

As jurisdictional companies have a virtually guaranteed recovery for prudently incurred costs, there may be a corporate inclination to charge inappropriate costs to a rate-based utility. Were BPL to gain significant market penetration and become an economic driver, Commission Staff would need to obtain periodic financial reports, and to conduct comprehensive audits to serve as a check on any such tendency, and thereby prevent the misallocation of utility assets and expenses.

While such activities are well within the capability of Staff, requiring a full regulatory regime appears particularly inappropriate in the context of an emerging technology that should be encouraged to develop in a manner that encourages the fullest range of innovative activity to advance the public welfare.

Even if a utility-related BPL provider were operating as a separate subsidiary, there would be affiliate transaction issues that the Commission would be obligated to monitor closely. For example, the Commission would need to ensure that all aspects of the affiliate relationship are arms-length transactions, and that the utility is not using ratepayer revenue to subsidize an unrelated business venture. The Department of Public Service staff should not be compelled to spend undue attention and resources on such issues, and the Initiating Order here proposes a business model favoring independent BPL providers over BPL provided directly by a utility or an affiliate thereof.

On the other hand, there may be sufficient potential advantages to allowing affiliate transactions as to outweigh these regulatory burdens. Such advantages include the increased involvement and financial investment of utilities in their smart grid applications, which might occur far more readily if done through an affiliate. As discussed above, we recommend that the Commission adopt a collaborative process to consider all the benefits of affiliate transactions and weigh them against the regulatory burdens. The Commission should study whether a structure can be developed that permits a defined role in BPL development to utility affiliates – but only if it can be done in a manner that will not stifle or burden the critical efforts of independent BPL developers.

In the meantime, the City endorses the Commission's position of prohibiting provision of BPL by the regulated utility itself. Such a position provides a necessary

safeguard to ensure that access to needed facilities is not impeded. This model not only makes sense from a regulatory point of view, but also from a business perspective to provide safeguards to ensure that access to needed facilities is not impeded. As noted, the Commission may ultimately determine that a dual-track approach involving both utility affiliates and entirely independent firms can be workable.

As BPL is a newly emerging technology, a number of smaller start-up companies are entering this market, refining the technology and developing new services. Such innovation and investment is more likely to be encouraged if the regulated utility itself is barred from entering and dominating the market due to the marked advantages it would have, as suggested in the Initiating Order.

1. In-Building BPL: Structural Separation, Clarification on Ownership of Lines, and a Rate Schedule Are Necessary

The same concerns regarding structural separation apply in the in-building context, in addition to other issues relating to the ownership of the electric lines within the building, as well as the need for rates for using a utility's wires.

a. Structural Separation for In-Building BPL Use

Structural separation is clearly advisable in the in-building context, where owners, landlords and tenants should be able to benefit from the broadest possible array of BPL products and services. If a regulated utility were actively engaged in the provision of BPL to end-users, however, its control over the wire to the building might create inherent conflicts with any competitors. For example, if that utility were to offer BPL, it might favor its service over that of a competing provider by imposing burdensome requirements, costs, or tests on the competing company. It might also preempt the use of the wire by a competitor if both BPL providers were operating in the same frequency, or if there were a potential concerns

(whether real or fanciful) over frequency interference, thus foreclosing the simultaneous use of the wire by both providers.

The concerns raised with regard to market dominance in the access BPL context apply just as forcefully in the in-building context. The success of BPL will depend on new applications and diversification of services for the end-user in order to distinguish it from other broadband products. For that reason, it is particularly important that the Commission select a regulatory model that provides maximum access to the independent companies that are developing and investing in new applications.

b. Clarification of Landlord/Owner–Utility Respective Ownership of the Wires Is Needed

The City suggests that the Commission provide further guidance concerning multifamily building wire ownership principles. The City understands that an issue in-building BPL providers have faced is whether they must get permission from the landlord or the utility to operate over these wires. The same concern of course applies in the context of owned MDUs.⁶ The Commission should therefore develop governing rules for interconnection, just and reasonable rates for the use of wiring (to the extent that subject is within the Commission’s jurisdiction, as on the distribution network), and any other process issues that may be expected to arise in the MDU environment for BPL.

Such subjects could form part of the agenda for the technical conference suggested by the City herein. Regardless of whether the Commission is inclined to accept that suggestion, clear answers to these concerns are needed to facilitate development of BPL by independent providers in the City and elsewhere.

⁶ The rental market is by far the dominant form of residential living arrangements in New York City, and is therefore more likely to require attention if there is to be significant BPL market penetration.

Regarding ownership of wires, in-building BPL providers have contended that they have difficulty using the wiring in the building because the utility may suggest that it controls the entire electric wiring in the building, or that in-building operations by third party BPL providers may adversely affect utility operations. The Commission should clarify that the utility owns the line up to the meter panel, and that the electric wiring beyond that point is subject to control by the building owner.

Interconnection rules and processes in the in-building context would also benefit MDU residents. Such rules would allow the landlord or building owner to decide which BPL operator can serve the building. This result is more likely to benefit the residents as the building owner can then assess the relative value of offered services, and make a judgment on an appropriate charge to impose for BPL-related services.

Secondly, the City urges the Commission to weigh in on the rates that a utility can charge for use of its wires to the degree needed to provide external access for BPL providers. A just and reasonable charge for use of the wires owned by the utilities might be based on actual costs incurred, such as those related to additional equipment, maintenance, or repairs. The City contends that the wider deployment of BPL – which we view as a clearly welcome development – would be materially advanced by a greater degree of clarity in this area to the extent that it is within the Commission’s jurisdiction to provide such guidance.

Conclusion

For the reasons set forth above, the City urges the Commission to develop and adopt appropriate regulatory guidelines and directives for the operation of BPL systems, and to consider the other measures suggested herein to permit wider deployment of a developmental

technology that offers the promise of enhanced consumer access to a broad range of information services, and to greatly improved environmental controls.

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Respectfully submitted,

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