



Choosing Underground Electric Service for Your Community

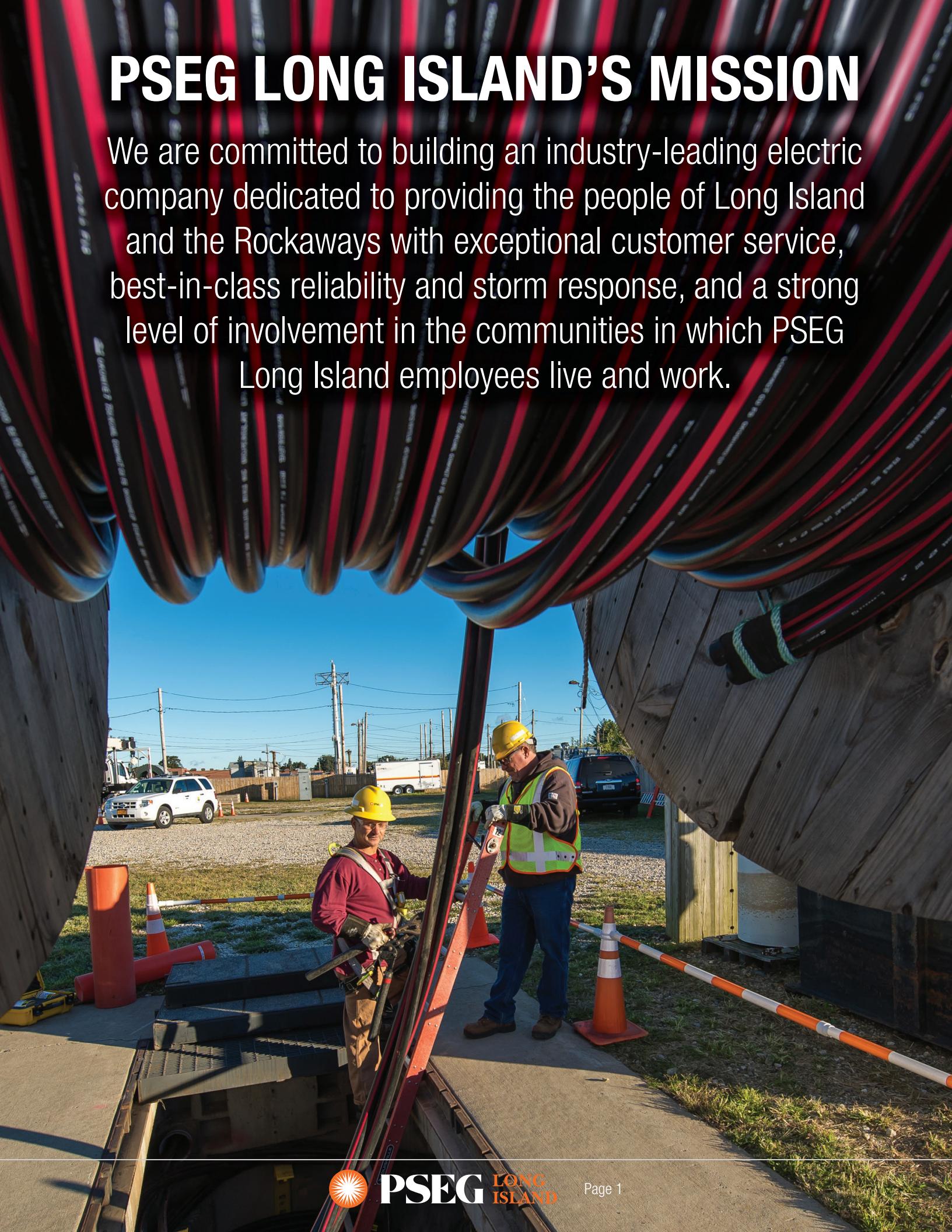


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PSEG LONG ISLAND'S MISSION

We are committed to building an industry-leading electric company dedicated to providing the people of Long Island and the Rockaways with exceptional customer service, best-in-class reliability and storm response, and a strong level of involvement in the communities in which PSEG Long Island employees live and work.



INTRODUCTION

PSEG Long Island has a program for communities that are interested in underground electric facilities or moving overhead utilities out of sight. Any community can elect to pay to place its overhead electric service underground by working with PSEG Long Island and the Long Island Power Authority (LIPA).

This guide explains the processes, as well as the benefits and drawbacks of undergrounding your local electric service.

THE ROLES OF LIPA AND PSEG LONG ISLAND

LIPA owns all the Transmission and Distribution (T&D) equipment on Long Island, such as the poles, wires, substations and transformers. LIPA uses a public-private partnership business model and contracts with PSEG Long Island, a subsidiary of Public Service Enterprise Group Incorporated, to operate LIPA's electric system under a 12-year contract.

THE DIFFERENCE BETWEEN OVERHEAD AND UNDERGROUND POWER LINES

LIPA's electric grid is a complex system of power plants, substations, and power lines that ensure adequate levels of power reach customers at a reasonable cost, with minimum impact on the environment and the local community.

DID YOU KNOW?

LIPA's electric transmission and distribution system is predominantly an overhead system. LIPA's electric grid contains approximately 10,000 miles of overhead lines and 5,200 miles of underground lines.



When you see overhead power lines in your community, you're looking at either transmission or distribution lines. Transmission lines move electricity from large power plants to substations, while distribution lines connect substations to your home or business. Transmission and distribution power lines can either be overhead or underground.

To place overhead electrical lines, you need utility poles in the ground. Once the poles are secure, crews can connect wires and install any needed equipment, such as transformers, switches, insulators and fuses. This equipment enables electricity to flow.

Underground line construction, however, requires digging a trench deep enough for power lines to be far away from above ground activities. Wires are then placed either in the trench or in conduits for protection. After the trench is filled in, the surface is restored. Once additional equipment, such as padmount transformers, are installed, the electrical system can start to deliver power.

Overhead vs. Underground Electric Service

In general, overhead construction with a robust tree-trim program provides the best balance between reliability and cost of service for LIPA's customers. The cost to underground electric service is typically anywhere from two to five times the cost of the equivalent overhead system. The life expectancy of overhead lines is also longer. Underground facilities are considered when necessary to address issues of feasibility¹, or to address factors such as those identified in certain state regulations.

Some areas of the LIPA's T&D System were originally designed to be underground. Other neighborhoods were converted as part of Local Improvement Districts. In limited circumstances, because of technical reasons or other constraints, only underground service is feasible.

For more information on LIPA's Policy on Construction of Transmission and Distribution Projects, please visit www.lipower.org.



Advantages of Underground Electric Service

- > The equipment is out of sight. Community aesthetics are the most common reason for considering underground service.
- > Underground facilities typically experience fewer outages from wind and lightning than overhead systems.
- > Underground service does not require regular overhead tree trimming.

Drawbacks of Underground Electric Service

- > Underground service is more expensive to install and maintain.
- > Difficult to find faults in underground lines.
- > Repairs to underground lines and equipment take significantly longer and are more costly.
- > Underground lines do not guarantee protection in storms as uprooted trees, debris, flooding and tidal surges can cause severe damage, and disruption may occur to the T&D system on portions of the system unrelated to the local undergrounding project. In flooded areas, restoration efforts must be delayed until water has receded.
- > Underground service can be disturbed by tree roots.

¹For example, where dictated by interference with existing facilities or where acquisition by condemnation of private property for a new right of way would be necessary to site an overhead line.

CONSIDERATIONS

Payments and Contracts with PSEG Long Island

PSEG Long Island will work with a community that requests underground service. To ensure fairness for all 1.1 million customers, the costs associated with undergrounding are the responsibility of the Applicant Community.² If desired by the local community, payment options can include a charge on the local community's PSEG Long Island electric bills over a 20-year term, or the community can pay the cost from municipal bonds or other means.

When communities contract with PSEG Long Island to pay for undergrounding electric service, they pay for either:

- > the difference between the cost of the new underground system and an equivalent overhead system, if new overhead construction is already planned by PSEG Long Island, or
- > the cost of removing existing overhead electric service infrastructure and building the new underground system.

Shared Electric Poles

Applicant Communities should be aware that utility poles are often owned or shared by other users besides the electric utility. A utility pole may host devices owned and operated by telecommunications providers, cable TV providers, security and traffic control devices, and other utilities and service providers that have the right to place equipment on utility poles. All other shared users must agree to remove their property before the poles can be removed.

The cost to move other pole users' infrastructure is the responsibility of the Applicant Community and will be determined by and paid to the other users (telephone, cable company) and will not be included in PSEG Long Island's cost estimates to underground existing facilities.

HOW TO GET STARTED

The request for undergrounding or relocating LIPA's overhead electric infrastructure to underground service requires action from both the Applicant Community and PSEG Long Island.

If you are interested in undergrounding electrical poles and wires for your community, please contact PSEG Long Island Building and Renovation Services at 844-341-6378 or your Major Account Representative.

To start the process, the Applicant Community should:

- > identify the specific geographical area, including street names, where electric service would potentially be placed underground, and
- > engage PSEG Long Island and the other pole users (telecommunications providers, cable TV providers, security and traffic control devices, and other utilities and service providers) in a joint meeting to coordinate a design and construction plan.

²An Applicant Community must be a political subdivision of the State of New York that is a city, town, county or incorporated village.

DETAILED PROCESS

Each undergrounding project is unique. Once a decision to underground is made by the Applicant Community, it is important that there be regular communication with PSEG Long Island to ensure a clear understanding of the requirements and schedule. Here are nine important steps to underground construction:

- I. **Secure a Non-Binding Estimate:** The factors determining the cost of conversion are the scope, size, ground conditions, and surrounding land uses of a project. A PSEG Long Island representative can provide a preliminary non-binding estimate to help an interested community identify the magnitude of the cost to install a new underground electric system or convert an existing overhead system to underground. We suggest that similar estimates be obtained from all other users of existing poles identified for removal.
- II. **Identify the Area and Participants:** Determine the area that the community would like to have undergrounded. In some cases, all property owners within the designated area, sometimes called a Visual Benefit Area (VBA), may need to agree to participate in and pay for the conversion. In other cases, the local government may have a process for designating the area and the paying participants may decide to pay for the project on behalf of all residents, or may exercise the option for LIPA to finance the costs to be collected as a 20-year surcharge on the electric bills of the municipality, specific participants, or all customers within the VBA. This determination must be made the Applicant Community. Inquire with your municipal authorities. Make PSEG Long Island aware of how the local determination process will work for your community.
- III. **Obtain a Binding Estimate:** The Applicant Community deciding to proceed with conversion can obtain a Binding Estimate by submitting a non-refundable, 10 percent Design Estimate deposit to PSEG Long Island. The estimate is valid for 180-days, and the 10 percent Design Estimate deposit will be applied toward the construction cost if the applicant enters into a contract with PSEG Long Island for the project within 180 days from the date the estimate was received. If the Applicant Community has exercised the option (described in Step II) to have LIPA finance the costs to be collected as a surcharge on the electric bills of the municipality, specific participants, or all customers within the VBA, PSEG Long Island will also provide an estimate of the applicable 20-year billing surcharge.
- IV. **Appoint a Project Manager:** An authorized representative of the Applicant Community should be appointed to manage the project, to contact all utilities involved, to assist in determining costs, and to coordinate all activities with PSEG Long Island. Other issues that may need to be addressed include coordinating with existing buildings, roads and underground facilities; securing easements; traffic control; and road and landscape restoration.
- V. **Submit Design Payment:** Once sufficient information to begin designing the project is received, PSEG Long Island needs to receive the applicant's design payment. Then, PSEG Long Island will meet with the applicant's road designers to review plans and begin the design effort. To aid in the design and coordinate construction plans, PSEG Long Island will need roadway plans for the proposed road improvements, if any. During the design phase, PSEG Long Island will identify the responsibilities of the various parties involved and work out the details of a contract between the applicant and PSEG Long Island.

DETAILED PROCESS

VI. **Submit Permits:** In the final stages of the design process, before construction can start, environmental reviews, permits, etc. will need to be obtained for the project from authorities identified during the planning stage.

VII. **Post Contract and Prior to Construction:**

- a. If the Applicant Community is exercising the option to have LIPA finance construction and collect the cost as a surcharge on the electric bills of participants, the Applicant Community must have established a VBA (as described in Step II). The Applicant Community must provide to PSEG Long Island a Memorandum of Understanding (MOU) in which the Applicant Community warrants that it has obtained appropriate authorization to make the request on behalf of its participant including by adoption of any such municipal resolution, ordinance, legislation, or other process as may be required by applicable law or regulation. The MOU by the Requesting Party shall include a statement that the request is in the public interest. More information on this process is available on Leaf 85 and Leaf 86 of LIPA's Tariff for Electric Service, at www.lipower.org/about-us/tariff/.
- b. Payment milestones and a schedule for payments based on size, cost, and magnitude of the project will be established.

VIII. **Construction:** After permits and payments are finalized, PSEG Long Island will begin construction of underground utility improvements to convert the commonly shared infrastructure (poles, wires, etc.), and remove poles and other equipment.

IX. **Final Home and Business Modifications:** Before residential and or business customers can receive service from a new or converted underground electrical system, they may need to modify or replace their service equipment at their premises. Each customer is responsible for the costs associated with their service equipment and any required modifications to interior wiring to meet current electric code requirements. The modifications should be performed by a licensed electrician, and permitted, inspected, and approved by both PSEG Long Island and the appropriate local authority having jurisdiction.



GENERAL ROLES AND RESPONSIBILITIES

Responsible Party	Activity
Applicant Community	Develop a Project Scope Map which identifies the Project Area boundaries.
Applicant Community	Submit a letter requesting PSEG Long Island evaluate the proposed project.
Applicant Community	Provide a single point of contact to represent all the appropriate departments of the Applicant Community.
Applicant Community	Contact all utilities requesting those with services in the Project Area provide information on existing facilities and needs for future service.
Applicant Community	Secure written agreement from PSEG Long Island, telecom, and other joint users to place existing overhead utilities underground and remove overhead facilities.
Applicant Community	<p>Adopt a formal resolution requiring:</p> <ul style="list-style-type: none"> > VBA or approving contract with PSEG Long Island to pay for all work and LIPA's financing. > all existing overhead utility service facilities will be removed and served underground. > all utility service facilities on customers'/properties' premises will be converted to receive underground service.
Every Utility	Determine the underground substructure design (including primary infrastructures and service connections to each customer/property) needed to support removing existing overhead lines and allowing for future underground service.
PSEG Long Island	Develop total PSEG Long Island cost estimate that only includes costs associated with substructure, conduit, vaults, and all other underground and/or overhead facility removal and design expenses.
Applicant Community	Serve as lead agency for joint trench coordination and installation of utility substructures. Create joint trench composite drawing that accommodates each utilities' required infrastructure design and submit to utilities for review.
PSEG Long Island	Participate in the joint trench where appropriate.
Applicant Community	Provide electronic maps (AutoCAD format) of the area where electric facilities will be converted to underground. Include any future improvement plans.
Every Utility	Review composite engineered drawing of primary substructure and service connections and provide comments and corrections.
Applicant Community	Secure public utilities easements and other necessary rights of way needed for all substructures and required aboveground facilities.
PSEG Long Island	Approve final project electrical design, schedule, and cost. Finalize agreement and obtain Applicant Community signatures.
Applicant Community	Serve as lead agency joint trench coordination and provide project management throughout design, construction, and installation of utility substructures and service connections to each customer/property.

GENERAL ROLES AND RESPONSIBILITIES

Responsible Party	Activity
Applicant Community	Provide a plan to the Applicant Community to coordinate with property owners for existing overhead services to be converted to underground.
Every Utility	Inspect and approve installed utilities' substructures.
PSEG Long Island	Install all required electrical equipment (cable, above-ground pad-mounted cabinets and transformers, switches, etc.).
Telecom Utilities	Install telecom equipment (cable, above-ground pad-mounted transformers and switches).
Every Utility	Connect customers' converted service connections and connect properties/customers to new underground system.
Every Utility	Restore streetscape to its preconstruction condition.
PSEG Long Island	Remove agreed upon existing electric overhead facilities and poles.
Telecom Utilities	Remove existing telecom facilities on telecom and jointly owned poles and the remove telecom and jointly owned poles.
PSEG Long Island	Perform final inspection of electrical system.
Applicant Community	Provide agreed upon electrical system and rights-of-way documentation to PSEG Long Island and other appropriate utilities.
PSEG Long Island	> Install electrical equipment (cable, pad-mounted transformers and switches, and secondary junctions). > Connect customers' underground secondary to new underground system. > Remove existing electric overhead facilities (for poles that are used by other pole users, PSEG Long Island will remove LIPA's facilities and the other pole users will remove their facilities).

FREQUENTLY ASKED QUESTIONS

Who can apply? In order to be an Applicant Community, pursuant to the LIPA undergrounding tariff, a municipality must be “a political subdivision of the State of New York that is a city, county, town, or incorporated village.”

What are the typical costs to underground electric service? The cost of undergrounding utility infrastructure is typically anywhere from two to five times the cost of the equivalent overhead system. PSEG Long Island recognizes that some communities prefer the aesthetics of underground service and provides communities with an option to convert to underground service by paying the cost associated with conversion. In addition, the cost for electric service to a home and or business is the responsibility of the individual property owner(s). PSEG Long Island can provide a non-binding estimate to a community to provide an adequate range for the cost.

FREQUENTLY ASKED QUESTIONS

Why doesn't PSEG Long Island pay for utility undergrounding? PSEG Long Island operates under a 12-year contract with LIPA. LIPA is a non-profit public power utility with a mandate to provide reliable service at the lowest cost. Providing underground service for primarily aesthetic purposes upon the request of individuals or groups is expensive and will result in significant increases in electricity rates for all customers. LIPA and PSEG Long Island will work with a community to provide underground service. The costs associated with undergrounding are the responsibility of the Applicant Community, and LIPA offers 20-year on-bill financing for the project, if desired.

What should be expected during the conversion? During the construction phase, expect occasional service disruptions, temporary loss of curbside parking, and excavation of roads, sidewalks, and other portions of the utility right-of-way.

How is the area of the undergrounding district determined? The area of the undergrounding district is determined by the Applicant Community, in conjunction with PSEG Long Island, to make sure the district boundaries work with the electrical grid.

Will all the wires and poles be removed? The undergrounding project will generally remove all wires and poles once all users who share the poles remove their equipment. Furthermore, not all utility poles are owned by LIPA. Some may be owned by the telephone company or another organization with the right to install poles. The Applicant Community should work with each pole owner directly to remove their poles.

Why are some neighborhoods already served from underground lines? Some areas were designed by contractors to be served underground, and the cost was figured into the price of the home at time of construction. Other neighborhoods were converted as part of Local Improvement Districts. Finally, in limited circumstances, because of technical reasons or other constraints, only underground service may be feasible for a particular project. See the LIPA Board of Trustee's Policy on Construction of Transmission and Distribution Projects at www.lipower.org for more information.

How long should the undergrounding process take? The length of the process varies greatly from project to project depending on size, complexity, and neighborhood support. Once the decision to underground is made and the financial arrangements are in place, it generally takes 6-12 months to design the project, and an additional 6-12 months to construct.

What equipment will still be visible above ground? Will I get a chance to review proposed equipment locations before they are finalized? Transformers will be located in sub-surface vaults covered by manhole covers or padmounted equipment on private property. In addition, some underground facilities may require air vents, which may be visible from the street. Traffic control equipment and security infrastructure that may have shared utility poles may remain or be placed on new dedicated poles by the respective users.

How do I get more information about converting overhead electric service to underground?

Call PSEG Long Island Building and Renovation Services at 844-341-6378 or your Major Account Representative.

