

CHAPTER 5

ELECTRIC SERVICE

Authority

N.J.S.A. 48:2-13.

Source and Effective Date

R.2002 d.314, effective August 21, 2002.
See: 34 N.J.R. 1390(a), 34 N.J.R. 3234(a).

Chapter Expiration Date

Chapter 5, Electric Service, expires on August 21, 2007.

Chapter Historical Note

Chapter 5, Electric, was filed and became effective prior to September 1, 1969. Subchapter 4, Regulation for Residential Electric Underground Extensions, was adopted as R.1971 d.183, effective December 31, 1971. See: 1 N.J.R. 9(a), 3 N.J.R. 277(c). Subchapter 7, was adopted as R.1973 d.106, effective April 19, 1973. See: 4 N.J.R. 134(c), 5 N.J.R. 167(a). Subsequent revisions to Subchapter 7 were filed and became effective January 21, 1975, as R.1975 d.12. See: 5 N.J.R. 353(a), 7 N.J.R. 62(b). Subchapter 7 was repealed by R.1977 d.37, effective February 17, 1977. See: 9 N.J.R. 139(a).

Pursuant to Executive Order No. 66(1978), Subchapter 3 expired on April 23, 1984.

A new Subchapter 3, Meters, was adopted as R.1985 d.625 effective December 16, 1985. See: 17 N.J.R. 2237(a), 17 N.J.R. 2998(a).

Pursuant to Executive Order No. 66(1978), Chapter 5, Electric, expired on December 16, 1990.

Chapter 5, Electric, was adopted as new rules by R.1991 d.583, effective December 2, 1991. See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).

Pursuant to Executive Order No. 66(1978), Chapter 5, Electric Service, expired on December 2, 1996.

Chapter 5, Electric Service, was adopted as new rules by R.1997 d.99, effective March 3, 1997. See: 28 N.J.R. 4080(a), 29 N.J.R. 786(b).

Subchapter 7, Interim Electric Distribution Service Reliability and Quality Standards, was adopted as R.2001 d.3, effective January 2, 2001. See: 32 N.J.R. 2980(a), 33 N.J.R. 123(a).

Chapter 5, Electric Service, was readopted as R.2002 d.314, effective August 21, 2002. See: Source and Effective Date. See, also, section annotations.

CHAPTER TABLE OF CONTENTS

SUBCHAPTER 1. PLANT

- 14:5-1.1 Plant construction
- 14:5-1.2 Separation and protection of conductors buried in earth
- 14:5-1.3 Protection at crossing of cables
- 14:5-1.4 Protection of cables installed parallel
- 14:5-1.5 Fault protection
- 14:5-1.6 Identification of conductors
- 14:5-1.7 Ground protection
- 14:5-1.8 Depth of buried cables
- 14:5-1.9 Inspection of property

SUBCHAPTER 2. SERVICE

- 14:5-2.1 Polyphase service
- 14:5-2.2 Adequacy of service
- 14:5-2.3 Sealing of main fuse cabinets or circuit breakers
- 14:5-2.4 Grounding of secondaries
- 14:5-2.5 Refusal to connect

- 14:5-2.6 Accidents
- 14:5-2.7 (Reserved)

SUBCHAPTER 3. METERS

- 14:5-3.1 Testing of electric meters
- 14:5-3.2 Periodic testing of electric meters
- 14:5-3.3 Determination of electric meter accuracy
- 14:5-3.4 Outdoor meters
- 14:5-3.5 Readjustment of electric meters

SUBCHAPTER 4. EXTENSION OF ELECTRIC SERVICE

- 14:5-4.1 Extensions
- 14:5-4.2 Definitions
- 14:5-4.3 Rights-of-way and easements
- 14:5-4.4 Installation of underground distribution system within subdivision
- 14:5-4.5 Connection to supply systems
- 14:5-4.6 Advances by applicant
- 14:5-4.7 Cooperation by applicant
- 14:5-4.8 Construction
- 14:5-4.9 Street lighting
- 14:5-4.10 Records
- 14:5-4.11 Special conditions or exemptions
- 14:5-4.12 Prior regulations
- 14:5-4.13 Compliance

APPENDIX A. REGULATION FOR RESIDENTIAL ELECTRIC UNDERGROUND EXTENSIONS

SUBCHAPTER 5. UNIFORM SYSTEM OF ACCOUNTS FOR CLASSES A AND B ELECTRIC UTILITIES

- 14:5-5.1 Adoption by reference of the Uniform System of Accounts
- 14:5-5.2 Adoption by reference of rules concerning preservation of records; electric utilities

SUBCHAPTER 6. ELECTRIC TRANSMISSION LINES

- 14:5-6.1 Requirements for electric transmission lines

SUBCHAPTER 7. INTERIM ELECTRIC DISTRIBUTION SERVICE RELIABILITY AND QUALITY STANDARDS

- 14:5-7.1 Purpose and scope
- 14:5-7.2 Definitions
- 14:5-7.3 Reliability performance levels
- 14:5-7.4 Service reliability
- 14:5-7.5 Power quality
- 14:5-7.6 Individual circuit reliability performance
- 14:5-7.7 Inspection and maintenance programs
- 14:5-7.8 Annual System Performance Report
- 14:5-7.9 Major event report
- 14:5-7.10 Establishment of service level values
- 14:5-7.11 Prompt restoration standards
- 14:5-7.12 Penalties
- 14:5-7.13 Outage management systems (OMS)

SUBCHAPTER 1. PLANT

14:5-1.1 Plant construction

The construction and installation of plant and facilities of electric utilities must be in accordance with N.J.A.C. 14:3-2.1 and, except with respect to the protection and separation of conductors buried in earth, must be in accordance with the

applicable requirements of the National Electrical Code and the National Electrical Safety Code in effect at the time of construction. When and if any controversy arises as to the necessity for adopting specifications calling for construction of a higher standard, the matter may be referred to the Board for determination.

Case Notes

Electric utility practiced prudent field management in choosing site for proposed distribution substation. Matter of Appeal of Atlantic City Elec. Co., 93 N.J.A.R.2d (BRC) 75.

14:5-1.2 Separation and protection of conductors buried in earth

(a) The separation between buried communication and buried supply conductors or cables shall consist of not less than 12 inches of well-tamped earth, four inches of brick or three inches of concrete.

(b) Exceptions to (a) above are as follows:

1. This separation and protection is not required where supply circuits having a potential of 550 volts or less between conductors and having a total transmitted power of not in excess of 3,200 watts are laid adjacent to communication cables, if all cables are used exclusively for the operation of a railway signal or supply system and are maintained by the same company.

2. This separation and protection is not required where supply circuits have a potential of 550 volts or less between conductors.

3. This separation and protection is not required where communication and power supply conductors or cables which have a potential of over 550 volts between conductors are buried in a common trench at the same depth with random separation under the following conditions:

i. The electric system shall be wye connected with grounded neutral and a voltage not exceeding 22,000 volts to ground;

ii. The power cables shall have a concentric solidly grounded neutral. When there is no covering over the concentric neutral, grounding may be by direct burial in earth; otherwise ground rods shall be driven at all cable terminations or a separate bare copper grounding conductor not smaller than # 4A.W.G. shall be buried in the earth not more than three inches from the power cable. All neutral and grounding conductors shall be interconnected at all power cable terminations. The power cables shall meet or exceed the test requirements of the Insulated Power Cable Engineers Association—National Electrical Manufacturers Association standards for cables for transmission and distribution of electrical energy;

iii. The communication cable shall contain a metallic sheath bonded to the electric system grounded neutral at intervals of not more than 1,000 feet.

4. No separation is required between communication and supply conductors or cables located beneath transformer switch and terminal cabinets or their supporting pads or structures.

As amended, R.1975 d.215, effective July 28, 1975.

See: 7 N.J.R. 277(a), 7 N.J.R. 437(a).

Amended by R.1991 d.583, effective December 2, 1991.

See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).

Editorial or stylistic change only.

Cross References

Fault protection of buried cables, see N.J.A.C. 14:5-1.5.

14:5-1.3 Protection at crossing of cables

(a) At all crossings where buried supply conductors or cables are above communication conductors or cables, the supply conductors or cables shall be protected from digging operations by concrete or creosoted wood plank or equivalent mechanical protective covering extending at least two feet in each direction from the point of crossing.

(b) Exceptions to (a) above are as follows:

1. This separation and protection is not required where supply circuits having a potential of 550 volts or less between conductors and having a total transmitted power of not in excess of 3,200 watts are laid adjacent to communication cables, if all cables are used exclusively for the operation of a railway signal or supply system and are maintained by the same company.

2. This protection is not required where supply conductors over 550 volts between conductors are installed in accordance with N.J.A.C. 14:5-1.2(b) 3 and 4.

Amended by R.1991 d.583, effective December 2, 1991.

See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).

Editorial or stylistic change only.

Amended by R.1997 d.99, effective March 3, 1997.

See: 28 N.J.R. 4080(a), 29 N.J.R. 786(b).

Changed N.J.A.C. references.

14:5-1.4 Protection of cables installed parallel

(a) Where buried communication and buried supply conductors or cables are installed in the same trench generally parallel to each other, the buried supply conductors or cables shall be covered with concrete or creosoted wood planking or equivalent mechanical protection, except that this covering may be omitted in the following cases:

1. Where the voltage of the supply conductors does not exceed 550 volts between conductors;

2. Where the supply conductors or cables are encased in a continuous metallic sheath effectively grounded;

3. Where the supply conductors or cables are installed more than two feet horizontally from communication conductors;

4. Where supply conductors over 550 volts between conductors are installed in accordance with N.J.A.C. 14:5-1.2(b)3.

(d) All portable watt-hour meters (rotating standards) of the commutator type shall be compared with reference standards at least once each week. Every portable watt-hour meter (rotating standard) shall at all times be accompanied by a certificate giving the date when it was certified, the corrections to be applied at various loads, and signed by the proper authority. These certificates, when superseded, shall be kept on file in the office of the utility at least one year.

(e) All portable, indicating electrical testing instruments, such as, voltmeters, ammeters and watt-meters, when in regular use for testing purposes, shall be checked against reference standards at least once a week when continuing in use.

(f) Instruments and standards may be tested and certified by any standardizing laboratory whose instruments and methods are approved by the Board.

14:5-3.2 Periodic testing of electric meters

(a) All direct current meters installed upon customers' premises shall be periodically tested in accordance with the following schedule:

1. Up to and including six kilowatts—at least once in 3½ years;
2. Over six kilowatts, up to and including 100 kilowatts—at least once in 1½ years;
3. Over 100 kilowatts—at least once in one year.

(b) The kilowatt rating of a direct current meter is the product of the rated voltage and the rated current.

(c) All types of alternating current watt-hour meters installed upon customers' premises shall be tested as follows:

1. Self-contained polyphase meters and transformer rated meters:
 - i. Meters without demand register—at least once in 16 years;
 - ii. Meters with block-interval demand registers—at least once in 12 years;
 - iii. Meters with lagged demand registers—at least once in eight years.
2. Self-contained single-phase meters and three-wire network meters—at least once in eight years or by a variable interval or statistical sampling technique approved by the Board.

As amended R.1979 d.374, effective September 5, 1979.
See: 11 N.J.R. 402(c), 11 N.J.R. 585(c).
Amended by R.1991 d.583, effective December 2, 1991.
See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).
Editorial or stylistic change only.

14:5-3.3 Determination of electric meter accuracy

(a) No meter that has an error in registration of more than plus or minus two percent shall be placed in service or allowed to remain in service without adjustment.

(b) No meter which registers upon "no load" shall be placed in service or allowed to remain in service. To determine that a meter is registering upon "no load", all load wires shall be removed, and if the meter disk then rotates at the rate of one revolution in five minutes or less it shall be considered as registering on "no load".

(c) For periodic testing, the accuracy shall be determined by taking the average of the percentage registration at light load and heavy load. In periodic testing where the average accuracy shows the meter to be in error by more than two percent, the complaint testing method as stated below shall be used to determine the final accuracy of the meter.

(d) As used in this section, light load shall be approximately five to ten percent of rated current and heavy load shall be not less than 60 percent nor more than 150 percent of rated current.

(e) For complaint testing, the accuracy shall be determined by taking the average of the percentage registration at light load and at heavy load, giving the heavy load registration a weight of four.

Case Notes

Minor error in electric meter readings did not exceed permissible margin of error. *Gross v. PSE&G*, 96 N.J.A.R.2d (BRC) 13.

Utility correctly billed customer for unmetered electrical service over a span of 11 years. *Licciardello v. Public Service Electric and Gas*, 95 N.J.A.R.2d (BRC) 35.

14:5-3.4 Outdoor meters

All new electric meters installed outdoors shall be compensated for temperature variations.

14:5-3.5 Readjustment of electric meters

Each meter after being tested shall be adjusted to record within a tolerance of plus 0.3 percent and minus one percent at both light and heavy loads. These tolerances are specified to allow for necessary variations and meters must be adjusted to within the allowable tolerances as nearly as practicable to zero error. Meters removed from service are to be tested and adjusted in the meter room before being put in service again. Each electric meter shall be tested for accuracy before installation or within 30 days after being set.

SUBCHAPTER 4. REGULATION FOR RESIDENTIAL ELECTRIC UNDERGROUND EXTENSIONS

14:5-4.1 Extensions

All extensions of electric service, including service connections, shall be governed by the provisions for extensions set forth at N.J.A.C. 14:3-8.

As amended, R.1973 d.335, effective December 3, 1973.

See: 6 N.J.R. 22(b).

As amended, R.1975 d.243, effective August 14, 1975.

See: 7 N.J.R. 29(a), 7 N.J.R. 437(b).

Amended by R.1997 d.99, effective March 3, 1997.

See: 28 N.J.R. 4080(a), 29 N.J.R. 786(b).

Substituted "subchapter" for "regulation" and deleted reference to date of subchapter applicability.

Repeal and New Rule, R.2004 d.462, effective December 20, 2004.

See: 36 N.J.R. 276(a), 36 N.J.R. 5928(a).

Section was "Applicability".

Case Notes

General powers given to municipalities to regulate and inspect erection, alteration or repair of structures preempted by State with respect to installation and inspection of private home electrical wiring; ordinance mandating copper wiring use invalid as contravening legislative plan for regulation of electrical industry by Public Utilities Commission (citing former N.J.A.C. 14:5-7.5 and 7.9). *Warren Park Estates, Inc. v. Twp. Committee, East Windsor Twp.*, 136 N.J.Super. 180, 345 A.2d 346 (App.Div.1975).

14:5-4.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

"Applicant" means the subdivider, developer, builder or owner applying for the construction of an electric distribution system in a subdivision.

"Board" means Board of Public Utilities.

"Building" means a permanent structure enclosed within exterior walls or fire walls, built, erected and framed of component structural parts and designed for single-family or duplex-family occupancy.

1. A duplex family building may consist of either a duplex apartment with rooms on two floors and a private interstairway, or a duplex house with two separate family units side by side.

"Cost" means actual expense incurred for materials and labor employed in the installation of an underground residential distribution system, including overheads directly attributable to the field work, but excluding overrides or loading factors, such as for back-up personnel, mapping, records, clerical, superintendence or general office.

"Existing street" means a public street, road or highway, traversing or abutting the applicant's subdivision, that was in existence and utilized prior to the approval and establishment of the subdivision.

"Extension" means an extension of facilities located on streets, highways, and/or rights of way acquired by the utility for common distribution.

"Mobile home" means a dwelling unit constructed for permanent occupancy which is designed for moving along roads and highways by towing with a truck or tractor and which is installed on a permanent foundation.

"Multiple-occupancy building" means a permanent structure enclosed or with exterior walls or fire walls, built, erected and framed of component structural parts and designed to contain three or more individual dwelling units and consisting of not more than four stories.

"New street" means a public street, road or highway, traversing or abutting the applicant's subdivision, that was or will be constructed subsequent to the approval and establishment of the subdivision.

"Subdivision" means the tract of land which is divided into lots as approved by the appropriate authorities for the construction of new residential buildings or the placement of mobile homes, or the land on which new multiple-occupancy buildings are to be erected.

"Utility" means an "electric company" as defined in N.J.S.A. 48:2-13.

As amended, R.1973 d.335, effective December 3, 1973.

See: 6 N.J.R. 22(b).

As amended, R.1975 d.243, effective August 14, 1975.

See: 7 N.J.R. 29(a), 7 N.J.R. 437(b).

Amended by R.1991 d.583, effective December 2, 1991.

See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).

Board designated as Board of Regulatory Commissioners pursuant to Reorganization Plan No. 002-1991.

Amended by R.1997 d.99, effective March 3, 1997.

See: 28 N.J.R. 4080(a), 29 N.J.R. 786(b).

Amended definition of "Board".

14:5-4.3 Rights-of-way and easements

(a) Within the applicant's subdivision the utility shall construct, own, operate and maintain underground distribution lines only along public streets, roads and highways which the utility has the legal right to occupy, and on public lands and private property across which rights-of-way and easements satisfactory to the utility both as to location and legal sufficiency are provided without cost to or condemnation by the utility.

(b) Rights-of-way and easements suitable to the utility must be furnished by the applicant in sufficient time to meet service requirements and at no cost to the utility. The rights-of-way or easements so granted must be cleared of trees, tree stumps and other obstructions above or below grade at no charge to the utility to a width sufficient to permit the use of machinery and equipment, and must be graded to within six inches of final grade by the applicant before the utility will commence construction. Such clearance and grading must be maintained by the applicant during construction by the utility.

14:5-4.4 Installation of underground distribution system within subdivision

(a) Upon receipt of a proper application the utility shall, after conditions in N.J.A.C. 14:5-4.3 have been met and after coordination with other utilities, install along new streets and along existing streets not already served by overhead facilities, using suitable materials, an underground electric distribution system reasonably equivalent to a comparable overhead system which will assure that the applicant will receive safe, adequate and proper electric service.

1. "Suitable materials" shall be construed to mean those components of a direct buried residential-type underground distribution system, including but not limited to transformers, which shall be pad mounted unless otherwise directed by the Board, cables, conduits, street lighting poles and fixtures, switch gear and enclosures, which the industry has adopted as standard consistent with the "state of the art" as it applies to the development of such components and also consistent with the service requirements of this rule. Such standards shall be understood to be reasonable standards designed to implement this rule with a minimum increase in the difference in cost between overhead and underground distribution systems.

2. At the request of the applicant, the utility may provide components which exceed such standards, provided that applicant shall bear the full cost of the excess facilities requested.

3. No utility will be obligated to furnish electric service to any building in a subdivision unless and until an application has been made for the distribution system in the subdivision in accordance with this subsection and a deposit has been made in accordance with N.J.A.C. 14:5-4.6, unless otherwise ordered by the Board.

(b) The applicant shall supply to the utility the preliminary or tentative subdivision map which has been submitted to and approved by the appropriate authorities, showing the subdivision of all of the applicant's property, together with the anticipated electric load requirements for each living unit, to facilitate planning for the ultimate supply in the form of branch circuit, main feeder and/or substation facilities required.

(c) The applicant shall also supply the final subdivision map of the section of the subdivision which has received the final approval of the appropriate authorities and which the applicant proposes to develop in the immediate future. This submission shall also detail the planned electric load requirements as described in (b) above.

(d) The applicant, in addition, shall supply an estimate of the date electric service will initially be required and the time schedule for the full development of the subject section.

(e) Semiannually, each electric utility may submit a proposed tariff, modifying existing undergrounding charges. These proposed tariffs shall be supported by unit costs of construction in a form as required for approval by the Board.

(f) For the installation of an underground electric distribution system, the applicant shall pay the utility the differential cost between the construction of an underground and an equivalent overhead distribution system as determined from the utility's approved tariff as provided by (e) above.

(g) Such amounts as the public utility receives pursuant to its tariff, in accordance with this subchapter and not subject to further refund, shall be credited to the appropriate utility plant account or accounts.

(h) The total front footage shall be determined by measuring the total street footage of all property within the subdivision, excepting those portions of existing streets along which overhead facilities are already installed. Buildings in the subdivision facing an existing street on which overhead facilities are presently installed may be served overhead.

(i) The service connection to each building will be at the nearest corner of the building to the point at which the service enters the property to be served. If such service length on property served is more than 50 feet, then the applicant shall pay the utility the amount per foot listed in the utility's approved tariff for the length in excess of 50 feet.

(j) For multiple-occupancy buildings, duplex family buildings and mobile homes, the underground distribution system within the subdivision shall be constructed by the utility in the most economical manner, as determined by the utility, and the applicant shall pay the utility the differential cost according to the component unit charges as listed in the utility's approved tariff. Any such buildings or mobile homes in the subdivision which abut an existing street on which overhead facilities are presently installed may be served overhead from the existing street. Should such buildings or mobile homes be served overhead, neither the number nor the frontage of such lots shall be included in the calculation to determine the applicant's contribution.

(k) The charges determined in accordance with this subchapter may not be waived or refunded unless such waiver or refund is specifically approved by the Board.

(l) Extensions of high-capacity main line distributing facilities, not exceeding 4MVA, solely within and for the applicant's subdivision, shall be made underground. The applicant shall pay the utility the differential cost for such extensions as determined from the component unit charge as listed in the utility's approved tariff.

1. Extensions of high-capacity main line distribution facilities, exceeding 4MVA, solely within the applicant's subdivision may be made overhead, unless otherwise ordered by the Board.

(m) Extensions of high-capacity main line distribution facilities, not exceeding 4MVA, solely within the applicant's subdivision and also necessary to serve adjacent residential, commercial, or industrial loads shall be made underground. The differential cost for such extensions shall be prorated in such a manner that the applicant shall pay the utility only for the capacity necessary to serve his subdivision. The utility may require a deposit and charge the balance differential cost to the other residential, commercial or industrial applicants, when service is requested for such loads, on a prorated basis.

1. Extensions of high-capacity main line distribution facilities exceeding 4MVA, solely within the applicant's subdivision and also necessary to serve adjacent residential, commercial or industrial loads, may be made overhead, unless otherwise ordered by the Board.

(n) Extensions of high-capacity main line distribution facilities, not exceeding 4MVA, to reach the applicant's subdivision, through another residential subdivision where the provisions of this subchapter are applicable, shall be made underground. The applicant shall pay the utility a prorated differential cost for such extensions only for that capacity necessary to serve his subdivision, in addition to the charges required pursuant to (f) above. The utility may require a deposit and charge the balance of the differential cost to the property owner or owners of the residential subdivision through which the extension is made, when such owner or owners make an application for electric service, on a prorated basis.

1. Extensions of high-capacity main line distribution facilities exceeding 4MVA to reach the applicant's subdivision, through another residential subdivision where the provisions of this Subchapter are applicable, may be made overhead, unless otherwise ordered by the Board.

As amended, R.1973 d.335, effective December 3, 1973.

See: 6 N.J.R. 22(b).

As amended, R.1975 d.243, effective August 14, 1975.

See: 7 N.J.R. 29(a), 7 N.J.R. 437(b).

Amended by R.1991 d.583, effective December 2, 1991.

See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).

Editorial or stylistic change; new language in (n).

Amended by R.2002 d.314, effective September 16, 2002.

See: 34 N.J.R. 1390(a), 34 N.J.R. 3234(a).

14:5-4.5 Connection to supply systems

The utility shall provide a connection, using the normal method of construction, from the boundary line of the applicant's subdivision to the utility's existing supply facilities.

As amended, R.1975 d.243, effective August 14, 1975.

See: 7 N.J.R. 29(a), 7 N.J.R. 437(b).

14:5-4.6 Advances by applicant

(a) Prior to the start of construction on a section of the subdivision, the utility shall require from the applicant a deposit equivalent to the estimated amount of charges payable to the utility in accordance with N.J.A.C. 14:5-4.4(f) for the total number of building lots shown on the subdivision map supplied to the utility by the applicant under the provisions of N.J.A.C. 14:5-4.4(c).

(b) Deposits will not carry interest.

(c) If the amount of the deposit is in excess of the charges payable to the utility in accordance with N.J.A.C. 14:5-4.4(f), then the excess amount shall be returned upon completion of the installation of the distribution construction facilities.

(d) Any portion of a deposit remaining unrefunded ten years from the date the utility is first ready to render service from the extension will be retained by the utility and credited to an appropriate account.

(e) When an applicant requests the installation of underground facilities in an area for which there is no planned immediate construction of dwelling units, the utility may require a deposit from the applicant in addition to a deposit required pursuant to (a) above. Such a deposit shall not be more than the estimated cost of providing equivalent overhead extension and shall be collected and refunded in accordance with N.J.A.C. 14:3-8.1.

As amended, R.1973 d.335, effective December 3, 1973.

See: 6 N.J.R. 22(b).

As amended, R.1975 d.243, effective August 14, 1975.

See: 7 N.J.R. 29(a), 7 N.J.R. 437(b).

Amended by R.1991 d.583, effective December 2, 1991.

See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).

Editorial or stylistic change only.

14:5-4.7 Cooperation by applicant

(a) The charges specified in this subchapter are based on the premise that each applicant shall agree to cooperate with the utility in accordance with N.J.A.C. 14:5-4.3 in an effort to keep the cost of construction and installation of the underground electric distribution system as low as possible. This includes the scheduling of construction to preclude the necessity for trenching in frozen soils or in land fill operations before soils have become stabilized.

(b) Should unusual circumstances arise which unreasonably would delay underground service, temporary facilities may be installed in whatever manner is most practical under the circumstances, provided, however, that such temporary facilities shall be replaced as soon as practical with a permanent installation in accordance with the provisions of this subchapter.

(c) Requests for adjustment of charges, specified in the tariff of any utility filed pursuant to N.J.A.C. 14:5-4.4(e), to cover excess cost, if any, due to temporary installations, may be referred to the Board in accordance with N.J.A.C. 14:5-4.11.

As amended, R.1973 d.335, effective December 3, 1973.

See: 6 N.J.R. 22(b).

As amended, R.1975 d.243, effective August 14, 1975.

See: 7 N.J.R. 29(a), 7 N.J.R. 437(b).

Amended by R.1991 d.583, effective December 2, 1991.

See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).

Editorial or stylistic change only.

Amended by R.2002 d.314, effective September 16, 2002.

See: 34 N.J.R. 1390(a), 34 N.J.R. 3234(a).

14:5-4.8 Construction

(a) Where practical, as determined by the affected utilities, electric cables, communication cables and cable television cables shall be installed in the same trench, care being taken to conform to any applicable codes and regulations.

(b) Where joint use of a trench is practical, a utility will not be obliged to commence work on an underground system unless and until the applicant has made all necessary arrangements with the communication utility and cable television company to commence work on their underground system.

(c) Pavement cutting and restoration, rock removal, blasting and difficult digging conditions requiring equipment and methods not generally used by the utility's forces shall be at actual low bid differential cost on a job-by-job basis, with the applicant having the option to have the work done by himself or his agent, if qualified to do this type of work. This provision shall not apply where the utilities have entered into contractual agreements with agents to perform the above work. However, such agreements shall not be effective unless and until filed with and accepted by the Board.

(d) In subdivisions where lot sizes, configurations or requirements are such that, in the utility's judgment, primary conductors must be extended into the lots in the subdivision to adequately serve the same, the applicant shall pay the utility the cost of such extensions determined in accordance with the utility's approved tariff.

(e) In each subdivision if the average transformer capacity per dwelling unit is in excess of 8.5 KVA, the utility may make an additional charge to the applicant per dwelling unit equal to the average differential cost of installing such transformer capacity of 8.5 KVA per dwelling unit.

As amended, R.1973 d.335, effective December 3, 1973.

See: 6 N.J.R. 22(b).

As amended, R.1975 d.243, effective August 14, 1975.

See: 7 N.J.R. 29(a), 7 N.J.R. 437(b).

Amended by R.1991 d.583, effective December 2, 1991.

See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).

Editorial or stylistic change only.

14:5-4.9 Street lighting

(a) All subdivisions to be supplied from underground electric facilities shall have incorporated in their design the requirements for street lighting in accordance with the standards in general use in the municipality.

(b) Such street lighting shall also be served underground.

(c) Poles and fixtures shall be selected from the types and sizes adopted by the utility as standard.

14:5-4.10 Records

(a) Each electric utility shall maintain on a calendar year basis for periodic review by, or upon request, submission to the Board the following records:

1. The amount of trench which it has shared with communication cables and cable television cables. The record shall also show the contribution per foot by it and by the collaborating telephone companies and cable television companies for joint use of trench.

2. The number of subdivisions, the number of lots and the number of buildings of all types, including mobile home, for which service was made available under this subchapter.

As amended, R.1973 d.335, effective December 3, 1973.

See: 6 N.J.R. 22(b).

As amended, R.1975 d.243, effective August 14, 1975.

See: 7 N.J.R. 29(a), 7 N.J.R. 437(b).

Amended by R.1991 d.583, effective December 2, 1991.

See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).

Added reference to cable television companies.

14:5-4.11 Special conditions or exemptions

(a) When the application of this subchapter will result in extreme hardship or inequity, or be discriminatory to other customers, the utility or applicant may refer the matter to the Board for special exemptions or for approval of special conditions.

(b) The applicant invoking the jurisdiction of this Board, pursuant to (a) above, may be required to deposit in an escrow account as determined by the Board, prior to hearing, a deposit up to the estimated cost differential between underground and overhead service to be advanced to the utility in the event the Board determines an exemption is not warranted.

As amended, R.1973 d.335, effective December 3, 1973.

See: 6 N.J.R. 22(b).

As amended, R.1975 d.243, effective August 14, 1975.

See: 7 N.J.R. 29(a), 7 N.J.R. 437(b).

Amended by R.1991 d.583, effective December 2, 1991.

See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).

Editorial or stylistic change only.

14:5-4.12 Prior regulations

Except for N.J.A.C. 14:3-8.1, 14:3-8.2 and 14:3-8.3 and except as otherwise provided herein, rules, regulations and standards heretofore promulgated with respect to the subject matter encompassed by this subchapter are hereby superseded and revoked.

14:5-4.13 Compliance

(a) This subchapter, having been enacted in the public interest, calls for cooperation by utilities, developers, builders and municipal bodies to achieve the desired underground electric service in new residential subdivisions at the lowest reasonable cost consistent with system reliability and safety.

(b) Therefore, in accordance with N.J.S.A. 48:2-13 which grants general supervision and regulation of, and jurisdiction and control over, all public utilities to the Board, requirements in conflict with this subchapter which would prevent or interfere with electric utilities' compliance with this subchapter shall not be imposed through municipal ordinances or regulations.

As amended, R.1973 d.335, effective December 3, 1973.

See: 6 N.J.R. 22(b).

As amended, R.1975 d.243, effective August 14, 1975.

See: 7 N.J.R. 29(a), 7 N.J.R. 437(b).

APPENDIX A—REGULATION FOR RESIDENTIAL ELECTRIC UNDERGROUND EXTENSIONS

Illustrative examples of how costs for underground extensions are to be determined in different situations.

Note: Dollar amounts shown are for illustrative purposes only and do not represent current utility charges. Such current charges are shown in the tariff of each individual electric utility and is on file with the Board and available for inspection at either the offices of the Board or the local offices of the utility.

- A. For each building lot being served, the applicant shall pay the utility the amount determined from the following table:

| Base Charge* | Charge per Front Foot of Building Lot |
|--------------|--|
|--------------|--|

| | Per Building Lot | in Excess of 50 Feet |
|---|---|----------------------|
| 1. Single-family (base charge plus avg. lot width X charge/ft.) | \$120.00 | \$.50 |
| 2. Duplex-family (single service) | \$110.00 | \$.50 |
| 3. Duplex-family (separate service) | \$200.00 | \$.70 |
| 4. Mobile home |) Charge to be based on differential cost | |
| 5. Multiple occupancy |) according to unit costs specified in Exhibit 1. | |
| B. Additional Charges | | |
| Item | | |
| 1. Excess service length | Per Ft. Trench 100 & 150 Amp | \$.45 |
| | Over 150 Amp | \$.51 |
| 2. Special street light poles | | |
| a. 30 ft. laminated | Each | \$ 98.00 |
| b. 17 ft. post top | " | \$ 20.00 |
| 3. Additional street lights where spacing is less than 200 ft. ** | | |
| a. standard pole | " | \$ 85.00 |
| b. 30 ft. laminated pole | " | \$183.00 |
| c. 17 ft. post top pole | " | \$105.00 |
| 4. Multi-phase constructions | Per Foot Per Phase | \$.22 |
| 5. Rock removal— |) At actual low bid cost with option | |
| 6. Rock blasting & removal |) of applicant to contract for. | |
| 7. Pavement cutting & restoration | | |

* Based on use of pad mounted transformers, standard street light poles, foundations and cable, and including the cost of all trenching and backfilling for 50 ft. wide building lot.

** Cost of pole = cost of pole and luminaire - cost of luminaire.

EXHIBIT 1

Unit Costs of Construction

Undergrounding

| Item | Unit | Material Cost | Labor Cost | Total |
|--|----------|---------------|------------|---------|
| Trenching | per foot | — | .24 | 0.24* |
| Primary cable, # 2 copper | " | .43 | .17 | .60 |
| Secondary & service cable | | | | |
| 1/0, 3 wire | " | .27 | .31 | .58 |
| 4/0, 3 wire | " | .51 | .31 | .82 |
| 350 kcmil, 3 wire | " | 2.54 | .31 | 2.85 |
| Primary termination | each | 81.00 | 106.00 | 187.00 |
| Primary junction enclosure | " | 255.00 | 63.00 | 318.00 |
| Secondary enclosure | " | 67.00 | 42.00 | 109.00 |
| Conduit, 4 inches PVC | per foot | .39 | .38 | .77 |
| Street light cable | " | .12 | .18 | .30 |
| Transformers, Incl. Pad | | | | |
| 25 kva | each | 427.00 | 97.00 | 524.00 |
| 50 kva | " | 486.00 | 97.00 | 583.00 |
| 75 kva | " | 625.00 | 97.00 | 722.00 |
| 100 kva | " | 756.00 | 97.00 | 853.00 |
| 167 kva | " | 1010.00 | 97.00 | 1107.00 |
| Street light poles & luminaires (100W or 175W) | | | | |
| 30 ft. Grey round pole | " | 100.00 | 46.00 | 146.00 |
| 30 ft. Laminated pole | " | 192.00 | 52.00 | 244.00 |
| 17 ft. Post top pole | " | 128.00 | 38.00 | 166.00 |
| Street light luminaire | " | 42.00 | 19.00 | 61.00 |

Trenching cost to be used in calculating differential charge = \$.14/ft. based on 85 percent joint trench, 15 percent sole trench.

$\frac{1}{2} ($.24 \times .85) + $.24 \times .15 = $.102 + $.036 = $.138 or $.14$

EXHIBIT 1

Unit Costs of Construction

Overhead

Unit Unit

| Item | Unit | Material Cost | Labor Cost | Total |
|--|----------|---------------|------------|--------|
| Pole line (incl. 7-25 ft. & 2-40 ft. poles. 3 anchors & guys per 1000 ft.) | per foot | .45 | .38 | .83** |
| Primary wire, insulated | per foot | .17 | .21 | .38 |
| Primary wire, bare | per foot | .04 | .15 | .19 |
| Secondary cable, 2/0 | per foot | .24 | .22 | .46 |
| Service, 100 & 150 amp | each | 8.00 | 12.00 | 20.00 |
| over 150 amp | each | 14.00 | 20.00 | 34.00 |
| Transformers | | | | |
| 25 kva | " | 179.00 | 65.00 | 244.00 |
| 50 kva | " | 269.00 | 65.00 | 334.00 |
| 100 kva | " | 449.00 | 65.00 | 514.00 |
| Street light luminaire | " | 42.00 | 19.00 | 61.00 |

Pole line cost to be used = \$.42/ft. based on 100 per cent joint pole line.

EXHIBIT 2

Single Family

Charge Per Front Foot of Building Lot

This is based on the differential cost of those components of system design that will vary with the lot width. Because the customer's service size is also a variable factor, two charges are calculated and weighted by the following percentages:

100 & 150 amp service—93 percent

Over 150 amp service—7 percent

SAMPLE I—100 & 150 amp customer service

Underground

| | | |
|---|--|-----------------|
| Trenching (.75 × \$.14) | | |
| One side of street requires trench which accommodates primary and service cables for each foot of building lot. Other side of street requires one foot of trench for each two feet of building lot for service cable. | | \$1.1050 |
| Primary Cable (.50 × \$.60) | | .3000 |
| One foot of cable required for each two feet of building lot. | | |
| Primary Conduit (50 ft ÷ 500" × .5 × \$.77) | | .0385 |
| Fifty feet of conduit (road crossing estimated for each 500 feet of primary cable. Cost based on one foot of cable for each two feet of building lot. | | |
| 1/0 Service Cable, Longitudinal Run (.50 × \$.58) | | .2900 |
| One foot of cable required for each two feet of building lot. | | |
| Street Lights (\$146.00 ÷ 400 ft) | | .3650 |
| 200 ft. spacing between lights. The cost is allocated for 400 ft of building lot. | | |
| Street Light Cable (\$.30 × 100 ft. ÷ 400 ft.) | | .0750 |
| 100 ft. of 2/c cable for each street light allocated for 400 ft of building lot frontage. | | |
| Total Underground Cost per Building Lot Foot | | \$1.1735 |

EXHIBIT 2

Overhead

| | | |
|--|--|---------|
| Joint Pole Line (.50 × \$.42) | | \$2.100 |
| One foot of pole line for each two feet of building lot. | | |
| Primary Wire, Insulated (.50 × \$.38) | | .1900 |

| | |
|---|-----------------|
| One foot of wire for each two feet of building lot. | |
| Primary Wire, Bare Neutral and Secondary Cable (.25 × \$.65) | .1625 |
| One foot of bare neutral wire and secondary cable is required for each four feet of building lot. | |
| Street Lights (\$61.00 ÷ 400 ft.) | .1525 |
| 200 ft spacing between lights. The cost is allocated for 400 ft of building lot. | |
| Total Overhead Cost per Building Lot Foot | <u>\$.7150</u> |
| Additional Charge per Foot (Differential Cost) \$1.1735 - \$.7150 = \$.4585 | |

SAMPLE II—Over 150 amp customer service

| | |
|---|-----------------|
| Underground | |
| Trenching (same as Sample I) | \$.1050 |
| Primary Cable (same as Sample I) | .3000 |
| Primary Conduit (same as Sample I) | .0385 |
| 4/0 Service Cable (.50 × \$.82) | .4100 |
| See Sample I | |
| Street Light (same as Sample I) | .3650 |
| Street Light Cable (same as Sample I) | .0750 |
| Total Underground Cost per Building Lot Foot | <u>\$1.2935</u> |
| Overhead | |
| Total Cost per Building Lot Foot (same as Sample I) | \$.7150 |

Additional Charge per Foot (Differential Cost)
 \$1.2935 - \$.7150 = \$.5785
 Weighted Charge per Front Foot of Building Lot
 Saturations = 93 per cent @ 100 amp/150 amp and 7 per cent @ over 150 amp
 (\$.4585 × .93) + (\$.5785 × .07) = \$.4264 + \$.0404 = \$.4668
TOTAL FRONT FOOT CHANGE = \$.47

EXHIBIT 2

Base Charge Per Building Lot

This is the differential cost between certain elements of underground and overhead design that are dependent only upon the customer's load and are not affected by the building lot width. Two sample calculations are made for each of two basic load levels and number of lots served by a transformer. These calculations are then weighted by the following percentages:

Number of lots served by a transformer: 7 - 75 per cent 4 - 25 per cent
 Customer loads: 8 kva - 93 per cent - 7 per cent

SAMPLE I—8 kva per building lot—7 lots per transformer

| | |
|---|---------------|
| Underground | |
| 1—50 kva transformer (7 × 8 kva = 56 kva) | \$583.00 |
| 1—subsurface secondary enclosure | 109.00 |
| 50 ft.—4 inches PVC conduit & trench (road crossing) @ (\$.77 + \$.14) | 45.50 |
| 50 ft.—350 kamil secondary cable (road crossing) @ \$2.85 | 142.50 |
| 50 ft.—1/0 service & trench (service length on lot) @ (\$.58 + \$.14) × 7 | <u>252.00</u> |
| Total base underground cost for 7 lots | \$1,132.00 |
| Overhead | |

| | |
|---|---------------|
| 1—50 kva transformer (7 × kva = 56 kva) | \$334.00 |
| 7—services @ \$20.00 | <u>140.00</u> |
| Total base overhead cost for 7 lots | \$474.00 |

Differential cost for 7 lots = \$1,132.00 - \$474.00 = \$658.00

Cost per lot = $\frac{\$658.00}{7} = \94.00

SAMPLE II—8 kva per building lot—4 lots per transformer

| | |
|---|---------------|
| Underground | |
| 1—25 kva transformer (4 × 8 kva = 32 kva) | \$524.00 |
| 50 ft.—4 inches PVC conduit & trench (road crossing) @ (\$.77 + \$.14) | 45.50 |
| 50 ft.—1/0 service (road crossing) @ \$.58 × 2 services | 58.00 |
| 50 ft.—1/0 service & trench (service length on lot) @ (\$.58 + \$.14) × 4 | <u>144.00</u> |
| Total base underground cost for 4 lots | \$771.50 |

| | |
|---|--------------|
| Overhead | |
| 1—25 kva transformer (4 × 8 kva = 32 kva) | \$244.00 |
| 4—services @ \$20.00 | <u>80.00</u> |
| Total base overhead cost for 4 lots | \$324.00 |

Differential cost for 4 lots = \$771.50 - \$324.00 = \$447.50

Cost per lot = $\frac{\$447.50}{4} = \111.88

Avg. cost (weighted) for Samples I & II
 (.75 × \$94.00) + (.25 × \$111.88) = \$70.50 + \$27.97 = \$98.47

SAMPLE III—14 kva per building lot—7 lots per transformer

| | |
|---|---------------|
| Underground | |
| 1—100 kva transformer (7 × 14 kva = 98 kva) | \$853.00 |
| 1—subsurface secondary enclosure | 109.00 |
| 50 ft.—4 inches PVC conduit & trench (road crossing) @ (\$.77 + \$.14) | 45.50 |
| 50 ft.—350 kamil secondary cable (road crossing) @ \$2.85 | 142.50 |
| 50 ft.—4/0 service & trench (service length on lot) @ (\$.82 + \$.14) × 7 | <u>336.00</u> |
| Total base underground cost for 7 lots | \$1,486.00 |

| | |
|---|---------------|
| Overhead | |
| 2—50 kva transformers (7 × 14 kva = 98 kva) | \$668.00 |
| 7—services @ \$34.00 | <u>238.00</u> |
| Total base overhead cost for 7 lots | \$906.00 |

Differential cost for 7 lots = \$1,486.00 - \$906.00 = \$580.00

Cost per lot = $\frac{\$580.00}{7} = \82.86

SAMPLE IV—14 kva per building lot—4 lots per transformer

| | |
|--|----------|
| Underground | |
| 1—50 kva transformer (4 × 14 kva = 56 kva) | \$583.00 |

| | |
|---|---------------|
| 50 ft.—4 inches PVC conduit & trench (road crossing) @ (\$.77 + \$.14) | 45.50 |
| 50 ft.—4/0 service (road crossing) @ \$.82 × 2 services | 82.00 |
| 50 ft.—4/0 service & trench (service length on lot) @ (\$.82 + \$.14) × 4 | <u>192.00</u> |
| Total base underground cost for 4 lots | \$902.50 |

Overhead

| | |
|---|---------------|
| 1—50 kva transformer (4 × 14 kva = kva) | \$334.00 |
| 4—services @ \$34.00 | <u>136.00</u> |
| Total base overhead cost for 4 lots | \$470.00 |

Differential cost for 4 lots = \$902.50 - \$470.00 = \$432.50

Cost per lot = $\frac{\$432.50}{4}$ = \$108.13

Avg. cost (weighted) for Samples III & IV
 $(.75 \times \$82.86) + (.25 \times \$108.13) = \$62.15$
 $+ \$27.03 = \89.18 per lot

Base Charge per 50 ft. Building Lot
 Saturation = 93 per cent @ 8 kva and 7 per cent @ 14 kva.

$(.93 \times \$98.47) + (.07 \times \$89.18) = \$91.58 + 6.24 =$ \$97.82

Building lot 50" Frontage = $50 \times \$4.7 =$ 23.50

TOTAL BASE CHARGE PER 50 ft. BUILDING LOT \$121.32

EXHIBIT 3

Duplex Family—Single Service

Charge per Front Foot of Building Lot

This is based on the differential cost of those components of system design that will vary with the lot width. Because the customer's service size is also a variable factor, two charges are calculated and weighted by the following percentages:

100 & 150 amp service—93 percent

Over 150 amp service—7 percent

SAMPLE I—100 & 150 amp customer service

| | |
|--|---------|
| Underground | |
| Trenching (.75 × \$.14) | \$.1050 |
| One side of street requires trench which accommodates primary and services cables for each foot of building lot. Other side of street requires one foot of trench for each two feet of building lot for service cable. | |
| Primary Cable (.50 × \$.60) | .3000 |
| One foot of cable required for each two feet of building lot. | |
| Primary Conduit (50 ft ÷ 500 ft × .5 × \$.77) | .0385 |
| Fifty feet of conduit (road crossing) estimated for each 500 feet of primary cable. Cost based on one foot of cable for each two feet of building lot. | |
| 1/0 Service Cable, Longitudinal Run (.50 × \$.58) | .2900 |
| One foot of cable required for each two feet of building lot. | |
| Street Lights (\$146.00 ÷ 400 ft.) | .3650 |
| 200 ft. spacing between lights. The cost is allocated for 400 ft. of building lot. | |
| Street Light Cable (\$.30 ft. 100 ft. ÷ 400 ft.) | .0750 |

| | |
|--|-----------------|
| 100 ft. of 2/c cable for each street light allocated for 400 ft. of building lot frontage. | |
| Total Underground Cost per Building Lot Foot | <u>\$1.1735</u> |

EXHIBIT 3

| | |
|---|----------------|
| Overhead | |
| Joint Pole Line (.50 × \$.42) | \$.2100 |
| One foot of pole line for each two feet of building lot. | |
| Primary Wire, Insulated (.50 × \$.38) | .1900 |
| One foot of wire for each two feet of building lot. | |
| Primary Wire, Bare Neutral and Secondary Cable | .1625 |
| One foot of bare neutral wire and secondary cable is required for each four feet of building lot. (.25 × \$.65) | |
| Street Lights (\$61.00 ÷ 400 ft.) | .1525 |
| 200 ft. spacing between lights. The cost is allocated for 400 ft. of building lot. | |
| Total Overhead Cost per Building Lot Foot | <u>\$.7150</u> |
| Additional Charge per Foot (Differential Cost) \$1.1735 - \$.7150 = \$.4585 | |

SAMPLE II—Over 150 amp customer service

| | |
|--|--------------|
| Underground | |
| Trenching (same as Sample I) | \$.1050 |
| Primary Cable (Same as Sample I) | .3000 |
| Primary Conduit (same as Sample I) | .0385 |
| 4/0 Service Cable (.50 × \$.82) | |
| See Sample I | .4100 |
| Street Light (same as Sample I) | .3650 |
| Street Light Cable (same as Sample I) | <u>.0750</u> |
| Total Underground Cost per Building Lot Foot | \$1.2935 |

| | |
|---|----------------|
| Overhead | |
| Total Cost per Building Lot Foot (same as Sample I) | \$.715 |
| Additional Charge per Foot (Differential Cost) | |
| $\$1.2935 - \$.7150 = \$.5785$ | |
| Weighted Charge per Front Foot of Building Lot | |
| Saturations = 93 per cent @ 100 amp and 7 per cent @ over 150 amp | |
| $(.93 \times \$.4585) + (.07 \times \$.5785) = \$.4264 + \$.0404 =$ | <u>\$.4668</u> |

TOTAL FRONT FOOT CHARGE = \$.47

EXHIBIT 3

Base Charge per Building Lot

This is the differential cost between certain elements of underground and overhead design that are dependent only upon the customer's load and are not affected by the building lot width. Two sample calculations are made for each of two basic load levels and number of lots served by a transformer. These calculations are then weighted by the following percentages:

Number of lots served by a transformer: 7—75 percent;
 4—25 percent
 Customer loads: 12 kva—93 percent; 20 kva—7 percent

SAMPLE I—12 kva per building lot—7 lots per transformer

Underground

| | |
|---|---------------|
| 1—75 kva transformer (7 × 12 kva = 84 kva) | \$722.00 |
| 1—subsurface secondary enclosure | 109.00 |
| 50 ft.—4 inches PVC conduit & trench (road crossing) @ (\$.77 + \$.14) | 45.50 |
| 50 ft.—350 kamil secondary cable (road crossing) @ \$2.85.00 | 142.50 |
| 50 ft.—4/0 service & trench (Service Length on lot) @ (\$.82 + \$.14) × 7 | <u>336.00</u> |
| Total base underground cost for 7 lots | \$1,355.00 |

Overhead

| | |
|--|---------------|
| 1—50 kva transformer | |
| 1—25 kva transformer (7 × 12 kva = 84 kva) | \$578.00 |
| 7—2/0 services @ \$34.00 | <u>238.00</u> |
| Total base overhead cost for 7 lots | \$816.00 |

Differential cost for 7 lots = \$1,355.00 - \$816.00 = \$539.00

Cost per lot = $\frac{\$539.00}{7}$ = \$77.00

| | |
|--|---------------|
| 5—2/0 services @ \$34.00 | <u>170.00</u> |
| Total base overhead cost for 5 lots | \$838.00 |
| Differential cost for 5 lots = \$1,390.00 - \$838.00 | \$552.00 |
| Cost per lot = $\frac{\$552.00}{5}$ | = \$110.40 |

SAMPLE IV—20 kva per building lot—4 lots per transformer

Underground

| | |
|---|---------------|
| 1—75 kva transformer (4 × 20 kva = 80 kva) | \$722.00 |
| 50 ft.—4 inches PVC conduit & trench (road crossing) @ (\$.77 + \$.14) | 45.50 |
| 50 ft.—4/0 service (road crossing) @ \$.82 × 2 services | 82.00 |
| 50 ft.—4/0 service & trench (service length on lot) (\$.82 + \$.14) × 4 | <u>192.00</u> |
| Total base underground cost for 4 lots | \$1,041.50 |

SAMPLE II—12 kva per building lot—4 lots per transformer

Underground

| | |
|---|---------------|
| 1—50 kva transformer (4 × 12 kva = 48 kva) | \$583.00 |
| 50 ft.—4 inches PVC conduit & trench (road crossing) @ (\$.77 + \$.14) | 45.50 |
| 50 ft.—4/0 service (road crossing) @ \$.82 × 2 services | 82.00 |
| 50 ft.—4/0 service & trench (service length on lot) @ (\$.82 + \$.14) × 4 | <u>192.00</u> |
| Total base underground cost for 4 lots | \$902.50 |

Overhead

| | |
|--|---------------|
| 1—50 kva transformer (4 × 12 kva = 48 kva) | \$334.00 |
| 4—2/0 services @ \$34.00 | <u>136.00</u> |
| Total base overhead cost for 4 lots | \$470.00 |

Differential cost for 4 lots = \$902.50 - \$470.00 = \$432.50

Cost per lot = $\frac{\$432.50}{4}$ = \$108.13

Avg. cost (weighted) for Samples I & II
 (.75 × \$77.00) + (.25 × \$108.13) = \$57.75 + \$27.03 = \$84.78 per lot

SAMPLE III—20 kva per building lot—5 lots per transformer

Underground

| | |
|---|---------------|
| 1—100 kva transformer (5 × 20 kva = 100 kva) | \$853.00 |
| 1—subsurface secondary enclosure | 109.00 |
| 50 ft.—4 inches PVC conduit & trench (road crossing) @ (\$.77 + \$.14) | 45.50 |
| 50 ft.—350 kamil secondary cable (road crossing) @ \$2.85 | 142.50 |
| 50 ft.—4/0 service & trench (service length on lot) (\$.82 + \$.14) × 5 | <u>240.00</u> |
| Total base underground cost for 5 lots | \$1,390.00 |

Overhead

| | |
|--|----------|
| 2—50 kva transformers (5 × 20 kva = 100 kva) | \$668.00 |
|--|----------|

EXHIBIT 4

Duplex Family—Separate Service

Charge per Front Foot of Building Lot

This is based on the differential cost of those components of system design that will vary with the lot width. Services are usually less than (equal to) 150 amp and therefore only one front foot charge as calculated.

100 & 150 AMP CUSTOMER SERVICE

Underground

| | |
|---|-----------------|
| Trenching | \$1.400 |
| One side of street requires trench which accommodates primary & service cables for each foot of building lot. Other side also requires one foot of trench for each foot of building lot due to separate services. | |
| Primary Conduit (50 ft. ÷ 500 ft. × .5 × \$.77) | |
| One foot of cable required for each two feet of building lot. | |
| Primary Conduit (50" ÷ 500 ft. × .5 × \$.77) | .0385 |
| Fifty feet of conduit (road crossing) estimated for each 500 feet of primary cable. Cost based on one foot of cable for each two feet of building lot. | |
| 1/0 Service Cable, Longitudinal Run | .5800 |
| One Foot of cable required for each foot of building lot due to separate services. | |
| Street Lights (\$146.00 ÷ 400 ft.) | .3650 |
| 200" spacing between lights. The cost is allocated for 400" of building lot. | |
| Street Light Cable (\$.30 × 100 ft. ÷ 400 ft.) | .750 |
| 100" of 2/c cable for each street light allocated for 400" of building lot frontage. | |
| Total Underground Cost per Building Lot Foot | <u>\$1.4985</u> |

Overhead

| | |
|--|---------|
| Joint Pole Line (.50 × \$.42) | \$2.100 |
| One foot of pole line for each two feet of building lot. | |
| Primary Wire, Insulated (.50 × \$.38) | .1900 |
| One foot of wire for each two feet of building lot. | |

EXHIBIT 3

EXHIBIT 4

| | |
|---|-----------------|
| Secondary Cable (.50 × \$46) | \$2,300 |
| One foot of cable for each two feet of building lot. | |
| Street Lights (\$61.00 ÷ 400 ft.) | .1525 |
| 200" spacing between lights. The cost is allocated for 400" of building lot. | |
| Total Overhead Cost per Building Lot Foot | <u>\$.7825</u> |
| Differential Charge per Front Foot of Building Lot = \$1.4985 - \$.7825 = \$.7160 | |
| TOTAL FRONT FOOT CHARGE = \$.72 | |

EXHIBIT 4

Base Charge Per Building Lot

This is the differential cost between certain elements of underground and overhead design that are dependent only upon the customer's load and are not affected by the building lot width. Since separate services are required, it is not economical to serve more than four lots per transformer. One sample calculation is made for each of the two basic load levels. This calculation is then weighted by the following percentages:

Customer loads: 12 kva—93 percent; 20 kva—7 percent

SAMPLE I—12 kva per building lot—4 lots per transformer

| | |
|--|---------------|
| Underground | |
| 1—50 kva transformer (4 × 12 kva = 48 kva) | \$583.00 |
| 1—subsurface secondary enclosure | 109.00 |
| 50 ft.—4 inches PVC conduit & trench (road crossing) @ (\$.77 + \$.14) | 45.50 |
| 50 ft.—350 kamil secondary cable (road crossing) @ \$2.85 | 142.50 |
| 50 ft.—1/0 service & trench (service length on lot) (\$.58 + .14) × 8 services | <u>288.00</u> |
| Total base underground cost for 4 lots | \$1,168.00 |
| Overhead | |
| 1—50 kva transformer (4 × 12 kva = 48 kva) | \$334.00 |
| 8—services × \$20.00 | <u>160.00</u> |
| Total base overhead cost for 4 lots | \$494.00 |
| Differential cost for 4 lots = \$1,168.00 - \$494.00 = \$674.00 | |
| Cost per lot = $\frac{\$674.00}{4}$ = \$168.50 | |

SAMPLE II—20 kva per building lot—4 lots per transformer

| | |
|--|---------------|
| Underground | |
| 1—75 kva transformer (4 × 20 = 80 kva) | \$722.00 |
| 1—subsurface secondary enclosure | 109.00 |
| 50 ft. 4 inches PVC conduit & trench (road crossing) @ (\$.77 + \$.14) | 45.50 |
| 50 ft.—350 kamil secondary cable (road crossing) @ \$2.85 | 142.50 |
| 50 ft.—1/0 service & trench (service length on lot) @ (\$.58 + \$.14) × 8 services | <u>288.00</u> |
| Total base underground cost for 4 lots | \$1,307.00 |
| Overhead | |
| 1—50 kva transformer) | |

| | |
|---|---------------|
| 1—25 kva transformer) (4 × 20 = 80 kva) | \$578.00 |
| 8—services × \$20.00 | <u>160.00</u> |

EXHIBIT 4

| | |
|---|----------|
| Total base overhead cost for 4 lots | \$738.00 |
| Differential cost for 4 lots = \$1,307.00 - \$738.00 = \$569.00 | |
| Cost per lot = $\frac{\$569.00}{4}$ = \$142.25 | |

Base Charge per 50 ft. Building Lot

| | |
|---|--------------|
| Saturation = 93 per cent @ 12 kva & 7 per cent @ 20 kva | |
| (\$168.50 × .93) + (\$142.25 × .07) = \$156.71 | |
| + \$9.96 = | \$166.67 |
| Building Lot 50 ft. Frontage = 50 × \$.72 = | <u>36.00</u> |
| TOTAL BASE CHARGE PER 50 ft. BUILDING LOT | = \$202.67 |

EXHIBIT 5

Excess Service Length

| | |
|---|--------------|
| a) 100 & 150 amp service per trench foot | |
| Cost of underground service (\$.58 + \$.14) | |
| 1/0, 3 wire service and trench | \$.72 |
| Cost of overhead service (\$20 ÷ 75) \$20 for 75 feet service | <u>.27</u> |
| Differential cost per trench foot = | <u>\$.45</u> |
| b) Over 150 amp service per trench foot | |
| Cost of underground service (\$.82 + \$.14) | |
| 4/0 3 wire service and trench | \$.96 |
| Cost of overhead service (\$34 ÷ 75) \$34 for 75 feet service | <u>.45</u> |
| Differential cost per trench foot = | <u>\$.51</u> |

Amended by R.1991, d.883, effective December 2, 1991.
See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).

SUBCHAPTER 5. UNIFORM SYSTEM OF ACCOUNTS FOR CLASSES A AND B ELECTRIC UTILITIES

14:5-5.1 Adoption by reference of the Uniform System of Accounts

The Board adopts by reference the Uniform System of Accounts for Classes A and B Electric Utilities that have been promulgated by the Federal Energy Regulatory Commission as well as all present and subsequent amendments, revisions, deletions and corrections which the Federal Energy Regulatory Commission may adopt insofar as they relate to electric utilities subject to the jurisdiction of the Board and are in accordance with the Board's policies and procedures.

Amended by R.1991 d.583, effective December 2, 1991.
See: 23 N.J.R. 1519(a), 23 N.J.R. 3652(a).
Editorial or stylistic change only.