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Via E-Mail and Overnight Delivery

Honorable Jaclyn A. Brillling
Secretary
New York State Department
of Public Service
Three Empire State Plaza
Albany, NY 12223

PSC Case No. 06-M-0043

Dear Secretary Brillling:

Enclosed for filing are an original and fifteen (15) copies of the Comments of Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc. in the above referenced matter.

Thank you for your assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read 'D.P. Warner'.

Encls.

**STATE OF NEW YORK
DEPARTMENT OF PUBLIC SERVICE**

Proceeding on Motion of the Commission to
Examine Issues Related to the Deployment
of Broadband Over Power Line
Technologies

Case No. 06-M-0043

**COMMENTS OF
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
AND
ORANGE AND ROCKLAND UTILITIES, INC.**

I. INTRODUCTION AND SUMMARY

Consolidated Edison Company of New York, Inc. (Con Edison”) and Orange and Rockland Utilities, Inc. (“O&R”) (referred to collectively herein as the “Companies”) submit these comments in response to the New York State Public Service Commission’s (“Commission”) Order Initiating Proceeding and Inviting Comments, issued January 25, 2006 in the above-referenced proceeding (“Order”).

As the Commission has acknowledged, rapid development and change is occurring in the provision of broadband services in New York (Order at 1). BPL technology, while still evolving, has shown potential to benefit broadband Internet access customers (Order at 2), as well as electric utilities and their customers (Order at 3). However, based on direct experience from pilot/demonstration projects in Westchester County, Rockland County and New York City, the Companies conclude that BPL is still an emerging technology and, therefore, it is premature to attempt to establish a new BPL regulatory framework through the imposition of a preferred business model. Parties interested in the technology and willing to put capital at risk should be allowed to

continue to explore and develop the technology without rigid regulatory restraints. In short, the market should be allowed to decide the BPL business model and the regulatory framework should follow that decision.

However, regardless of the ultimate business model for BPL, use of the electric distribution infrastructure by BPL should only be allowed to happen if BPL does not interfere with the electric utility's provision of electric distribution service. BPL technology must demonstrate that it can co-exist with existing electric utility standards and practices¹ in place to protect and preserve the Companies' ability to provide safe and reliable electric service. For example, a BPL service provider must accept that restoration of electric utility services, in the event of an outage, will have priority over the restoration of BPL services, and must accept the electric utility infrastructure "as is" and "as it evolves." Because of the potential impact to its electric utility service and infrastructure, the electric utility must assess the size, location and physical characteristics of any BPL equipment to determine whether it is compatible with safe and reliable electric service.

BPL technology must also demonstrate its economic viability. There should be no subsidization of any commercial BPL applications and services by the electric utility or its customers. The electric utility should receive full and fair compensation for the use of its facilities. And, the electric utility's customers should receive the benefits of any efficiency improvements made possible by economically viable BPL applications through reduced electric rates.

¹ Standards and practices refer to, but are not limited to, an electric utility's standards, practices, specifications, and regulatory obligations.

II. SAFETY AND RELIABILITY OF ELECTRIC SERVICE

A. Electric System Reliability and Safety Must Have Priority

As the Commission has recognized, BPL technology requires “the use of a regulated electric utility’s power lines, poles, and ducts” (Order at 2). BPL technology raises “safety and reliability issues because of its use of the electric utility system.” (Order at 4). Consistent with the electric utilities’ obligation under State law,² safety and reliability must remain their priority. The Companies have proven policies to safeguard the reliability and efficiency of electric service. They should not be required to change their standards and practices in ways that would degrade electric service or increase its costs to accommodate or improve BPL performance.

For example, during storm-related outage restorations, the Companies will continue to focus on restoring electric customers. Any work required to restore a BPL system would be a secondary consideration until full electric service is restored. Furthermore, the electric distribution system is not static. Electric circuits are taken out of service for scheduled and unscheduled maintenance, and the circuit configuration may change due to other system events, seasonal operation conditions or load relief requirements. Therefore, the BPL provider must be able to adapt its service and desired performance around these situations that could occur at any time.

In addition, the Companies, consistent with their current policies, would not replace electric utility equipment that still has useful life to accommodate a BPL system

² See, Public Service Law, § 65(1) (“[E]very electric corporation ... shall furnish and provide such service, instrumentalities and facilities as shall be safe and adequate and in all respects just and reasonable”).

problem. For example, slight fraying in an overhead conductor does not impair electric utility service, but may adversely affect the performance of a BPL system. Acceptance of the electric utility infrastructure “as is” and “as it evolves” must be part of any BPL system provider’s assessment of its economic viability. The electric utility should not be required to perform services or upgrades beyond its service needs simply to maintain or improve BPL service, because doing so would amount to a subsidy of the BPL system.

B. BPL Technology Must Meet Electric Utility Specifications

The Federal Communications Act³ does not require an electric utility to grant unconditional access to its system for BPL. Access to an electric utility’s “poles, ducts, conduits, or rights-of-way” may be denied “where there is insufficient capacity and for reasons of safety, reliability and generally applicable engineering purposes.”⁴ This provision of the Communications Act properly recognizes the primacy of electric utility service safety and reliability. Moreover, this conditional right of access extends only to providers of telecommunications and cable services. If BPL Internet access is defined as an Information Service, as cable modem and DSL Internet access have been defined, a BPL provider would have to offer more than that service in order to invoke the conditional right of access under the Communications Act.

The electric utility has a responsibility to determine what BPL technology can be safely and reliably installed in a utility’s service territory. Electric utilities must

³ The Communications Act of 1934, as amended, 47 USC §151, et.seq.

⁴ Section 224 of the Communications Act, 47 U.S.C. § 224. There is no explicit statutory right of access to an electric utility’s lines, as opposed to its poles, conduits, and rights-of-way.

therefore have approval authority over all aspects of the BPL installation. For example, the number of processor or repeater nodes and couplers on any individual pole could congest or damage the pole and/or service wires. To prevent such problems, the electric utility may have to restrict BPL facilities in particular locations.

This utility role is necessary because of the electric utility's service obligations under the Public Service Law, and, in light of the Companies' experience, works well. In July 2002, Con Edison and Ambient Corporation undertook a demonstration project in the Village of Briarcliff Manor, NY, a suburb located north of New York City. This BPL network is built from a few basic types of components: inductive couplers that transfer the communications signal to and from power lines, processors nodes that receive and transmit the signal from the medium and low voltage power lines, and modems that transfer the communications signal to and from end users. This trial operates on two 4-kV circuits spanning a few circuit miles, passing about 700 homes, and has successfully demonstrated utility applications such as load control, remote meter reading, system monitoring, video surveillance, as well the ability to deliver Internet service.⁵

Ambient designed its medium voltage coupler, which is the interfacing device between the electric delivery system's primary circuit and the BPL system, to ensure that its coupler met Con Edison's standards, such as required equipment ratings, grounding protection, and safe installation practices. Con Edison's engineers, as well as

⁵ “Demonstration of the Technical Viability of PLC Systems on Medium and Low Voltage Lines in the United States”, Published in IEEE Communications Magazine, May 2003. George Jee, Consolidated Edison Co. of New York, Inc., Ram Rao, Ambient Corporation, Yehuda Cern, Ph.D., Ambient Corporation.

experienced line crews, were involved in the review and approval of this design as well as installation methods.

Such a policy is consistent with existing Commission guidelines and regulatory policies concerning the use of utility infrastructure. Traditional span wire attachers, underground conduit users, wireless providers – all of these customers must conduct their operations without interfering with the core services provided by the electric utility and electric utilities have the necessary authority to approve terms and conditions of access or types of facilities.⁶

The Commission's Order asks whether BPL systems must meet minimum standards to ensure public safety (Order at 5). Although the National Electric Safety Code ("NESC") does not specifically address BPL equipment, it does address basic clearance and safety issues. As such, it should serve as the minimum standards with which all BPL providers must comply. In addition to these standards, BPL providers must also comply with the electric utility's practices and standards.

Electric systems are not all designed and operated with the same practices and standards. Upstate New York systems differ from downstate systems, and rural overhead

⁶ See 03-M-0432, Order Adopting Policy Statement on Pole Attachments, Issued and Effective August 6, 2004, Appendix A, Policy Statement on Pole Attachments, p. 7, (recognizing the National Electric Safety Code as a minimum standard and allowing Pole Owners to impose standards that are stricter than the NESC); CASE 02-M-1288, Joint Petition of Niagara Mohawk Power Corporation and National Grid Communications, Inc. for Approval to Authorize National Grid Communications to Attach Wireless Facilities on Niagara Mohawk Transmission Facilities, Order Approving Agreement, Issued and Effective May 15, 2003 p. 2 (approving an agreement for the installation of wireless facilities on transmission towers subject to electric utility review and approval); Opinion 97-10, Opinion and Order Setting Pole Attachment Rates, Issued and Effective June 17, 1997, p. 23 (allowing negotiated terms and conditions for the installation of wireless equipment).

systems differ from primarily underground metropolitan systems. Even within individual electric utility systems, there are different specifications. For example, the exposed nature of an overhead system requires specifications different from those for underground systems. Primary systems have different specifications than secondary systems. As such, any system wide deployment of BPL technology must comply with the electric utility's internal specifications throughout its system in order to protect the safety and reliability of that system.

III. ECONOMIC VIABILITY OF BPL TECHNOLOGY

A. Electric Utilities Should Not Subsidize BPL Providers

In order to determine whether BPL technology is truly economically viable, there should be no subsidization of the BPL providers by the electric utilities. Subsidies would include: electric utilities being required to perform necessary make ready work or services for BPL providers without receiving full compensation for services rendered; electric utilities being ordered to finance or invest in BPL technology; electric utilities being forced to upgrade existing equipment or services solely to benefit BPL providers; or, electric utilities being compelled to provide space on their systems at rates that do not cover, at minimum, incremental and allocated costs.

B. Rental Rates Should Provide Full and Fair Compensation

The Commission is correct that an access charge based on historic utility costs may not accurately capture the value of access to the utility system (Order at 12). The Commission has specifically asked whether current tariffs and pole attachment rates are

reasonable for BPL providers (Id.). Since the rules for calculating rates apply to attachments in the communications zone on poles, and BPL equipment would operate in the electric zone on poles, current tariffs and rates could not have been designed to cover BPL equipment.

There is no uniform standard or specification for BPL equipment and/or systems. Different use of the electric utility's physical infrastructure could be required by different equipment. Some equipment may attach only to electric utility wires, while other equipment may require physical attachments to the electric utility pole. Thus, the use of the electric utility system by BPL providers could vary substantially depending on the technology used. Regardless of these variations in use, however, BPL equipment, because it uses electric utility wires, is substantially different from the traditional span wire attachments of cable and telecommunications service providers.

If BPL equipment would be a nonstandard attachment in an electric utility's pole space, as is likely to be the case, Commission precedent on nonstandard attachments would be applicable. In Opinion 97-10, in evaluating wireless attachments, the Commission ruled that "...if a wireless firm requires a nonstandard or unique attachment to a utility pole, and if the electric company is willing to make the necessary modifications to accommodate such a use, the price and terms and conditions should be determined through private negotiations."⁷ In reaching this determination, the Commission found that whether or not the service providers' attachment conformed to

⁷ Opinion 97-10, Opinion and Order Setting Pole Attachment Rates, Issued and Effective June 17, 1997, p. 23.

the traditional use of electric distribution poles “depends on the technology they use and the wireless firms’ requirements.”⁸

In any Commission policy for BPL, negotiated rates for BPL should be permissible. Uniform rules for BPL attachment rates would be unreasonable in light of the variances among BPL technologies in their use of electric utility facilities. Negotiated rates would permit electric utilities to obtain full and fair compensation from the BPL provider for the use of utility facilities and avoid subsidization of the BPL provider. The Commission, as is current practice, “would be available to the parties to consider their complaints and facilitate resolution of their differences should any unreasonable obstacles to negotiations arise.”⁹

C. Access Fees Should Benefit Electric Customers

The Commission suggests that electric utilities have a valuable asset that may be used by BPL providers to provide commercial services to others, and that the value should be captured in the access fee (Order at 12). The Companies assume that such an access fee would be in addition to their full and fair compensation from rental rates. The Companies would be willing to seek such an access fee from BPL providers. The benefit of any revenues obtained from such an access fee would go to the Companies’ customers.

⁸ Id.

⁹ Id.

IV. OTHER ISSUES

In addition to the major policy issues discussed by the Companies above, the Companies submit the following comments on other issues raised in the Order.

A. Installation and Maintenance of a BPL System

The Order inquires about the qualifications of employees installing and maintaining BPL systems (Order at 6). At the present time, only qualified employees or properly trained contractors of the Companies can perform any work in close proximity to electric primary or secondary facilities. There are no current plans to change this practice.

However, the nature and extent of make-ready and other work for equipment associated with various BPL technologies are still evolving. Depending on those needs, qualified contractors hired by the BPL service provider may be required in order to meet particular schedules and customer requirements. As with other types of services performed by the contractors for the Companies, contractors will be required to meet detailed training requirements provided by the regulators (i.e., OSHA) as well as the Companies. The type of training would depend on the service being performed, and, until there is a determination as to the type of equipment, the respective installation requirements are unknown. The Companies regularly require contractors to comply with various governmental regulations and training requirements relevant to the conditions and nature of the work. It is a standard business practice that should be applied to BPL providers as well.

The Commission also raises concerns about interference, i.e., BPL interfering with electric utility equipment or equipment belonging to the general public interfering

with BPL services (Order at 6). Any interference caused by the owner or operator of BPL equipment must be remedied by the BPL provider. Alternatively, if equipment from an individual member of the general public has an impact on BPL services, the BPL provider bears the responsibility to resolve the issue. As for the electric utility, BPL equipment must be designed to work around electric utility equipment and may not interfere with it. As previously discussed, the electric utility infrastructure will be provided “as is” and “as it evolves” so that the BPL provider must adjust its equipment accordingly if the electric utility infrastructure is no longer adequate.

B. Capacity of BPL Systems

The Commission asks whether a BPL service that is primarily focused on providing commercial Internet services will have the capacity to provide utility applications as well (Order at p. 6-7). While the Companies’ experience utilizing Ambient technology has been very promising for electric utility applications, this question is best answered by the BPL technology providers. However, the Companies and other electric utilities should, as part of the negotiated terms and conditions of access, have the right to seek a reservation of capacity for current and future electric utility needs. Utility applications provided by BPL systems that are suitable for an electric utility’s current system may become unsuitable as the electric system evolves or as applications evolve. Electric utilities may therefore want flexible capacity reserved to accommodate their evolving needs.

C. Business Models

1. Excluding Affiliated Interests Would Be Anti-Competitive

The Commission refers at the outset of the Order to its established goals of a flexible regulatory framework that promotes competition and encourages economic innovation in the state’s telecommunications infrastructure (Order at 2). The Companies concur that a competitive framework should be established to develop and encourage the provision of quality BPL services at reasonable prices, whether those services are telecommunications, information or other some other form. A competitive framework will enable the market to answer a significant number of questions posed by the Commission in its Order, without resorting to rigid regulatory constraints. In particular, the Commission’s first tentative conclusion that “[e]conomically viable BPL services will benefit New Yorkers through the provision of broadband services from a new facilities-based platform” (Order at 3) requires a market-based competitive framework to determine whether commercial BPL services are “economically viable.”

The Order’s pro-competitive statements, however, are immediately followed and contradicted by a tentative conclusion that, if adopted, would impose anti-competitive and unreasonably discriminatory constraints on the development of BPL technology from the outset. The Commission’s tentative conclusion that BPL services should only be provided by unaffiliated BPL providers (Order at 3) is, on its face, anti-competitive and discriminatory. It is also contrary to the direction of evolving BPL policy in other jurisdictions cited in the Order.¹⁰ BPL services should be provided to the public by the

¹⁰ In California, for example, the recommended BPL policy would expressly permit electric utilities to provide BPL service through an affiliate, subject to affiliate transaction regulation. CPUC, Draft Decision of Commissioner Chong, Opinion Implementing

entity best suited to provide those services, and that entity should be determined by competition among all potential providers in the market place.

Many electric utilities, including the Companies, are now owned by parent holding companies,¹¹ some of which are international corporations, that can and do have multiple interests including unregulated affiliates. The Order's tentative conclusion, if adopted by the Commission, would effectively remove such a company from the competition to provide a BPL system that uses the Companies' utility systems. Such a company would be disqualified at the outset from the competition even if it had the superior BPL technology for the Companies' electric utility system and could provide electric utility applications that would best enhance the quality and efficiency of the Companies' electric utility service.

Exclusion of potential investors in BPL technology is not justified and would frustrate, rather than advance, the Commission's technology development goals. The Order's primary justification for this tentative anti-competitive and discriminatory conclusion is facilitation of cross-subsidy regulation. This is not a legitimate basis for exclusion. The Commission and other regulatory authorities have demonstrated the ability to prevent subsidies. The Commission already has substantial and sufficient

Policy on Broadband Over Power Lines, Agenda ID # 5349 (released February 10, 2006) at 13-21; In Texas, utilities are permitted but not required to offer BPL in conjunction with other entities, which may or may not be affiliates. Texas Util. Code Ann. § 43.100; see also, NARUC Report of the Broadband Over Power Lines Task Force at 8-9, February 2006.

¹¹ Con Edison and O&R were authorized by the Commission to form holding companies with affiliates and subsidiaries (see PSC Case 96-E-0897, Order Adopting Terms of Settlement Subject to Terms and Conditions, Issued and Effective September 23, 1997, and Case 96-E-0900, Order Adopting Terms of Settlement, Issued and Effective November 26, 1997. The Companies are now part of such a structure.

mechanisms to deal with perceived cross-subsidy concerns relating to affiliate relationships under Section 110 of the Public Service Law and the various affiliate rules adopted as part of the Companies' restructuring agreements.

2. The Market Should Determine the Business Model

In tentatively selecting a single business model for BPL services for all New York markets served by investor-owned utilities, the Order stretches beyond the scope of the Commission's regulatory function. There is no reasonable basis at this point for selecting one BPL business model for all New York markets. The Commission should refrain from any attempt to impose prematurely a particular business model on BPL technology deployment. Instead, it should explicitly permit the market to decide that question as investors who are willing to put capital at risk assess the economic potential of BPL technology.

A variety of business models are possible. A BPL provider may chose to completely build out a commercial BPL system and simply rent space from the electric utility and provide services to the utility ("Renter Model"). An electric utility may build out a system and then rent out that system to a third party content provider ("Wholesale Model"). An electric utility could build its own utility application BPL system and then provide additional capacity to commercial BPL providers ("Developer Model"). Or, an electric utility could adopt a full retail model, build the entire system and provide each and every service ("Full Retail Model"). Each model has potential benefits and risks, which the investment capital markets should be permitted to sort out.

There is no evidence to indicate that a preemptive regulatory determination of a single BPL business model for all New York markets is necessary or desirable to speed

the development of BPL technology. Several BPL vendors have publicly stated that they can work with various business model alternatives. Utilities as well have expressed interest in alternative business models. The existing diversity of interest in alternative business models demonstrates that there is no consensus single business model that will speed the economic development of the technology.

Business model selection requires an understanding of the products and services that can be delivered, the costs of delivery, as well as of the unmet needs and desires of the customers that can be served in a particular geographic market. The results of such an assessment are likely to be very different from market to market, and will often depend on the nature of the geographic market. For example, the costs of delivery, as well as the unmet needs and desires of customers in rural and exurban markets are often very different from those in urban and suburban markets. The economic viability of delivering particular services in a specific geographic market may also depend on the quality, cost structure and penetration of alternative delivery systems.¹²

3. Roles and Relationships Should be Determined by the Market, But Subject to the Primacy of Electric Utility Service

Under the business model tentatively selected by the Order, the Commission asks which entity, the electric utility or the BPL service provider, would be responsible for certain functions. The Order specifies: 1) installing, maintaining and improving the BPL system, 2) resolving customer service and collateral issues/complaints, 3) the

¹² It may also require optimizing the system to provide particular applications to targeted customers. A recent study provides a detailed argument as to why diversity in the applications and content offered by different broadband networks may be necessary to their economic development. See, Yoo, Christopher S., Promoting Broadband Through Network Diversity, February 6, 2006, at 28-34. <http://law.vanderbilt.edu/faculty/Yoo%20-%20Network%20Diversity%202-6-06.pdf> (study funded by the National Cable Television Association).

development and installation of BPL applications to provide electric utility services, and 4) billing and collection services (Order at 9). These issues arise, however, from the particular model chosen in the Order. As argued above, the Commission should not impose a single business model on BPL technology development. Different issues would be presented by other models, as well as other BPL technologies, that the market can and should choose. Thus, it would be premature to establish any detailed policy on roles and relationships.

Nonetheless, the Companies offer limited comments on the roles and relationships issues raised in the Order. Whether the utility or the BPL system operator should install the BPL equipment depends, as with many other BPL issues, on the nature of the equipment selected by the BPL service provider. As discussed above, certain installation and maintenance work may have to be performed by electric utilities to safeguard the electric utility service. However, depending on the nature and scope of the work required, the Companies might have to explore the possibility of additional resources.

Under any business model, customer service and billing issues should presumably be the responsibility of the owner or operator of the BPL equipment. Electric utilities should only bear this responsibility when they either own or operate the equipment. If an electric utility leases services from a BPL provider using electric utility assets, it should also not bear any responsibility for customer service or billing issues.

The business model chosen would tend to determine the entity responsible for the development of utility applications. If the electric utility installs the BPL equipment for its own needs, it may also choose to develop BPL utility applications or lease capacity to a third party provider (“Wholesale Model”). Alternatively, physical space could be

leased to a BPL installer/provider. The options concerning the developer of utility applications are as broad as the number of possible business models. As such, it would be impractical to seek to establish one set of rules to govern all possible roles and relationships.

D. Electric Utility Regulatory Issues

The Order raises regulatory issues concerning the use of electric utility personnel in any manner, the incremental electric utility costs caused by BPL deployment, and the costs of BPL to the utility system (Order at 11). There should be no direct costs for the deployment of the BPL system to the electric utility, unless the electric utility is the owner or operator of the BPL system. For make ready work, in particular, the party requesting the installation of BPL related equipment would be responsible for reimbursement of all costs incurred by the electric utility that are associated with the work and required by the Companies' standards and procedures. If a qualified contractor were available and permitted to perform the work, the owner or operator of the BPL equipment would pay the contractor. However, in any instance where contractor personnel are used, electric utility inspectors would be required and the BPL provider would be responsible for those inspection costs.

Requiring the owner or operator of the BPL system to pay for make ready work is consistent with the Companies' current practices relating to third-party telecommunications companies deploying span wire, wireless, or underground fiber facilities on the Companies' facilities. The same practice would be applied to BPL providers, thereby protecting the Companies from incremental costs. Other incremental

costs, for the most part, should not be an issue. The BPL service provider must take the electric utility system “as is” and “as it evolves.” Therefore, the only investments that an electric utility would continue to make would be for electric utility purposes. So long as electric utilities are reimbursed for services provided to a BPL provider, there would be no unrecovered cost from, and therefore no subsidy to, the BPL system.

The Commission also seeks comment on the process for selecting a BPL service provider. The Companies agree in principle with the Order’s suggestion (at 7) that utilities should “use a market based process to determine the party which ultimately obtains access to the utility system.” However, to the extent that the Order (at 12) intends that choice to be made solely on the basis of “an access fee based on the results of a competitive process,” the Companies respectfully disagree. An access fee would be one term among many terms and conditions necessary to govern a BPL technology’s use of electric utility property. Those terms and conditions should be subject to negotiation after a market-based process, such as a request for proposals issued by a utility to BPL service providers. Different market based processes are possible, and utilities should be free to choose any reasonable process that is suitable for their respective systems.

E. Status and Development of BPL Technology

The Order raises various issues concerning the status and development of BPL technology. The Companies largely defer to BPL equipment developers and providers to address the status and development of BPL technology. Those entities have the technical experience and are in a better position to respond to the Commission’s inquiry on the capabilities of their equipment. The Companies can, however, provide some information

obtained from the actual experiences of their pilot programs. In addition to the demonstration program in Briarcliff Manor, New York, previously discussed, the Companies have BPL pilot programs in Rockland County New York and in Manhattan in New York City.

1. O & R Pilot Project

The O&R project is designed solely to test utility applications, not commercial BPL services. The project provides network connectivity from the network at O&R's Spring Valley Operations Center to a computer workstation at the Monsey substation, which enables substation monitoring and video surveillance. This is a 13-kV application and is comprised of a hybrid wireless and BPL technology spanning about 1½-circuit miles. Information and experience gained from the Con Edison Briarcliff Manor trial, in conjunction with Ambient Corporation, was used on this pilot.

One experience of note involved a section of the conductor, which was a service tap on the backup feed to the Operations Center building. The #2 copper, 5-kV rated conductor, which provides service to the building, was fraying due to repetitive stress from wind. The mechanical failure of the wire caused arcing that fused three strands of the conductor, which in turn caused significant noise in the BPL frequency range. The noise that radiated from the defective conductor was strong enough to have affected the adjacent aerial circuit approximately 5 meters away, on which the BPL network was installed, although there was no impact on electric service.¹³

¹³Field Trials of Utility Applications Employing Ambient Corporation Power Line Communications at Consolidated Edison, 2005 International Symposium on Power Line Communications and its Applications, April 6-8, 2005. George Jee, Consolidated Edison Co. of New York, Inc., Damian Sciano, Consolidated Edison Co. of New York, Inc.,

This experience provides concrete evidence for one of the Companies' policy positions above: the BPL provider must take the electric infrastructure "as is" and "as it evolves." In this situation, the condition on the electrical component had no impact on the delivery of safe and adequate electric service, but negatively impacted the performance of BPL service. It is likely there are other examples of aging or degrading components, which from an electric service delivery perspective, still have useful life, but which could adversely impact the performance of BPL service. The electric utility should not be required to replace or even upgrade its functioning equipment due to the immediate needs of a BPL service provider. Nonetheless, the project has produced useful information about the capability of Ambient's BPL technology to provide services to utilities. The results indicate that electric utilities may be able to utilize BPL utility applications for incipient fault detection on electrical distribution equipment such as distribution transformers, insulators, lightning arrestors, switches and customer meters.

2. Manhattan High-Rise Trial

In 2005, Con Edison and Ambient Corporation initiated a BPL trial in a 17 story, 213 multi-dwelling (MDU) unit on the upper West side of Manhattan signing up 30 trial participants. This trial utilizes the MDU's existing electrical wiring to deliver broadband service to the outlets in the dwelling units and seeks to demonstrate the ability of BPL technology to perform load management functions. The application of BPL in a building is essentially an extension of the overhead medium voltage BPL application. The lessons learned on the overhead system trial at Briarcliff Manor were for the most part applicable

Ram Rao, Ambient Corporation, Yehuda Cern, Ph.D., Ambient Corporation, Brian Nugent, Orange and Rockland Utilities, Inc.

in this trial. The BPL equipment required to establish a communications highway with a building comprises the same types of devices, but they operate at a lower voltage rating and thus are smaller.

One issue that arose is the potential for theft of electric service. BPL technology that requires a direct, physical connection to the phase wires of a building's electric service supply, prior to it being metered, violates Con Edison's terms for electric service and creates a potential point of dispute between the utility and the BPL service provider.

F. FCC Issues

The United Power Line Council ("UPLC") filed a petition for declaratory ruling on December 23, 2005 requesting that the FCC issue a ruling that BPL-enabled Internet Access service is an Information Service as defined in the Communications Act.¹⁴ The FCC established a pleading cycle for comments.¹⁵

The question pending before the FCC is significant. If the FCC were to determine lawfully that BPL enabled Internet Access was a Telecommunications Service, rather than an Information Service, BPL-enabled Internet Access would be subject to the common carrier obligations of Title II of the Communications Act. It could then be necessary to satisfy the legal requirements for forbearance from those requirements to level the competitive playing field for BPL Internet Access with cable modem and DSL

¹⁴ 47 U.S.C. § 153 (20).

¹⁵ See, Pleading Cycle Established for Comments on UPLC's Petition For Declaratory Ruling, WF Docket No. 06-10 (DA 06-49), issued January 11, 2006). Several parties have opposed the petition on procedural as well as substantive grounds. See, e.g., Comments of Comptel; National Telecommunications Cooperative Association Initial Comments, both filed February 10, 2006.

Internet Access. The FCC has already ruled that the latter services are Information Services, which are not subject to common carrier obligations under Title II of the Communications Act.¹⁶

An unfavorable ruling from the FCC could affect the design and economics of BPL systems. If BPL system operators find that they are unable to level the competitive playing for broadband Internet access, they may need to develop and rely solely on unique applications to support BPL investment, such as utility applications and content proprietary to customers of the BPL system. Accordingly, the potential effect on the design and economics of BPL systems resulting from the FCC's pending decision should be an issue in this proceeding.

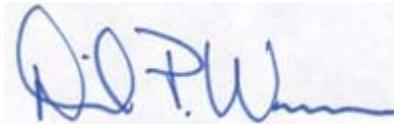
V. CONCLUSION

For the foregoing reasons, the Companies submit that in any Commission policy for BPL, electric utility service must remain a priority over BPL services, and that electric service safety and reliability must not be compromised. Electric utilities should not be required to invest in or to subsidize BPL providers. Electric utilities should receive full and fair compensation, through negotiated terms and conditions, for the use of their facilities by BPL providers. Because BPL technology is still evolving, the Commission

¹⁶ See, Notice of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Declaratory Ruling and Notice of Proposed Rulemaking, GN Docket No. OO-185, 17 FCC Rcd 4798 (2002), aff'd, National Cable TeleComms. Assn. v. Brand X Internet Servs., 545 U.S. ___, 125 S.Ct. 2688 (2005); Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities, Report and Order and Notice of Proposed Rulemaking, CC Docket No. 02-33, 2005 WL 2347773 (2005). On the other hand, if BPL-enabled Internet access were deemed to be a telecommunications service, a BPL operator offering the service could claim the conditional right of access under Section 224 of the Communications Act. See, the discussion of this issue on p.4 of these Comments, supra.

should avoid imposing a particular business model or a rigid regulatory framework on its development. The Commission should rely largely on the forces of competitive markets to determine the economic viability of the still evolving variety of BPL technologies, and should not attempt to exclude by regulatory fiat any potential competitor.

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