

Seattle MeterWatch Glossary

This Glossary has two parts:

Part I: Glossary of Terms appearing in Seattle MeterWatch, defined as used in this application.

Part II: Glossary of Electricity Industry Standard Terms.

Part I: Glossary of Terms Appearing in Seattle MeterWatch (SMW)

Administrator for SMW service-

Seattle City Light staff person responsible for the implementation of the program.

Authorized Users-

Persons allowed to access and use the SMW service. They are identified as:

1. **Administrative Customer User:** – A Administrative Customer User has elevated privileges including authorizing and removing (terminating) users. Seattle MeterWatch allows Customer Administrative Users to review online the names of the authorized users for their facility and to terminate a person or persons. The Administrative Customer Users have the responsibility to vigilantly monitor the list of the Customer users to safeguard their facility’s information that is accessible via the Seattle MeterWatch service.
2. **Customer User:** – Customer User is a person authorized by Administrative Customer User to access and use (enrolled) the SMW service.

Baseline -

A user-defined date that can be used for comparisons.

Customer site: – A customer site is defined as the service address of the billing meter enrolled in the Seattle MeterWatch service.

Download -

Process of transferring a file from one location to another.

Energy Calculator- Easy-to-use SMW interactive online Energy Calculator allows you to do “what if” calculations of energy savings and costs. When you open the Energy Calculator, the Energy Usage (kWh) and Cost results become variables. You may modify the variables to do “What if” calculations and compare the results of each scenario.

Interval -

The summarization level of the data. For example, 1 Hour (or hourly intervals) would summarize all electrical usage into 24 records for each day.

Meter -

A device which measures electrical usage. Each meter in the database is defined by a Meter # and Service Name, which are assigned and maintained by Seattle City Light.

Meter Group -

A user-defined group of meters. Creating a Meter Group allows the user to view the combined usage of all meters in the group.

Off-peak Usage -

For meters with Time-Of-Use (TOU) rates, electrical usage during non-peak times.

On-peak Usage -

For meters with Time-Of-Use (TOU) rates, electrical usage during peak times.

PDF File -

A file in Portable Document Format, which can be viewed or printed using Adobe Acrobat Reader.™

Power Factor -

The ratio of actual power being used in a circuit, expressed in watts or kilowatts, to the power that is apparently being drawn from a power source, expressed in volt-amperes or kilovolt-amperes; or kWh / square root of ((kWh squared) + (kVarh squared)).

Preferences -

Settings that define what will be displayed on the Meter Data Display screen. Favorite settings can be saved to define the graph that will display at the beginning of a session.

Refresh -

Get a new copy of the current web page. Used to redisplay the page after changing the settings or preferences.

SCL Contact -

The Seattle City Light (SCL) employee to contact with MeterWatch questions.

Site Map -

A display of all pages available within the application. The user can bring up a specific page by clicking on it in the Site Map listing.

Terms of Use -

Legal Agreement between User and Seattle City Light.

Time Frame -

The number of days and the interval to be displayed on the usage graph

Usage Report -

A printable report showing kWh usage and estimated costs, based on applicable rate schedule.

Acronyms

(*CSV) - Comma-delimited format.

KVARh - Kilo Volt Amps Reactive hours

KW- A unit of electric power equal to 1000 Watts

KWh -A unit of electric power equal to the work done by one kilowatt acting for one hour

MPH - Miles per hour, used for Wind Speed.

TOU - Time-of-use.

Part II: Glossary of Electricity Industry Standard Terms

Active Power –

The power (in Watts) used by a device to produce useful work. Also called input power.

Ampere –

A unit of measure for an electrical current. The amount of current that flows in a circuit at an electromotive force of one Volt and at a resistance of one Ohm. Abbreviated as amp.

Amp-Hours –

A measure of the flow of current (in amperes) over one hour.

AMR -

Automated meter reading (AMR) is a communication system that collects meter reads remotely without requiring a meter reader to approach the meter. The advantage is that detailed usage information, associated with the time interval of use, can be collected frequently (daily, hourly, or upon request).

Apparent Power-

The product of volts times amperes. This product generally is multiplied by 1000 and designated in kilovoltamperes (kVA). It is composed of both real and reactive power.

Average Cost –

The total cost of production divided by the total quantity produced.

Average Demand –

The average rate at which electric energy is delivered, expressed in kilowatts. Average demand equals the kilowatt-hours used during a time period divided by the number of hours in the time period.

Average Megawatt –

A unit of average energy output over a specified time period, (total energy in megawatt-hours divided by the number of hours in the time period).

Average Wind Speed (or Velocity) –

The mean wind speed over a specified period of time.

Baseline Rate-

A block rate structure in which some specified amount of energy (i.e., “the baseline”) is charged at one rate while consumption above or below the baseline is charged at a different rate. Generally, baseline rates differ from other blocked rates (lifeline rates, inverted rates, declining block rates) in that the baseline amount of energy tends to vary. It may vary over time as the factors upon which it is based change or it may vary from one customer to another. Generally, the price of one of the blocks will be set to reflect the cost of some specific set of resources, as for example when the price of the first block of energy is based on the cost of resources built in a particular era or when the second block prices reflect the cost of new resources.

Baseload –

The constant load in a power system that is not subject to variations due to seasons, temperature, or time of day. Generally, the system planner will acquire baseload resources to match the baseload, i.e., resources that run continuously except for maintenance and scheduled or unscheduled outages.

Billing Cycle –

The period of time or the dates of occurrence for issuing periodic bills for service. Most residential customers are billed every other month and thus have a billing cycle of approximately 60 days. The billing cycle is also used loosely to refer to the customer’s meter read cycle, i.e., the reading of the billing meter as opposed to the calculation of the bill.

Billing Demand –

The maximum demand of a customer that is used for billing. Billing demand for Large and High Demand General Service customers is distinguished from maximum demand under Seattle City Light’s rate ordinance, in that billing demand is determined by usage during the hours of 7:00 AM to 10:00 PM, Monday through Saturday, whereas maximum demand could occur on any day of the week at any time during the day or night.

Billing Determinants -

The measures of consumption used to calculate a customer’s bill or to determine the aggregate revenue from rates from all customers. Billing determinants must follow the structure of rates so that if rates are blocked, seasonally differentiated, time-differentiated, or separated by demand and energy measures, then the billing determinants must be organized in the same fashion.

Billing Meter -

A device which measures power or energy flow with an accuracy sufficient for preparing a bill for such power or energy. See “Demand Meter.”

Block Rate -

A schedule of prices for electricity wherein the price per kilowatt-hour (kWh) or kilowatt (kW) changes at different levels of consumption or demand. For example, if the first 300 kWh of use per month are charged at one rate and all over 300 kWh are charged at a different rate, the rate schedule is a block rate.

British Thermal Unit (Btu) –

The amount of heat required to raise the temperature of one pound of water one degree Fahrenheit; equal to 252 calories.

Brownout –

An intentional reduction of energy loads by the partial reduction of electrical voltage, resulting in dimming lights and loss of efficiency in motor drive devices.

Building Energy Ratio –

The space-conditioning load of a building.

Building Envelope –

The structural elements (walls, roof, floor, foundation) of a building that enclose conditioned space; the building shell.

Building Heat-Loss Factor –

A measure of the heating requirements of a building expressed in Btu per degree-day.

Building Orientation –

The relationship of a building to true south, as specified by the direction of its longest axis.

Building Overall Energy Loss Coefficient-Area Product –

The factor, when multiplied by the monthly degree-days, that yields the monthly space heating load.

Building Overall Heat Loss Rate –

The overall rate of heat loss from a building by means of transmission plus infiltration, expressed in Btu per hour, per degree temperature difference between the inside and outside.

Burner Capacity –

The maximum heat output (in Btu per hour) released by a burner with a stable flame and satisfactory combustion.

Bus (electrical) –

An electrical conductor that serves as a common connection for two or more electrical circuits; may be in the form of rigid bars or stranded conductors or cables.

Busbar –

The power conduit of an electric power plant; the starting point of the electric transmission system.

Buy Back-

A conservation program that, in effect, purchases electric energy in the form of conservation measures installed by a customer. The consumer is paid a certain amount per kilowatt-hour of energy saved.

Capacitance –

A measure of the electrical charge of a capacitor consisting of two plates separated by an insulating material.

Capacitor –

An electrical device that adjusts the leading current of an applied alternating current to balance the lag of the circuit to provide a high power factor.

Capacity Factor –

Ratio of the average load on a machine for a given period of time to the capacity rating of the machine.

Capacity Firm –

Capacity that has assured availability to the customer on a demand basis.

Capacity-Only Pricing –

A simple rate form that consists only of a single annual or monthly charge based upon kilowatts of demand used during a specified time interval with no additional charge for the amount of energy (kilowatt-hours) used. See “Demand Charge”.

Capacity –

The maximum amount of electrical load which a device can carry at one time. Capacity is also used synonymously with capability.

Capacity, Reserve –

Extra generating capacity available to meet unanticipated demands for power or to generate power in the event of loss of generation resulting from scheduled or unscheduled outages of regularly used generating capacity.

Chiller –

A device for removing heat from a gas or liquid stream for air conditioning/cooling.

Class Demand –

Refers to the maximum coincident kilowatt demand of a class of customers over a particular interval of time.

Climate –

The prevailing or average weather conditions of a geographic region.

Climate Change –

A term used to describe short and long-term effects on the Earth's climate as a result of human activities such as fossil fuel combustion and vegetation clearing and burning.

Codes –

Legal documents that regulate construction to protect the health, safety, and welfare of people. Codes establish minimum standards but do not guarantee efficiency or quality.

Coefficient of Heat Transmission (U-Value) –

A value that describes the ability of a material to conduct heat. The number of Btu that flow through 1 square foot of material, in one hour. It is the reciprocal of the R-Value ($U\text{-Value} = 1/R\text{-Value}$).

Coefficient of Performance (COP) –

A ratio of the work or useful energy output of a system versus the amount of work or energy inputted into the system as determined by using the same energy equivalents for energy in and out. Is used as a measure of the steady state performance or energy efficiency of heating, cooling, and refrigeration appliances. The COP is equal to the Energy Efficiency Ratio (EER) divided by 3.412. The higher the COP, the more efficient the device.

Coefficient of Utilization (CU) –

A term used for lighting appliances; the ratio of lumens received on a flat surface to the light output, in lumens, from a lamp; used to evaluate the effectiveness of luminaries in delivering light.

Coincidence Factor –

The ratio of the maximum demand of a group, class, or system as a whole to the sum of the individual maximum demands of the several components of the group, class, or system. The reciprocal of the diversity factor; always less than or equal to one.

Coincident Demand –

The sum of two or more demands belonging to the same group, class, or system which occur in the same time interval.

Coincident Maximum Demand –

The sum of two or more demands which occur in the same time interval as the system (or class) peak demand.

Commercial Building –

A building with more than 50 percent of its floor space used for commercial activities, which include stores, offices, schools, churches, libraries, museums, health care facilities, warehouses, and government buildings except those on military bases.

Commercial Sector –

Consists of businesses that are not engaged in transportation or manufacturing or other types of industrial activities. Standard Industrial Classification (SIC) codes for commercial establishments are 50 through 87, 89, and 91 through 97.

Commissioning –

The process by which a power plant, apparatus, or building is approved for operation based on observed or measured operation that meets design specifications.

Conservation –

The wise use of electricity so as to prevent waste and ensure future availability.

Consumption Charge –

The part of an energy utility's charge based on actual energy consumed by the customer; the product of the kilowatt-hour rate and the total kilowatt-hours consumed.

Contract Demand –

The amount of power that a supplier of electric service agrees to make continuously available for delivery to a particular consumer and that the consumer agrees to purchase.

Cooling Degree Day –

A value used to estimate interior air cooling requirements (load) calculated as the number of degrees per day (over a specified period) that the daily average temperature is above 65 degrees Fahrenheit (or some other, specified base temperature). The daily average temperature is the mean of the maximum and minimum temperatures recorded for a specific location for a 24-hour period.

Cooling Load –

That amount of cooling energy to be supplied (or heat and humidity removed) based on the sensible and latent loads.

Customer Charge -

A basic charge added to each customer's bill to cover such costs as meter reading, customer accounting, and billing. The charge does not vary by the amount of electricity used.

Customer Costs -

Costs that are related to the number of customers and that do not vary significantly with the volume of sales. Examples are metering costs, customer accounting and billing.

Daylighting –

The use of direct, diffuse, or reflected sunlight to provide supplemental lighting for building interiors.

Declining Block Rate –

A schedule of prices for electricity wherein the first "block" (X number of kilowatt-hours or kilowatts) used by a customer is priced at one rate and the next block(s) at successively lower rates. Historically, this was a common type of rate schedule used when marginal costs were lower than average costs.

Degree Day –

A unit for measuring the extent that the outdoor daily average temperature (the mean of the maximum and minimum daily dry-bulb temperatures) falls below (in the case of heating, see Heating Degree Day), or falls above (in the case of cooling, see Cooling Degree Day) an assumed base temperature, normally taken as 65 degrees Fahrenheit, unless otherwise stated. One degree day is counted for each degree below (for heating) or above (in the case of cooling) the base, for each calendar day on which the temperature goes below or above the base.

Degree Day, Cooling –

A measure of the need for air conditioning (cooling based on temperature and humidity). Although cooling degree days are published for many weather stations, a specific procedure for their calculation has not been generally accepted.

Degree Day, Heating –

A measure of the coldness of the weather experienced, based on the extent to which the daily mean temperature falls below a reference temperature, usually 65 degrees F.

Degree Days -

Degree days are a standardized method for determining the severity of the weather in a particular location. Heating degree days are calculated by subtracting the average daily temperature (the sum of the hourly temperatures divided by 24) from 65° F. For example, if the average daily temperature was 45°F, the number of degree days for that day would be $65 - 45 = 20$. In a normal year, Seattle has 5121 heating degree days (based on 1951-1980).

Degree Hour –

The product of 1 hour, and usually the number of degrees Fahrenheit the hourly mean temperature is above a base point (usually 65 degrees Fahrenheit); used in roughly estimating or measuring the cooling load in cases where process heat, heat from building occupants, and humidity are relatively unimportant compared to the dry-bulb temperature.

Dehumidifier –

A device that cools air by removing moisture from it.

Demand –

In a public utility context, the rate at which electric energy is delivered to or by a system, expressed in kilowatts, kilovoltamperes, or other suitable unit, at a given instant or averaged over any designated period of time. Seattle City Light records Demand averaged over a 15-minute interval for rate billing purposes for customers having demand meters. In an economic context, the quantity of a product that will be purchased at a given price at a particular point in time.

Demand Charge-

That portion of a customer's bill for electric service based upon the electric capacity (kilowatt) demanded or required by power-consuming equipment and billed under an applicable rate schedule.

Demand Cost –

This term is some times used interchangeably with capacity costs. However, in electric system cost allocations it is particularly used to denote those costs which are to be allocated to customer classifications on the basis of their respective use of system capacity; either the customer's or the class's coincident or noncoincident maximum demand.

Demand Factor –

The ratio of the maximum demand of a system, or part of a system, to the total connected load of the system, or part of system under consideration.

Demand Interval –

The period of time during which the flow of electricity is averaged such as one hour or 15 minutes. Seattle City Light uses a 15 minute demand interval for calculating customers' billing demand.

Demand Leveling –

Shifting the operation of loads or processes to keep the demand level at a normal range, to avoid creating a demand spike.

Demand Meter -

A meter that measures power demand over a specified time interval in kilowatts or megawatts.

Demand Power –

See Peak Power

Demand Spikes –

When the demand for power exceeds the normal level of demand within the utility system.

Demand(ed) Factor –

The ratio of the maximum demand on an electricity generating and distribution system to the total connected load on the system; usually expressed as a percentage.

Design Cooling Load –

The amount of conditioned air to be supplied by a cooling system; usually the maximum amount to be delivered based on a specified number of cooling degree days or design temperature.

Design Heating Load –

The amount of heated air, or heating capacity, to be supplied by a heating system; usually the maximum amount to be delivered based on a specified number of heating degree days or design outside temperature.

District Heating –

A heating system in which steam or hot water for space heating or hot water is piped from a central boiler plant or electric power/heating plant to a cluster of buildings.

Diversity Factor –

The ratio of the sum of the noncoincidental maximum demands of two or more loads to their coincidental maximum demands for the same period.

Drought Surcharge -

An extra charge placed on electricity customers when drought conditions have necessitated the generation or purchase by a hydro based utility of electricity at a higher cost than that obtained from the utility's normal power sources. The purpose of the surcharge is to recoup the additional costs associated with the purchase of higher cost electricity while retaining the level of net earnings. Seattle City Light imposed a drought surcharge in 1977 and 1992.

Efficiency –

Effective operation as measured by a comparison of product with resources used to make the product. As applied to devices or systems such as motors or power plants, the ratio of output power or energy to the input power or energy expressed in percent. In economics, the relationship between output and cost or between benefits and costs.

Electric Energy –

The amount of work accomplished by electrical power, usually measured in kilowatt-hours (kWh). One kWh is 1,000 Watts and is equal to 3,413 Btu.

Electric Rate –

The unit price and quantity to which it applies as specified in a rate schedule or contract.

Electric Rate Schedule –

A statement of the electric rate(s), terms, and conditions for electricity sale or supply.

Electric Utility –

A corporation, person, agency, authority or other legal entity that owns and/or operates facilities for the generation, transmission, distribution or sale of electricity primarily for use by the public.

End Use –

The ultimate use of electrical energy. Electricity and equipment, when combined, produce end-use (space heat, water heat, lighting, cooking, etc.).

Energy –

That which does or is capable of doing work. Electric energy is a measure of the amount rather than the rate of usage and is measured in kilowatt hours or megawatt hours.

Energy Audit –

A survey that shows how much energy you use in your house or apartment. It will help you find ways to use less energy.

Energy Charge –

That portion of a customer's bill for electric service based upon the electric energy (kilowatt-hours) consumed.

Energy Imbalance –

The difference that occurs between scheduled energy usage and the actual usage of energy during an hour.

Energy Load –

In a power system, the demand averaged over a substantial period of time. Compare peak load.

Energy-Only Pricing –

A pricing technique in which the rates are stated only in terms of the price per kilowatt-hour, the charge must reflect the total cost of supplying service.

Firm Energy –

Electric energy that is intended to have assured availability to the customer to meet all or any agreed upon portion of the customer's load requirements over a defined period.

Firm Load –

System load that is not contracted to be interruptible. 1) Firm energy load is the average annual energy demand of customers plus system losses. Firm energy load is expressed in average megawatts (ave. MW or aMW) or megawatt-hours (MWH). 2) Firm peak load is the annual maximum one-hour or 24-hour average demand by customers plus coincidental system losses. Firm peak is expressed in megawatts (MW).

Firm Power –

Power which is guaranteed by the supplier to be available at all times except for season of certain uncontrollable forces.

Gigawatt (GW) –

A unit of power equal to 1 billion Watts; 1 million kilowatts, or 1,000 megawatts.

Gigawatt Hour –

A measure of electric energy equal to one gigawatt of power supplied to or taken from an electric circuit for one hour. See “Gigawatt”, “Kilowatt-Hour”.

Green Power –

A popular term for energy produced from renewable energy resources.

Greenhouse Effect –

A popular term used to describe the heating effect due to the trapping of long wave (length) radiation by greenhouse gases produced from natural and human sources.

Grid –

A common term referring to an electricity transmission and distribution system.

Harmonic(s) –

A sinusoidal quantity having a frequency that is an integral multiple of the frequency of a periodic quantity to which it is related.

Heat –

A form of thermal energy resulting from combustion, chemical reaction, friction, or movement of electricity. As a thermodynamic condition, heat, at a constant pressure, is equal to internal or intrinsic energy plus pressure times volume

Heat Exchanger –

A device used to transfer heat from a fluid (liquid or gas) to another fluid where the two fluids are physically separated.

Heat Gain –

The amount of heat introduced to a space from all heat producing sources, such as building occupants, lights, appliances, and from the environment, mainly solar energy.

Heat Loss –

The heat that flows from the building interior, through the building envelope to the outside environment.

Heating Capacity (Also specific heat) –

The quantity of heat necessary to raise the temperature of a specific mass of a substance by one degree.

Heating Degree Day(s) (HDD) –

The number of degrees per day that the daily average temperature (the mean of the maximum and minimum recorded temperatures) is below a base temperature, usually 65 degrees Fahrenheit, unless otherwise specified; used to determine indoor space heating requirements and heating system sizing. Total HDD is the cumulative total for the year/heating season. The higher the HDD for a location, the colder the daily average temperature(s).

Hourly Load Data –

For both billing and research purposes, some Seattle City Light customers have meters that record the amount of electricity consumed every hour. This information on the amount of electricity consumed every hour is referred to as hourly load data. Hourly load data are used for billing purposes and to develop time-of-use estimates or individual customers or for groups of customers.

Installation Charge-

A charge levied to recover the costs of installing electrical service connections at a customer's premises.

Interruptible Load (Interruptible Power) –

Loads (Power) which by contract can be interrupted in the event of a capacity deficiency on the supplying system; generally heavy industrial loads on the system.

Interruptible Rate –

A schedule of electricity prices for customers who agree to shut off a contracted portion of their connected load during system peak periods, at the request of the utility.

Interval Meter –

An electricity meter which records an end-use customer's electric usage for defined intervals (e.g., 5 minutes, 15 minutes, half-hour, hour, etc.), allowing the possibility for consumption during different time periods to be billed at different rates and providing a means for an end-use customer's load pattern to be analyzed.

Kilovoltamperes (kva) -

1000 voltamperes. The voltamperes of an electric circuit are the mathematical product of the volt and the amperes of the circuit. This is the basic unit of measure of "apparent power" which includes "real power" (the rate of supply of energy, measured in kilowatts) and "reactive power" (a component of power necessary for motors and other magnetic equipment, measured in kilovars).

Kilowatt (kW) –

A standard unit of electrical power equal to one thousand watts, or to the energy consumption at a rate of 1000 Joules per second.

KiloWatt Hour (kWh) –

The standard unit to measure electricity; it is the energy equivalent to that expended in one hour by one kilowatt of power. A kilowatt is 1,000 watts of power. For example, ten 100-watt light bulbs lit for one hour use one kilowatt-hour (1,000 watt-hours) of electricity. Your electricity use determines the total number of kilowatt-hours on your bill.

kW (kilowatt) –

A standard unit of electrical power equal to one thousand watts, or to the energy consumption at a rate of 1000 Joules per second.

kWh (kilowatt-hour) –

The basic unit of electric energy equal to one kilowatt of power supplied to or taken from an electrical circuit steadily for one hour. One kilowatt-hour equals 1,000 watt-hours.

Load –

The amount of electric power delivered or required at any specified point or points on a system. Load originates primarily at the power-consuming equipment of the customer.

Load Curve –

Shows the quantity of energy used by a consumer at specific time intervals over a 24-hour period.

Load Duration Curve –

A curve that displays load values on the horizontal axis in descending order of magnitude against the percent of time (on the vertical axis) that the load values are exceeded.

Load Factor –

The ratio of average demand, in kilowatts, over a stated period of time to the maximum demand in kilowatts occurring in that same period of time. A load factor is a measure of the variability of the load over a period of time, usually a day, a week, a month, or a year. A load factor of 1. Corresponds to a load that is “on” 100% of the time. A load factor of 0.5 means that the load has an average demand equal to 50% of the maximum demand.

Load Forecast –

An estimate of the level of future energy needs.

Load Leveling –

The deferment of certain loads to limit electrical power demand, or the production of energy during off-peak periods for storage and use during peak demand periods.

Load Management –

Direct methods to control or reduce the consumption of electricity during certain hours of the day, the primary objective of which is to cut utility costs during peak hours of electrical demand when generation costs are high. An example of load management is the installation of time-clock controls on water heaters that interrupt the load during peak hours of the day. Load management is generally distinguished from conservation in that conservation attempts to reduce the total amount of energy wasted while load management attempts to alter when the energy is used.

Load or Demand –

Usually refers to the amount of electricity used at one time by a customer or group of customers. Load may also refer to the demand placed on the electric system at a given time.

Load Pocket –

An area that is served by local generators when the existing electric system is not able to do so.

Load Profile or Shape –

A curve on a chart showing power (kW) supplied (on the horizontal axis) plotted against time of occurrence (on the vertical axis) to illustrate the variance in a load in a specified time period.

Load Shedding –

Turning off or disconnecting loads to limit peak demand.

Load Shifting –

A load management objective that moves loads from on-peak periods to off-peak periods.

Megawatt –

One thousand kilowatts, or 1 million watts; standard measure of electric power plant generating capacity.

Megawatt-hour –

One thousand kilowatt-hours or 1 million watt-hours.

Meter –

A device which measures electrical energy.

Meter Read Date –

The date on which Seattle City Light schedules a meter to be read for purposes of producing a customer bill.

Multi-Zone System –

A building heating, ventilation, and/or air conditioning system that distributes conditioned air to individual zones or rooms.

NOAA –

National Oceanic and Atmospheric Administration

Noncoincident Demand –

The sum of two or more individual demands which do not occur in the same time interval.

Noncoincident Maximum Demand –

The sum of two or more maximum demands from either individual customers or customer class which may or may not occur in the same time interval as each other or as the system peak demand.

Nonfirm Energy –

Electric energy having limited or no assured availability. As applied to hydro facilities, the energy produced from a hydro facility above and beyond its firm rating. The firm rating is the output which can be produced under critical water conditions.

Occupancy Sensor –

An optical, ultrasonic, or infrared sensor that turns room lights on when they detect a person's presence and off after the space is vacated.

Off-Peak –

The period of low energy demand, as opposed to maximum, or peak, demand.

Off-Peak Demand –

The consumption of or request for electrical energy during periods of the day or year that do not correspond to system peak.

On-Peak Demand –

The consumption of or request for electrical energy during periods of the day or year that correspond to the system peak

On-Peak Energy –

Energy supplied during periods of relatively high system demands as specified by the supplier.

Outage –

A discontinuance of electric power supply.

Payback –

The amount of time required for positive cash flows to equal the total investment costs.

Peak -

The maximum amount of electricity use measured in kilowatts or kilovoltamperes or other suitable unit, over some defined period of time and measured at a given instant or some small interval of time.

Peak Capacity –

Generating capacity available to assist in meeting that portion of the load which is above base load. The maximum output of generating plant or plants during a specified peak-load period.

Peak Clipping/Shaving –

The process of implementing measures to reduce peak power demands on a system.

Peak Demand –

The maximum electrical load consumed or produced in a stated period of time. It may be the maximum instantaneous load or the average load within a designated interval of time.

Peak Load –

The maximum demand for energy on a utility system at a stated point of time, which determines the necessary generating capacity.

Peak Power –

Power generated by a utility unit that operates at a very low capacity factor; generally used to meet short-lived and variable high demand periods.

Peak Shifting –

The process of moving existing loads to off-peak periods.

Peak Splitting –

In order for a customer to minimize its apparent peak demand, it adjusts its operation schedule with respect to the utility's measurement of the customer's peak demand.

Peak Use –

Consumption of electricity by, for example, a customer or rate class during the time of the utility's peak.

Peak Wind Speed –

The maximum instantaneous wind speed (or velocity) that occurs within a specific period of time or interval.

Peaker –

A generator used primarily to meet peak electric loads.

Peaking Capacity –

Power generation equipment or system capacity to meet peak power demands.

Peaking Hydropower –

A hydropower plant that is operated at maximum allowable capacity for part of the day and is either shut down for the remainder of the time or operated at minimal capacity level.

Power –

Energy that is capable or available for doing work; the time rate at which work is performed, measured in horsepower, Watts, or Btu per hour. Electric power is the product of electric current and electromotive force.

Power (Output) Curve –

A plot of a wind energy conversion device's power output versus wind speed.

Power Coefficient –

The ratio of power produced by a wind energy conversion device to the power in a reference area of the free windstream.

Power Conditioning –

The process of modifying the characteristics of electrical power (e.g., inverting dc to ac).

Power Density –

The amount of power per unit area of a free windstream.

Power Factor –

The ratio of actual power being used in a circuit, expressed in watts or kilowatts, to the power that is apparently being drawn from a power source, expressed in volt-amperes or kilovolt-amperes; or kWh / square root of ((kWh squared) + (kVarh squared)).

Power Factor Rate –

Seattle City Light schedule of charges for customers who have inductive loads, and whose power factor in a given billing period does not reach the utility's minimum requirement (97% in 2001)

Power Transmission Line –

An electrical conductor/cable that carries electricity from a generator to other locations for distribution.

Psi –

Pounds of pressure per square inch.

Psia –

Pounds/force per square inch absolute.

Psig –

Pounds/force per square inch gauge.

Rate Schedule –

A mechanism used by electric utilities to determine prices for electricity; typically defines rates according to amounts of power demanded/consumed during specific time periods.

Rated Life –

The length of time that a product or appliance is expected to meet a certain level of performance under nominal operating conditions; in a luminaire, the period after which the lumen depreciation and lamp failure is at 70% of its initial value.

Rated Power –

The power output of a device under specific or nominal operating conditions.

Reactive Power –

The power involved in the alternating exchange of stored inductive and capacitive energies in a circuit. The portion of "apparent power" that does not do work. It is measured in kilovars. Reactive power must be supplied to most types of magnetic equipment, such as motors.

Real Power-

This is the part of "apparent power" that does useful work. It is the rate of supply of energy, measured in kilowatts.

Relamping –

The replacement of a non-functional or ineffective lamp with a new, more efficient lamp.

Resistance Load –

A resistance load is a load that directly converts electricity to heat or light at the heating or lighting element(s). Baseboard heating units are resistance loads. An electric motor is not a pure resistance load. However, an electric heating furnace consisting of heating elements and a blower motor is for practical purposes, considered a resistance load because a much larger proportion of electricity is converted to heat compared to the very small amount consumed by the blower motor. Other examples of resistance loads are incandescent light bulb, hair dryer, clothes dryers, electric irons. A resistance load has a power factor of 100%. It consumes only watts.

Retrofit –

The process of modifying a building's structure.

Return Air –

Air that is returned to a heating or cooling appliance from a heated or cooled space.

Return Duct –

The central heating or cooling system contains a fan that gets its air supply through these ducts, which ideally should be installed in every room of the house. The air from a room will move towards the lower pressure of the return duct.

Rolling kW Demand -

A series of overlapping demand measurements. For example, a series of 15 minute demand measurements, with the 15 minute periods overlapping every five minutes. The demand measurement is sometimes called a “sliding window”.

Scheduled Outage –

An outage that results when a component is deliberately taken out of service at a preselected time.

Shading Coefficient –

A measure of window glazing performance that is the ratio of the total solar heat gain through a specific window to the total solar heat gain through a single sheet of double-strength glass under the same set of conditions; expressed as a number between 0 and 1.

Sheathing –

A construction element used to cover the exterior of wall framing and roof trusses.

Short Circuit –

An electric current taking a shorter or different path than intended.

Short Circuit Current –

The current flowing freely through an external circuit that has no load or resistance; the maximum current possible.

Time-of-Day Metering –

The recording of a customer's electricity use by discrete time periods. This might be done to separately measure the amount of electricity used by a given customer during system peak times and off peak times, or to determine patterns of daily and seasonal electricity use by a

customer or (by combining information from many customers) a class of customers. Time-of-day metering requires the installation of special meters.

Time-of-Day Rates –

A schedule of prices for electricity that varies according to the time of day that the electricity is used. A utility might charge higher rates for electricity used during the system's peak time of day. This might be done because the costs of delivering electricity are higher during these times and or because the utility wished to discourage electricity use during peak time. Seattle City Light has time-of-day rates for customers with 1000 kW of demand or greater. For these customers, billing demand is computed as the highest 15-minute demand between the hours of 7:00 AM and 10:00 PM, Monday through Saturday. During these hours, a higher energy charge is assessed as well.

Time-of-Use –

A use of electricity during a particular time block.

Time-of-Use Rates -

The pricing of electricity based on the estimated cost of electricity during a particular time block. Time-of-use rates are usually divided into three or four time blocks per 24-hour period (on-peak, mid-peak, off-peak and, sometimes, super off-peak) and by seasons of the year (summer and winter).

Time of Use (TOU) Pricing –

Rates that are designed to reflect changes in a utility's cost of providing service that change by season or time of day. There are two types of time of use rates: mandatory which is required for normally high use customers; and voluntary which is available for any customer who wants to participate in the program.

Ton (of Air Conditioning) –

A unit of air cooling capacity; 12,000 Btu per hour.

Total Harmonic Distortion –

The measure of closeness in shape between a waveform and its fundamental component.

Total Heat –

The sum of the sensible and latent heat in a substance or fluid above a base point, usually 32 degrees Fahrenheit.

Transformer –

An electromagnetic device that changes the voltage of alternating current electricity. It consists of an induction coil having a primary and secondary winding and a closed iron core.

Transmission Lines –

Transmit high-voltage electricity from the transformer to the electric distribution system.

True Power –

The actual power rating that is developed by a motor before losses occur.

Value of Energy –

A measure of the opportunity cost of electricity; a measure of the value of resources used to produce or save one more kWh. Value is measured by the cost of resources added (or postponed) to meet increments (or decrements) in load. The value of energy can be used in the benefit/cost assessment of new resources, in cost of service analysis, and as a design guideline in rate setting.

Volt –

The unit of electromotive force. It is the electromotive force which, if steadily applied to a circuit having a resistance of one ohm, will produce a current of one ampere. “Volt” is a unit of measurement of electric force or pressure, analogous to pounds per square inch of water.

Voltage -

The voltage of a circuit in an electric system is the electric pressure of that circuit measured in volts. Voltage is the difference of potential of any two conductors on the circuit. See Volt.

Voltage Drop -

In an electric supply system, the difference between the voltage at the transmission and the receiving ends of a feeder, main, or service.

Volt-Ampere –

A unit of electrical measurement equal to the product of a volt and an ampere.

Watt -

A unit of measurement of the rate of electric energy use. One watt is the rate of energy transfer equivalent to one ampere flowing under a pressure of one volt at unity power factor. See “Kilowatt”. One watt equals 1/746 horsepower, or one joule per second. It is the product of Voltage and Current (amperage).

Watt-hour –

A unit of electricity consumption of one Watt over the period of one hour.

Wattmeter –

A device for measuring power consumption.

Wind Speed –

The rate of flow of the wind undisturbed by obstacles.

Wind Speed Duration Curve –

A graph that indicates the distribution of wind speeds as a function of the cumulative number of hours that the wind speed exceeds a given wind speed in a year.

Wind Speed Frequency Curve –

A curve that indicates the number of hours per year that specific wind speeds occur.

Wind Speed Profile –

A profile of how the wind speed changes with height above the surface of the ground or water.

Wind Velocity –

The wind speed and direction in an undisturbed flow.