

Glossary of Terms

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(All terms may not be used in this document)

115 kV:	115 kilovolts or 115,000 volts.
AC:	Alternating Current. An electric current which reverses its direction of flow periodically. (In the United States this occurs 60 times a second -60 cycles or 60 Hertz). This is the type of current supplied to homes and businesses.
ACI:	American Concrete Institute.
Ampacity:	The maximum amount of electrical current a conductor or device can carry before sustaining immediate or progressive deterioration; a current rating or current-carrying capacity.
Ampere (Amp):	A unit measure for the flow (current) of electricity. A typical home service capability (i.e., size) is 100 amps; 200 amps is required for homes with electric heat.
ANSI:	American National Standards Institute.
Arrester:	Protects lines, transformers and equipment from transient overvoltages due to lightning and switching surges by carrying the charge to ground. Arresters serve the same purpose on a line as a safety valve on a steam boiler.
ASCE:	American Society of Civil Engineers.
BMP:	Best Management Practices.
Bus:	A conductor capable of carrying large amounts of current in a substation.
C&D Plan:	<i>Conservation and Development Policies Plan for Connecticut 2005 – 2010.</i>
Cable:	A fully insulated conductor usually installed underground but in some circumstances can be installed overhead.
CCMA:	Connecticut Coastal Management Act.
CCVT:	Capacitor coupling voltage transformer.
Certificate:	Certificate of Environmental Compatibility and Public Need issued by the Connecticut Siting Council.
CGS:	Connecticut General Statutes.

Circuit:	A system of conductors (three conductors or three bundles of conductors) through which an electric current is intended to flow and which may be supported above ground by transmission structures or placed underground.
Circuit Breaker:	A switch that automatically disconnects power to the circuit in the event of a fault condition. Located in substations. Performs the same function as a circuit breaker in a home.
CL&P:	The Connecticut Light and Power Company.
ConnDOT:	Connecticut Department of Transportation.
Conductor:	A metallic wire, busbar, rod, tube or cable which serves as a path for electric current to flow.
Conduit:	Pipes, usually PVC plastic, typically encased in concrete, for underground power cables.
Contingency:	The unexpected failure or outage of a system component, such as a generator, transmission line, circuit breaker, switch or other electrical element.
CONVEX:	Connecticut Valley Electric Exchange.
Council:	Connecticut Siting Council.
CT DEEP:	Connecticut Department of Energy and Environmental Protection.
dBa:	Decibel, on the A-weighted scale.
Demand:	The total amount of electric power required at any given time by an electric distribution company's customers.
D&M Plan:	Development and Management Plan (required by the Connecticut Siting Council).
Disconnect Switch:	Equipment installed to isolate circuit breakers, transmission lines or other equipment for maintenance or sectionalizing purposes.
Distribution:	Line, system. The facilities that transport electrical energy from the transmission system to the customer.
Duct:	Pipe or tubular runway for underground power cables (see also Conduit).

Duct Bank:	A group of ducts or conduit usually encased in concrete in a trench.
Electric Field (EF):	Produced by voltage applied to conductors and equipment. The electric field is expressed in measurement units of volts per meter (V/m) or kilovolts per meter (kV/m); 1 kV/m is equal to 1,000 V/m.
Electric Transmission:	The facilities (69-kV+) that transport electrical energy from generating plants to distribution substations.
EMF:	Electric and magnetic fields.
EPA:	United States Environmental Protection Agency.
E&S:	Erosion and sedimentation.
Eversource:	The Connecticut Light and Power Company doing business as Eversource Energy.
Fault:	A failure (short circuit) or interruption in an electrical circuit.
FEMA:	Federal Emergency Management Agency.
FERC:	Federal Energy Regulatory Commission.
FTB:	Fluidized thermal backfill.
G:	Gauss; 1G = 1000 mG (milliGauss); the unit of measure for magnetic fields.
GIS:	Gas-Insulated Substation; a substation design consisting of 3 phases of electrical bus bar that is contained within sealed piping (about 2 feet in diameter) that is filled with insulating SF ₆ gas (Sulfur Hexafluoride) to provide the insulation required for the substation buses and conductors. The GIS design reduces the substation foot print significantly when compared to the equivalent sized Air Insulated Design.
Glacial till:	These deposits are predominantly nonsorted, nonstratified sediment and are deposited directly by glaciers. These deposits consist of boulders, gravel, sand, silt, and clay mixed in various proportions.
Ground continuity conductor:	A conductor laid parallel to a cross-bonded or single point bonded cable circuit to provide a continuous metallic ground connection between the grounding systems at the ends of the cable route and along the run.
Ground Wire:	Cable/wire used to connect wires and metallic structure parts to the earth. Sometimes used to describe the lightning shield wire.

HAER:	Historic American Engineering Record.
HDD:	Horizontal Directional Drilling.
HPFF:	High-pressure fluid-filled; a type of underground transmission line.
Hz:	Hertz, a measure of the frequency of alternating current; one cycle/second.
IEEE:	Institute of Electrical and Electronic Engineers.
ISO:	Independent System Operator.
ISO-NE:	ISO New England, Inc.; referred to as New England's Independent System Operator.
kcmil:	1000 circular mils, approximately 0.0008 sq. in.
kV:	kilovolt, equals 1000 volts.
kV/m:	Electric field strength measurement (kilovolts/meter).
Line:	A series of overhead transmission structures which support one or more circuits; or in the case of underground construction, a subsurface installation housing one or more cable circuits.
Load:	Amount of power delivered as required at any point or points in the system. Load is created by the power demands of customers' equipment (residential, commercial, and industrial).
Magnetic Field (MF):	Produced by the flow of electric current; usually measured as magnetic flux density in units called gauss (G) or milliGauss (mG) – 1/1000 Gauss.
Magnetic Flux Density:	Level of magnetic field.
MCF:	Municipal Consultation Filing (Connecticut Siting Council).
mG:	milliGauss (see Magnetic Field) – 1/1000 Gauss.
MOD:	Motor-Operated Disconnect switch.
MVA:	Megavolt Ampere) Measure of electrical capacity equal to the product of the voltage times the current times the square root of 3. Electrical equipment capacities are sometimes stated in MVA.

MW:	Megawatt. Megawatt equals 1 million watts, measure of the work electricity can do.
NAAQS:	National Ambient Air Quality Standards.
NDDB:	Natural Diversity Data Base (CT DEEP).
NERC:	North American Electric Reliability Council, Inc.
NESC:	National Electrical Safety Code.
NPCC:	Northeast Power Coordinating Council.
NRCS:	Natural Resources Conservation Service.
NRHP:	National Register of Historic Places.
NWI:	National Wetlands Inventory.
OECD	The Organization for Economic Co-operation and Development is a forum of 34 countries describing themselves as committed to democracy and the market economy, providing a platform to compare policy experiences, seeking answers to common problems, identify good practices and coordinate domestic and international policies of its members.
OH (Overhead):	Electrical facilities installed above the surface of the earth.
OPGW:	Optical groundwire (a shield wire containing optical glass fibers for communication purposes).
Phases:	Transmission (and some distribution) AC circuits are comprised of three phases that have a voltage differential between them.
PCBs	Polychlorinated biphenyls.
Alternate Modified Route:	All underground route described in <i>Exhibit B, Section A</i> .
Proposed Modified Route:	Proposed hybrid route described in <i>Exhibit A, Section A</i> .

PURA:	Public Utilities Regulatory Authority.
PUESA	Public Utilities Environmental Standards Act.
PVC:	Polyvinyl Chloride.
RCSA:	Regulations of Connecticut State Agencies.
RFP:	Request for Proposal.
ROW:	Rights-of-way; corridor of land within which a utility company holds legal rights necessary to build, operate and maintain power lines.
Riser Structure or Transition Structure:	Transmission structure, used to transition from underground cable to overhead conductor, consisting of a single tubular steel column with horizontal arms to support cable terminations.
SCADA:	Supervisory Control and Data Acquisition.
SF₆:	(Sulfur Hexafluoride) A colorless gas soluble in alcohol and ether, slightly soluble in water. A greenhouse gas used primarily in electrical transmission and distribution systems and as a dielectric in electronics.
SHPO:	State Historic Preservation Office (State of Connecticut Commission on Culture and Tourism, Historic Preservation and Museum Division).
Splice:	A device to connect together the ends of bare conductor or insulated cable.
Splice Vault:	A buried concrete enclosure where underground cable ends are spliced and cable-sheath bonding and grounding are installed.
SRHP:	State Register of Historic Places.
SSURGO:	Soil Survey Geographic database.
Substation:	A fenced-in yard containing switches, transformers, line-terminal structures, and other equipment enclosures and structures. Adjustments of voltage, monitoring of circuits and other service functions take place in this installation.
SWCT:	Southwest quadrant of the State of Connecticut.
SWRPA:	South Western Regional Planning Agency.

Terminal:	The substation or switching station at which a transmission line terminates.
Terminal Structure:	Structure typically within a substation that ends a section of transmission line.
Transformer:	A device used to transform voltage levels to facilitate the efficient transfer of power from the generating plant to the customer. A step-up transformer increases the voltage while a stepdown transformer decreases it.
Transmission Line:	Any line operating at 69,000 or more volts.
UG (Underground):	Electrical facilities installed below the surface of the earth.
USDA:	United States Department of Agriculture.
USGS:	United States Geological Survey (U.S. Department of the Interior).
UI:	The United Illuminating Company.
USFWS:	United States Fish and Wildlife Service.
Vault:	See Splice Vault.
V/m:	Volts per meter; kilovolt per meter; $1000 \text{ V/m} = 1 \text{ kVm}$.
Voltage:	A measure of the push or force which transmits electricity. Usually given as the line-to-line root-mean square magnitude for three-phase systems.
Watercourse:	Rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, and all other bodies of water, natural or artificial, public or private.
Wetland:	An area of land consisting of soil that is saturated with moisture, such as a swamp, marsh, or bog.
Wire:	See Conductor.
XLPE:	Cross-linked polyethylene (solid dielectric) insulation for transmission.

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