

Definitions

General

Customer refers to a present or prospective user of Idaho Power's service.

Idaho Power refers to Idaho Power or its authorized agent.

ANSI (American National Standards Institute) is an organization responsible for a variety of industry standards including pole class.

EUSERC (Electric Utility Service Equipment Requirements Committee) is the committee that develops standards for meter enclosures and equipment.

NEC (National Electric Code) is the code that governs the requirements for a customer's wiring. Electrical wiring for Idaho Power is governed by a different code.

Service has two definitions:

1. The supply of electricity from Idaho Power to the customer.
2. The **conductors** (wires or cables) that connect Idaho Power's facilities to the customer's equipment.

Electrical Terms

Arc Flash refers to the release of energy caused by an electrical arc. Protection from the hazards associated with a possible arc flash are established by OSHA (Occupational Safety and Health Administration) and the National Fire Protection Association (NFPA-70E).

Fault Current refers to the amount of electrical current that can be supplied to customer's equipment in the event of a short circuit. Customer equipment must have an AIC (available interrupting current) rating able to withstand this current.

Horsepower (hp) refers to the size (electrical load) of a motor. $1 \text{ hp} = 0.746 \text{ kW}$.

Kilowatt (kW) refers to the size (electrical load) of a customer's service. $1 \text{ kW} = 1000 \text{ watts}$.

Kilowatthour (kWh) refers to the electrical consumption of a customer's load. A 1000 watt load operating for 1 hour uses 1 kWh.

Kilovoltamp (kVA) refers to the apparent power of a customer's load and is what Idaho Power uses to size its facilities. $\text{kVA} = \text{kW}/\text{p.f.}$

Non-linear load refers to an electrical device that draws current in a non-sinusoidal waveform such as a:

- ◆ Solid-state motor drive
- ◆ Variable frequency drive
- ◆ Adjustable speed drive
- ◆ Electronic motor controller
- ◆ Electronic power supply
- ◆ Electronic phase converter

Tariffs require that these loads must meet IEEE 519-1992 guidelines regarding their effect on voltage distortion and notching.

Power Factor (p.f.) is ratio used to measure the inefficiency of a customer's load. Idaho Power may need to install larger facilities to serve a customer's load if the power factor is too low.

Voltage Drop is a reduction in supply voltage due to resistive heating losses in conductors.

Conduit

Rigid Conduit is required for certain applications and includes the following types:

- ◆ **RMC** (Rigid Metal Conduit) and **GRC** (Galvanized Rigid Conduit) are heavy wall metallic conduit.

Definitions for Electric Service

- ♦ **IMC** (Intermediate Metal Conduit) is lighter weight than RMC and GRC, but still acceptable for applications that require rigid conduit.
- ♦ **Schedule 80 PVC** is heavy weight non-metallic conduit and is acceptable for applications that require rigid conduit.

Schedule 40 PVC non-metallic conduit that is acceptable for applications where the conduit is buried.

EMT (Electrical Metal Tubing) is thin wall metal tubing and is used to carry metering wires.

Metering

Meter is a device for measuring the electric energy consumed by a customer.

Self-contained Meter refers to a meter that has the ability to measure a customer's load without using CTs.

Current Transformer (or CT) is an instrument transformer used in metering that allows large customer loads (those that exceed the capacity of self-contained meters) to be measured.

Current Transformer Enclosure (or CT Enclosure) is a cabinet that houses Idaho Power's instrument transformers.

Metering Wires are wires installed in 1" conduit by Idaho Power between the CTs and the meter.

Meter Seal is a device installed on a meter base by Idaho Power to indicate that it has been opened.



Sealed Meter

Poles

Pole Size refers to the overall length of the pole and includes the portion buried in the ground.

Pole Class is an ANSI standard used to establish the strength of a wood pole based on the type of wood and the dimensions of the pole at specific locations. If the pole is not branded follow the table below:

Class 6 Wood Pole Measurements

Pole Length	Top	6' from Pole Butt
20'	17" min	23" min
25'	17" min	26" min
30'	17" min	28" min
35'	17" min	30" min

Measurements are circumference for Douglas Fir or Western Red Cedar. Other species of wood poles will vary. For more information contact Idaho Power.

A minimum Class 6, round, treated wood pole in like-new, climbable condition is required for permanent service. A 6" × 6" treated wood post may be used for a temporary service only.

Metal Poles may be allowed under certain circumstances and must be approved by Idaho Power prior to installation.

Services

Single Phase (1-Ø) Service refers to an overhead or underground three-wire service used to serve 1-Ø loads.

Three Phase (3-Ø) Service refers to an overhead or underground four-wire service used to serve 3-Ø loads.

Point of Attachment for overhead services is the point on the customer's building, structure or pole that supports service wires.

Service Point is the point where Idaho Power's service conductors connect to the customer's wires or equipment.

Service Disconnect is a customer-owned circuit breaker or fused switch and accessories that is intended to disconnect the customer's service.

Temporary Service is a non-recurring service intended to be used for a limited time (not to exceed 18 months).

Definitions for Electric Service

Equipment

Handholes are small subsurface boxes that contain connections between the customer's service and Idaho Power facilities.



Handhole

BE AWARE Don't hide, bury or drive vehicles over handholes.

Transformers are electrical devices that convert Idaho Power's high voltage facilities to the desired voltage needed for the customer's service.



3-Ø Padmount Transformer

1-Ø Padmount Transformer

BE AWARE Padmount transformers require 10' of clearance from the front (label/door side) for access and 3' of clearance on the other sides for safety.



1-Ø Overhead Transformer



3-Ø Overhead Transformers

BE AWARE Don't mistake other Idaho Power equipment for a transformer. Only transformers have service voltages. **Contact Idaho Power for clarification**

