CITY AND BOROUGH OF SITKA
APPROVED - ELECTRIC UTILITY
CONSTRUCTION GUIDELINES

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CONSTRUCTION GUIDELINES

Sections:

15.01.015 Construction guidelines.

A. Codes. All electric utility system installations must comply with the National Electrical Code (NEC) and the National Electrical Safety Code (NESC) where applicable. As a supplement to these codes, the Sitka design and construction guidelines (SDCG) and the design standards of the USDA Rural Utilities Service (RUS) are employed by the utility. Services and/or service entrances may be denied if these codes and specifications are not met.

B. Electrical Inspections. To protect the customer's interest as well as the utility's, the utility requires an inspection certificate (green tag) by the city's building inspector before energizing new facilities. In addition, for all three phase loads (of any amperage) or any single phase loads in excess of 800 amps, the customer shall submit to the city an updated customer one-line diagram, a connected load calculation, and power factor compliance calculation stamped by a licensed electrical engineer in the state of Alaska. These documents shall be submitted at least six months prior to energization and shall be submitted along with the requisite building permit application.

Inspections shall confirm compliance with the latest state-adopted version of the NEC and NESC, the latest version of the SDCG, any municipal codes, and any utility specifications that

may exceed portions of the aforementioned codes. The utility reserves the right to challenge the construction when utility personnel observe deficiencies in the installation at any time.

C. Utility Tools and Equipment. All utility materials, tools and equipment are available for utility projects only. Tools and equipment are not available for rent or loan at any time.

D. Material Sales/Loans. No materials shall be sold, traded or loaned except for electrical emergencies such as power outages. The utility may agree to sell equipment for a specific utility construction project, at rates established by the utility.

E. Subdivisions. In addition, all subdivisions two lots or greater and line extensions greater than two thousand six hundred forty feet are required to be designed by an electrical engineer licensed in Alaska. The customer is required to seek an electrical engineer licensed in Alaska to design the facilities or a licensed electrical contractor to construct the facilities needed to serve them. All designs, equipment, materials and a detailed scope of work must be approved by the utility before construction commences and is subject to inspection by the utility during construction. All equipment and materials such as transformers, hardware, street lights, poles, cables and components, etc., must be new and in undamaged condition. The utility reserves the right to issue "cease and desist" orders for nonconformance of design, workmanship and materials involved with electrical system construction projects. Once the construction is accepted by the utility, the utility will own and be responsible for maintenance of the facilities to the point of delivery of power, unless otherwise stated in this customer service policy or by mutual agreement.

15.01.040 Service connections.

A. General. This section applies to each new service installation and to existing installations when changes and/or rearrangements are made. Each case shall be referred to the utility before electrical work is begun.

B. Metering, Service Entrance(s), Disconnects. All service entrance(s), meters, and disconnecting device(s) shall be permanently installed externally, at an approved location.

Main disconnect: this device shall be installed by the customer at a predetermined location designated by the utility for the purpose of protection, isolation, sectionalizing, maintenance, and testing between privately owned equipment and electric circuits and municipally owned equipment.

This device shall be designed and rated in accordance with the NEC and to open and close all ungrounded conductors of the circuit simultaneously from their source of supply.

Municipal maintenance and replacement responsibility terminates at the source side of the customer-owned disconnects.

It shall be the responsibility of the customer to maintain a clear space of at least thirty-six inches in front and thirty-six inches on either side of the meter. Exceptions to this that meet current revision of the NEC may be approved by the utility. Meters shall be installed at a height of five to six and one-half feet above a finished grade, platform, deck, etc. The utility shall be consulted prior to installation. New service entrance and remodel locations are subject to approval by the utility. All single-phase circuits up to six hundred volts and less than two hundred amperes or less shall be metered through self-contained meters. Loads of more than two hundred amperes will be metered with instrument transformers. The contractor or owner will consult the utility for metering requirements prior to installation.

C. Instrument Transformer Metering. All instrument transformer enclosures, mountings and fittings, meter sockets and conduits or raceways for meter wiring will be furnished and installed by the customer and will be of a type approved by the utility. They shall be provided with a means for sealing. Instrument transformers will be furnished by the utility. All wiring from the instrument transformers to the meter base will be furnished and installed by the utility in conduits installed by the contractor or owner. The utility will install conduits at the customer's expense upon request. Provision for potential taps will be made in the instrument transformer enclosure by the owner or contractor. No potential taps will be made outside of a sealed enclosure. The meter socket must be UL approved, designed for outside use, and have a sealable test switch enclosure. The metering instrument transformers shall be installed in an approved, sealable enclosure that is located on the load side of the service main disconnect (cold sequence). Any exceptions must receive prior approval of the utility.

D. Point of Delivery. Service shall be supplied to the entire premises through a single delivery point and at an agreed-upon voltage and phase rating. If a customer has more than one point of delivery, then each point of delivery shall be metered and billed separately. The point of delivery is that point on the customer's premises (or other agreed point) where the utility terminates its electrical conductors. Utility services shall not be run from building to building. When crossing property, service drop wires shall not be carried over/under buildings. All equipment on a load side shall belong to and be the responsibility of the consumer, except meters and metering equipment and other equipment provided by the utility. It shall be the responsibility of the customer to advise the utility of his service requirements in advance of installing the service entrance equipment and to ascertain that the location is acceptable to the utility. For mobile home parks and RV parks the point of delivery is the supply (line) side of the disconnect(s). For private marinas and boat docks the point of delivery is the supply (line) side of the disconnect on the upland facilities.

E. Customer Power Outage. If the customer's service fails, they shall endeavor to determine if they have blown fuses, tripped breakers, or their equipment is at fault before calling the utility. If a service person is sent out on such a request, and it is determined that the customer's equipment is at fault, the customer will be charged for the service call.

F. Interruption of Service. The utility will use reasonable diligence to provide an adequate and uninterrupted supply of electrical energy at normal voltage, but if the supply is interrupted without notice, for any cause, the utility shall not be liable for personal injuries, loss or damages resulting therefrom, nor will such failure constitute breach of agreement for service.

The utility reserves the right to temporarily suspend services for the purpose of making emergency repairs or routine improvements to the system, but in such cases, whenever practicable, every effort will be made to contact affected customers beforehand and make such interruptions as short as possible. Emergency outages will occur without notification.

G. Curtailment. Should a serious power shortage develop, and should it become mandatory that the utility place into effect a curtailment program, the utility reserves the right to limit the use of electrical energy during such hours as may become necessary.

H. Discontinuance of Service by the Electric Utility. The utility may refuse to connect or may discontinue service for violation of payment contract provisions, for theft or illegal diversion of current, or for the noncompliance with current revision of the NEC or ordinances of the city and borough of Sitka. This discontinuance of service for any of these causes does not release the customer from their obligation to pay for services received or charges specified in any existing contract. The utility may also refuse to service loads of a character which are seriously detrimental to the service being rendered to other customers.

I. Additional Load. In the event the customer desires to change their load, he shall notify the utility sufficiently in advance so the utility may provide the facilities required. In the event that the customer fails to notify the utility, and as a result the utility equipment is damaged, the customer shall be liable for the cost of such damage. Other costs involved with repair service charges will also be applied.

J. Notice of Trouble. In the event that service is erratic or interrupted, it shall be the obligation of the customer to notify the utility.

K. System Disturbance. Electric service shall not be utilized in such a manner as to cause severe disturbances or voltage fluctuations to other customers. In the event that any customer uses equipment that is detrimental to the service of other customers, such as welders, pipe-thawing equipment, or large motor-starting equipment, they shall be required to install at their own expense regulative equipment to control such fluctuations. Work required by the utility to remedy these situations will be paid for by the customer causing the disturbance.

L. Customer's Wiring and Equipment. It shall be the customer's responsibility to provide suitable protective equipment such as fuses, circuit breakers, and relays of sufficient size to protect their equipment. All newly constructed single, duplex and triplex dwellings shall be equipped with a meter box and disconnect rated not less than one hundred amps. Exceptions to this must be approved by the utility. New installations, rebuilds, upgrades, and remodeled premises, including residential, commercial, industrial and public, requiring that the external point of delivery or service entrance configuration be altered in any way shall be equipped with a means of externally metering and disconnecting each electric service. The utility must approve any external disconnecting device and its location prior to installation.

In some cases, a shunt trip device may be required. If three-phase equipment is used, it shall be the customer's responsibility to protect it against phase reversal, loss of phase, under- and over-voltage. The utility will take all reasonable precautions to prevent phase failure or

abnormal voltage variations, but cannot guarantee that such conditions may not occur, due to circumstances beyond its control. The customer's wiring shall be in accordance with current NEC standards. The utility will reserve the right to refuse or discontinue service to a customer when his equipment or wiring is in a hazardous condition, or not in conformity with the lawful codes and local regulations. The customer shall be solely responsible for the maintenance and safety of their wiring and equipment. The utility shall not be in any way liable for accidents or damages occurring to the customer or to third parties because of contact with or failure of any portion of the customer's installation. Should a service be disconnected it will be required to meet current codes and standards prior to re-energization.

M. Underground Locating Services. The utility provides location services, free of charge, for utility-owned facilities during normal working hours. A twenty-four-hour advance notice is required for this service to be scheduled. A customer, contractor, or operator who causes damage to utility property will be charged at a rate equivalent to the actual cost to supply material, labor, equipment, and overhead necessary to complete repairs and to restore services on any damaged property.

N. Marking. Multiple unit buildings, trailer courts, etc., must have the correct address for each unit permanently marked at the following locations:

1. The meter socket;

2. The main breaker;

3. The subpanel in each unit;

4. The door or doorway.

If all markings are not present or of a permanent nature, the service shall be subject to being disconnected.

O. Customer Services. Customer services that are installed under retaining walls or foundations shall be the customer's responsibility. The customer is responsible for the actual cost of replacing or repairing the conduit if damaged to a point that new service conductors cannot be installed.

15.01.065 Motors and controllers.

A. Utility to Be Advised. The utility shall be advised before any single-phase motor in excess of five horsepower or any three-phase motor rated ten horsepower or larger is installed by a customer. The information given the utility shall include the nameplate data of the motor, the nature of the load and operating characteristics of the proposed installation, such as how frequently the motor will be started and if the load fluctuates rapidly, etc.

B. Motor Starters. The utility may require customers to install reduced-voltage starting equipment in cases where across-the-line starting would result in excessive voltage motor disturbances to the utility system.

C. Single-Phase Motors. Generally, motors larger than five horsepower should be three-phase, but the utility may require the use of single-phase motors or appropriate phase converters where three-phase service is not readily available.

D. Protection. All motors should be properly protected against overload, including overloads caused by low voltage conditions. It is the customer's responsibility to protect three-phase motors against the possibility of single-phase operation. Reverse phase relays, together with circuit breakers, or the equivalent devices, should be used on all three-phase installations for elevators, cranes, and similar applications to protect the installation from phase reversal.

15.01.075 Special equipment.

A. Customer-Installed Capacitors. Customers installing capacitors to improve the power factor of their load must contact the utility for essential coordination details.

B. Electric Fences. Electric fences must comply with the standard for electric fence controllers, ANSI/UL 69. A direct electric connection to a fence, or a connection through resistance, reactance, or lamp bulb, without an approved controller is not permitted.

C. Swimming Pools and Hot Tubs. Circuits serving swimming pools, hot tubs, or associated areas shall be protected by ground fault interrupters per the NEC.

D. Lightning Protection Systems. The utility recommends the use of secondary surge arresters for protection of customers' equipment, where such additional protection is desired. Arresters shall be connected on the load side of the main disconnect, not at the weather head.

Lightning rod systems, if desired, should be installed per NFPA 78, "Lightning Protection Code." A bond between the lightning rod system down ground and the service neutral should not be installed. Spacing should be arranged so that the meter enclosure is not bonded to the lightning rod system down ground.

E. Transient Surge Protectors. Transient surge protectors can be installed by the customers on their system to help protect sensitive equipment from low energy transient surges. It is recommended that the transient surge protector (suppressor) utilized has the UL 1449 rating and incorporate failure indicators.

15.01.085 Carrier current.

If a customer used building wiring for a carrier current system for communication or signaling purposes, the customer shall install suitable filter equipment or make other provisions approved by the utility to keep the distribution facilities free from carrier currents produced by the customer's equipment.