PSEG LONG ISLAND LLC

On Behalf of and as Agent for the

LONG ISLAND LIGHTING COMPANY d/b/a LIPA

Southampton to Deerfield Transmission Project

EXHIBIT E-1 — DESCRIPTION OF PROPOSED TRANSMISSION LINE

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EXHIBIT E-1: DESCRIPTION OF PROPOSED TRANSMISSION LINE

E-1.1 Underground Cable Design

The Project design will be in accordance with all applicable PSEG Long Island transmission design criteria and applicable industry standards. The industry standards are produced by the following organizations:

- ANSI[1]
- ASTM
- ASCE
- AEIC
- IEEE
- ICEA
- IEC
- NEMA
- NFPA

Additionally, design standards shall be in compliance with the Applicant's storm hardening requirements for a National Oceanic and Atmospheric Administration Category III Hurricane.

E-1.2 Underground Cable System

The Facility will consist of three 2,000 square millimeter compact-segmental copper conductors measuring approximately 5.56 inches in diameter. The conductor will be a Milliken conductor comprised of annealed bare copper strands. The insulation will be cross-linked polyethylene ("XLPE") with a thickness of approximately 850 mils, rated to an operating voltage of 138 kV. Metallic shielding will be a corrugated aluminum or equivalent, moisture impervious sheath that is designed for the fault current requirements and will prevent water migration into the cable. The jacket will be black HDPE including a semi-conducting polyethylene layer. Refer to Figure E-1-1 for a typical cable cross-section.

[1] For clarity and consistency, the Application includes a Master Glossary of Terms that defines terms and acronyms used throughout the Application.

The cable system will be designed for operation at 138 kV, and its initial operating voltage will be 69 kV.

Each cable will be installed in a 10-inch SDR 11 HDPE conduit. In addition to these conduits, two 4-inch SDR11 HDPE conduits will be installed for fiber optic communication and ground continuity conductor. The three power conduits will be arranged in a trefoil (triangular) configuration.

Cable splices will be 138 kV, 650 kV basic insulation level ("BIL"), pre-molded style, and proven to be compatible with the cable construction via a prequalification test performed in accordance with ICEA S-108-720 and IEC 60840. Splices will have sheath insulators and connections for sheath bonding and be suitable for long-term underwater operation to a depth of 10 feet. Splices will be performed at vault locations only and will be tested in accordance with IEEE Standard 404.

Cable terminations will be 138 kV, 650 kV BIL, outdoor style and proven to be compatible with the cable construction via a prequalification test performed in accordance with ICEA Standard S-108-720 and IEC Standard 60840. Terminations will be ANSI 70 gray, composite polymer type filled with insulating fluid protected by composite polymer isolation insulators to allow testing of the cable jacket. Terminations will be furnished with a connecting stud and a NEMA four-hole pad aerial lug. The aerial lug will be designed to carry the full emergency current without overheating. Terminations will be tested in accordance with IEEE Standard 48.

Sheath bonding will be multiple single-point with a maximum standing sheath voltage of 200 volts at rated steady-state loading. The 6 kV sheath voltage limiters ("SVL") will be the zinc oxide type. SVLs will be suitable for continuous operation with an applied voltage under either normal or emergency load and able to withstand over-voltages resulting from both single-phase to ground or three-phase system faults.

E-1.3 Insulation Design

Transmission cable insulation will be an extruded, super clean XLPE solid dielectric compound formulated for high voltage ("HV") cable applications. The insulation shield will be an extruded semi-conducting thermosetting material. Metallic shielding will be a corrugated aluminum or equivalent, moisture impervious sheath that is designed for the fault current requirements and will prevent water migration into the cable. An outer HDPE jacket will encase the metallic sheath.

E-1.4 Length of Underground Transmission Line

The Project consists of one new transmission line and will be installed underground, primarily within public ROW. The transmission line is approximately 4.5 miles in length.

E-1.5 Structures

Substation cable termination structures, or terminals, will be used at each substation to transition from the underground cable to substation bus and equipment as shown in Figure E-1-2. In addition to the cable termination structure, a 69 kV ground switch structure will be installed at both ends. The need for a separate structure for each ground switch will be determined during detail design phase. A 69 kV potential transformer, a 69 kV gang operated disconnect switch and a 69 kV gas circuit breaker will also be installed at Deerfield Substation. The cable termination structures will support the 69 kV operation of the 138 kV designed cable as it exits below grade and is terminated using terminations (pothead) for each cable.

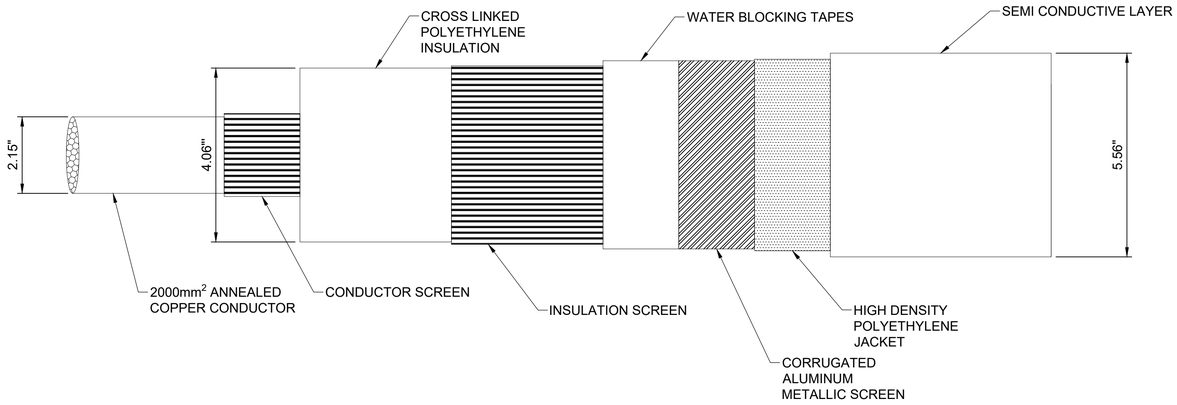
The cable termination structures and components will be designed in accordance with PSEG Long Island's "138 kV Pothead Structure Erection and Shop Details Construction Standard." This construction standard was developed through decades of experience constructing, maintaining, and operating transmission in the region in addition to applicable industry standards.

The industry standards are produced by the following organizations:

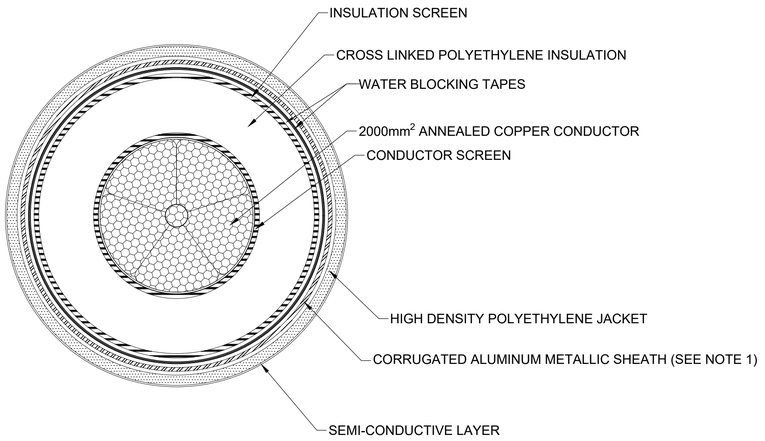
- ACI
- AISC
- ANSI
- ASTM
- ASCE
- IBC
- NEMA

FIGURE E-1-1

Typical 138 kV Cable Cross-Section



138-kV 2000mm² ANNEALED COPPER XLPE CABLE DETAIL



138-kV 2000mm² ANNEALED COPPER XLPE CABLE CROSS SECTION

NOTE:
1. SHEATH MATERIAL AND CONFIGURATION TO BE DETERMINED AS PART OF THE ENVIRONMENTAL MANAGEMENT AND CONSTRUCTION PLAN. THIS MAY INCLUDE EITHER A CORRUGATED ALUMINUM METALLIC SHEATH AS SHOWN, OR A SHEATH UTILIZING COPPER CONCENTRIC NEUTRALS

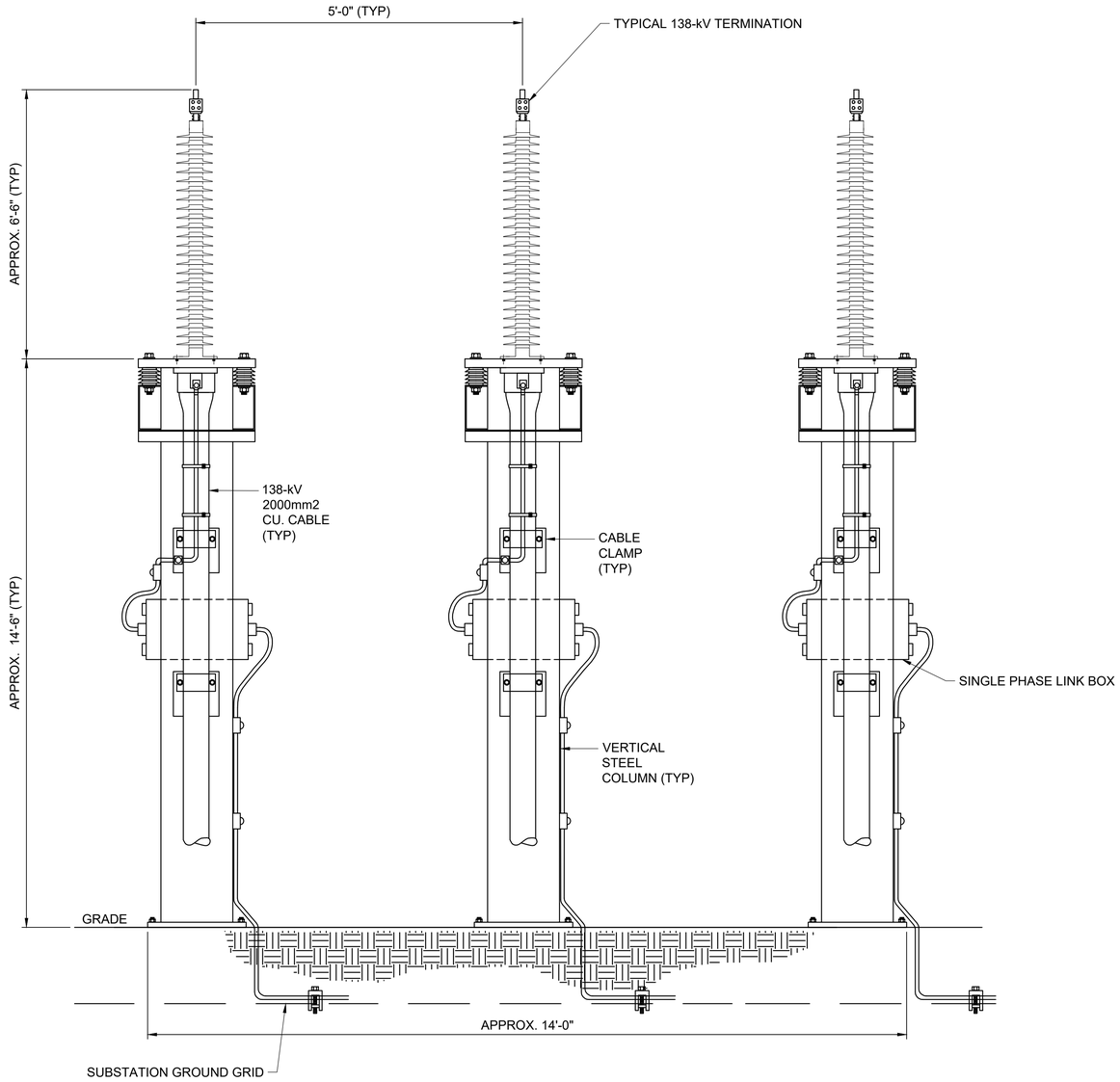
Long Island Power Authority
SOUTHAMPTON – DEERFIELD
138-kV TRANSMISSION LINE

SOUTHAMPTON TO DEERFIELD
FIGURE E-1-1
TYPICAL CABLE CROSS SECTION

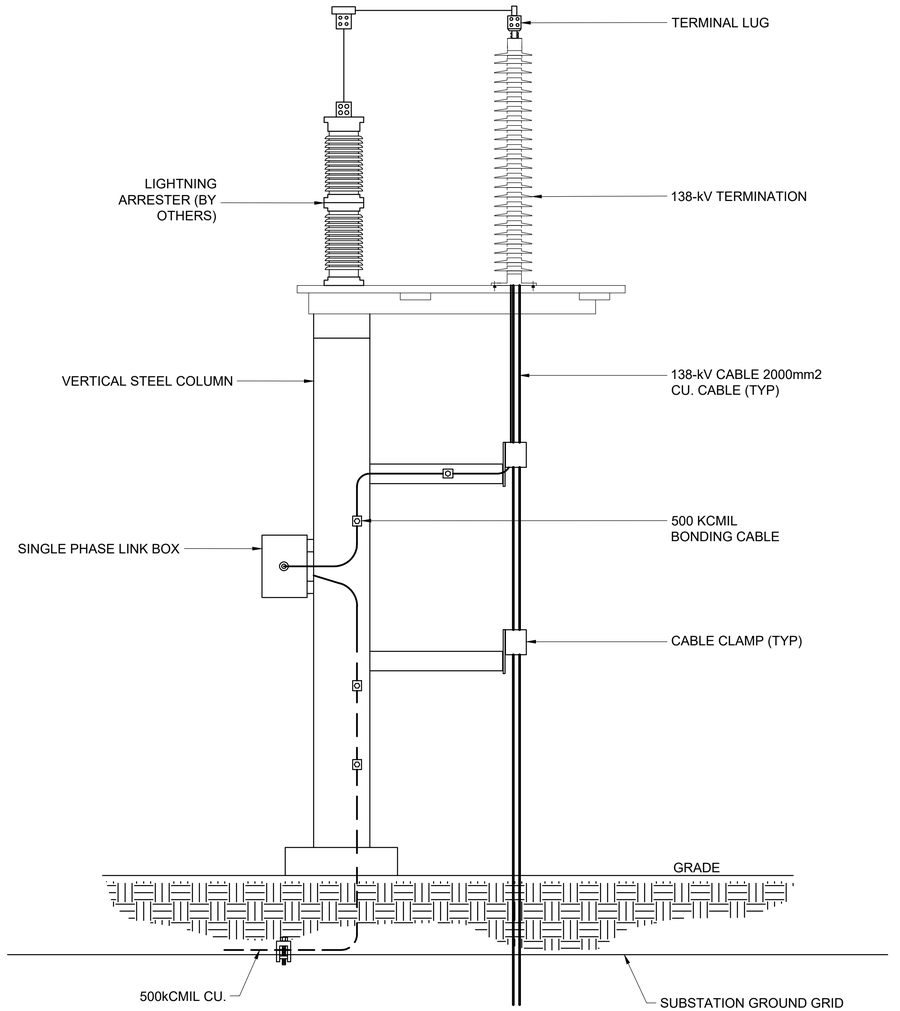
PSEG LONG ISLAND
175 East Old Country Road
Hicksville, New York

FIGURE E-1-2

Typical 138 kV Termination Structure



138-kV TERMINATION
STRUCTURE FRONT VIEW



138-kV TERMINATION
STRUCTURE SIDE VIEW

Long Island Power Authority SOUTHAMPTON – DEERFIELD 138-kV TRANSMISSION LINE
SOUTHAMPTON TO DEERFIELD FIGURE E-1-2 TYP 138-kV SUBSTATION CABLE TERMINATION STRUCTURE
PSEG LONG ISLAND 175 East Old Country Road Hicksville, New York