

Utility Thermal Energy Network
Terms & Definitions

Background

On September 14, 2023, the New York State Public Service Commission (Commission) issued its Order Providing Guidance on Development of Utility Thermal Energy Network (UTEN) Pilot Projects (Order) in Case 22-M-0429, Proceeding on Motion of the Commission to Implement the Requirements of the Utility Thermal Energy Network and Jobs Act. As explained in the Order, the Utility Thermal Energy Network and Jobs Act, which took effect on July 5, 2022, requires each of the seven largest gas, electric, or combination gas and electric utilities to submit at least one and as many as five proposed thermal energy network projects. The Order, among other things, recognized the value of using common terminology and definitions for various design and operational features of thermal energy networks as New York embarks on developing this industry.¹ As such, the Commission required Department of Public Service Staff (Staff) to convene a technical conference to identify key terms and develop mutually agreed upon definitions for use within this proceeding and others involving thermal energy networks. If no mutual agreement was reached amongst the technical conference participants, the Commission directed Staff to resolve disagreements and file the UTEN Terms and Definitions within this proceeding.

Process

The process for developing a list of terms and definitions was initiated by a notice issued by the Secretary to the Commission on September 21, 2023 announcing October 11, 2023 as the date of the first technical conference. A subsequent letter to the Secretary was filed on October 10, 2023 establishing Matter 23-02117 as a repository for information related to the technical conference and included a list of proposed terms and definitions compiled by Staff based on the input received and categorized as follows: 1) terms which are codified in Public Service Law and cannot be altered without legislative action; 2) similar terms defined by more than one stakeholder; 3) singular terms where no alternative definition was proposed; and 4) common industry terms with broad understanding and acceptance. The compiled list of terms and definitions was used to facilitate discussion at the first technical conference.

A second technical conference was held on November 9, 2023 to further discuss the terms and definitions, including additional input received from stakeholders.² Input received included the addition of new terms and definitions, revisions to proposed terms and definitions, as well as the proposed elimination of terms from the list. Staff prepared and filed a Tracking Sheet listing the proposed terms and identifying input received by stakeholders. The Tracking Sheet and accompanying working copy of all the terms and proposed definitions filed by stakeholders were used to facilitate the discussion.

¹ Order, p. 26.

² Input was submitted by Building Decarbonization Coalition, City of New York, Consolidated Edison Company of New York, Inc., Orange and Rockland Utilities, Inc., National Fuel Gas Distribution Corporation, New York State Electric & Gas Corporation, and Rochester Gas and Electric Corporation.

As envisioned in the Order, the goal of the technical conferences is to identify key concepts and develop mutually agreed upon terms and definitions that may be useful in the conduct of this proceeding. While consensus was reached for most terms and definitions at the conclusion of the technical conferences, a robust discussion occurred related to the terms “baseload” and “peak load.” Based on the input provided from stakeholders, Staff determined the definitions for these two terms and included them in a draft list of terms and definitions filed on November 22, 2023.

Attachment A establishes the final terms and definitions documenting the outcome of the technical conferences. The included terminology and definitions are expected to be adopted by Staff, the utilities, the New York State Energy Research and Development Authority, and other stakeholders in all future filings in this proceeding and others involving thermal energy networks. As noted in the Order, if any new terminology is identified or developed through the operation and learnings of the pilot projects, or from external industry-wide advancements that may be useful in the conduct of this proceeding, Staff shall update the terms and definitions as needed.

Attachment A
Utility Thermal Energy Network Terms & Definitions

<p><u>Baseload Operations</u> - Baseload typically refers to the constant minimum load that the electric system must satisfy. Due to the bi-directional nature of thermal energy networks, the concept of a constant minimum load is less relevant. For purposes of the UTEN pilot projects, baseload operation will represent the majority of the annual load served by the UTEN.¹</p>
<p><u>Customer Equipment</u> - Piping, mechanical systems, and other equipment located on the customer side of the demarcation point.</p>
<p><u>Energy Center</u> - Infrastructure that performs functions for the thermal energy network such as pumping the heat transfer medium, controlling fluid chemistry and temperature, and providing makeup fluid.</p>
<p><u>Energy Transfer Station (ETS)</u> - Metering equipment and all related pipes, fittings, and other equipment, which may or may not include a heat exchanger, which connects and controls the transfer of energy between the utility distribution system and the customer equipment or thermal energy resource.</p>
<p><u>Heat Transfer Medium</u> - Non-combustible fluid or fluid solution that is used to transfer the thermal energy in a thermal energy network.</p>
<p><u>Makeup Fluid</u> - Stored heat transfer medium used to maintain thermal energy network operation and system volume.</p>
<p><u>Peak Load</u> - The maximum thermal load that the thermal energy network will accommodate over a specified period of time (e.g.: <i>in MMBtu/h or MW/h</i>).</p>
<p><u>Thermal Energy</u> - Shall mean piped non-combustible fluids used for transferring heat into and out of buildings for the purpose of eliminating any resultant on-site greenhouse gas emissions of all types of heating and cooling processes, including, but not limited to, comfort heating and cooling, domestic hot water, and refrigeration.²</p>
<p><u>Service Line(s)</u> - Piping containing a heat transfer medium between the utility distribution system main(s) and the customer energy transfer station.</p>
<p><u>Thermal Energy Network</u> - Shall mean all real estate, fixtures and personal property operated, owned, used or to be used for or in connection with or to facilitate a utility-scale distribution infrastructure project that supplies thermal energy.³</p>
<p><u>Thermal Energy Resource</u> - An asset or facility that the thermal energy network can use to either extract thermal energy from (source) or reject thermal energy to (sink).</p>
<p><u>Utility Distribution System</u> - A closed loop system of pipes that contains a fluid that transports thermal energy connecting the energy center(s), thermal energy resource(s), service line(s), and energy transfer station(s).</p>

¹ It is anticipated that the data resulting from the operation of the UTEN pilot projects will enable further refinement of this term and definition.

² As defined by Public Service Law §2(28)

³ As defined by Public Service Law §2(29)

Utility Distribution System Main(s) - A closed-loop system of horizontal pipe(s) which contains a non-combustible heat transfer medium that transports thermal energy among the energy center(s) and service line(s).

Utility Thermal Energy Network - All real estate, fixtures and personal property owned and operated by a utility, used or to be used for or in connection with or to facilitate thermal energy network distribution infrastructure projects that supply thermal energy. It may also include thermal energy resource(s) owned by the utility.