

# **Rochester Gas and Electric Corporation**

## **Rochester Transmission Project Enhancement**

### **Exhibit E-1**

## **Description of Proposed Transmission Facilities**

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# EXHIBIT E-1: DESCRIPTION OF PROPOSED TRANSMISSION FACILITIES

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## E-1.1 Design Standards

The Rochester Transmission Project Enhancement (RTP Enhancement or the Project) will be designed to meet or exceed all requirements for electrical clearances and mechanical strength for Grade B Construction set forth in the American National Standard Institute (ANSI C2, 2017 edition) and the National Electrical Safety Code (NESC), both as in effect at the time of design. Conductor-to-ground electrical clearances at short-time emergency (STE) New York Power Pool ratings used in the design of the Project will also meet those recommended in the NESC.

### TRANSMISSION LINES:

<u>LENGTH OF CONSTRUCTION/RECONSTRUCTION</u>	Proposed Line 949- 6.7 miles Existing Line 910- 1.1 miles Existing Line 916- 0.4 miles Existing Line 926- 2.4 miles
<u>DESIGN VOLTAGE</u>	115 kilovolt (kV)
<u>OPERATING VOLTAGE</u>	115kV
<u>INITIAL OPERATING VOLTAGE</u>	115kV
<u>CONDUCTOR</u>	
<b>Type, Material, and Size:</b>	Aluminum Conductor, Steel Reinforced (ACSR) 795 circular mil (kcmil) 26/7 “Drake”
<b>Quantity:</b>	3 per circuit, 1 per phase
<b>Overall Diameter:</b>	1.108 inches
<b>Cross Sectional Area:</b>	0.7264 square inches
<b>Rated Strength:</b>	31,500 pounds

STATIC WIRE

<b>Type, Material:</b>	AFL OPGW CC-54/472 or equivalent
<b>Diameter:</b>	0.583 inches
<b>Quantity:</b>	1 per circuit
<b>Rated Strength:</b>	20,723 pounds
<b>Type, Material:</b>	Alumoweld 7#7
<b>Diameter:</b>	0.433 inches
<b>Quantity:</b>	1 per circuit (monopoles) 2 per circuit (double poles)
<b>Rated Strength:</b>	19,060 pounds

INSULATORS

<b>Types/Design:</b>	Porcelain suspension and braced polymer line post
<b>Color:</b>	Gray

STRUCTURES – STEEL MONOPOLE, DOUBLE-CIRCUIT

<b>Types:</b>	Tangent suspension Angle suspension Angle dead-end
<b>Material:</b>	Steel
<b>Typical Height Above Ground:</b>	99.2 feet
<b>Preservative Treatment:</b>	Galvanized
<b>Color:</b>	Gray

DAVIT ARMS

<b>Material:</b>	Steel
<b>Preservative Treatment:</b>	Galvanized
<b>Color:</b>	Gray

### ***E-1.1.1 Design References***

The design of the Project will be in accordance with all applicable federal, state, and local codes and industry standards, unless stated otherwise. The industry codes and standards shall include, but shall not be limited to, the following:

- NESC 2017
- ANSI C2
- American Society of Civil Engineers (ASCE)/Structural Engineering Institute (SEI) 48-05, Design of Steel Transmission Pole Structures
- ASCE 74, Guidelines for Electrical Transmission Lines Structural Loads

The Project will be designed in accordance with the AVANGRID Electric Transmission Construction Standards Manual, except to the extent otherwise indicated in the Environmental Management and Construction Plan (EM&CP).

### **E-1.2 Foundation and Anchoring Details**

The drawings that illustrate Rochester Gas and Electric's (RG&E's or the Applicant's) current design standards for foundation, anchor, ground wire, and pole installation are set forth in Exhibit 5.

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