

## SECTION 500 - INSTALLATION GUIDELINES & SPECIFICATIONS

### 518 Standby Generation Systems

- 518.1 Any customer wishing to install or operate a standby generation system must have appropriate load-transfer and interconnection equipment to ensure the safety of the Utility's personnel and the public. The installation shall comply with all applicable requirements of the NEC and any local amendments.
- 518.2 The Utility does not advise on the size and/or rating of generation systems or equipment. Consult with an electrician or engineer to determine the correct size of a standby generation system to be installed.
- 518.3 The Utility recommends that transfer switches for single family residential service installations be installed by a licensed electrical contractor. Transfer switches for all other applications require installation by a licensed electrical contractor as per Municipal Code. All transfer switch installations require a permit and inspection by the Municipality of Anchorage or the State of Alaska for multi-residential triplex (and larger) and all non-residential applications outside of the MOA inspection area.
- 518.4 The Utility will deny service to or disconnect service from any premises that is connected to another electrical system other than through a Utility approved transfer switch or by the requirements of Section 213.
- 518.5 Transfer switches must be of a design that ensures back feed onto the Utility's electrical system may not occur. Transfer switches, both open-transition type and closed-transition type, shall be approved by the Utility prior to installation. The Utility shall make the sole determination whether a standby generation system meets the Utility's Electric Service Requirements and provides an appropriate level of protection against back feed onto its electrical system.
- 518.6 To approve a standby generation system, the Utility requires a one-line electrical diagram of the proposed installation showing the normal source (utility power), the alternate source (standby generation), and an accurate depiction of the transfer switch employed. The Utility will also require the electrical generator manufacturer's specific ratings and capacities for the unit proposed, the transfer switch manufacturer's specific ratings and capacities for the transfer switch proposed, and a detailed description of transfer switch operation. If the transfer switch is intended for parallel operation (closed-transition type), the customer shall also provide specifications of all interconnecting equipment including, circuit protection, protective relays, instrumentation, measurement, and control equipment. Chugach shall make the sole determination as to whether a standby generation system installation meets Chugach's requirements and provides an appropriate level of protection against back feed to its electrical system.
- 518.7 Manual transfer switches **shall be** of the double-throw, open-transition type.
- 518.8 Automatic transfer switches **shall be** the open-transition type, unless the closed-transition transfer equipment is operated in a manner that minimizes the dwell time (time both systems are in parallel operation) to only that amount of time necessary to achieve successful transfer to/from the Utility's electric distribution system. Transfer switches shall provide a means for manual transfer of customer load. Automatic transfer switches shall have both mechanical and/or electrical interlocks to prevent parallel operation of the customer's standby electrical system with the Utility's electrical system. The customer is required to submit manufacturer supplied documentation denoting that the equipment complies with the manual transfer and interlock requirements.
- 518.9 Key-type interlock systems employing key cylinders, locking bolts, and ratcheting or pivoting plates that attempt to externally connect two independent circuit breakers in a break-before-make scheme are not allowed by the Utility.

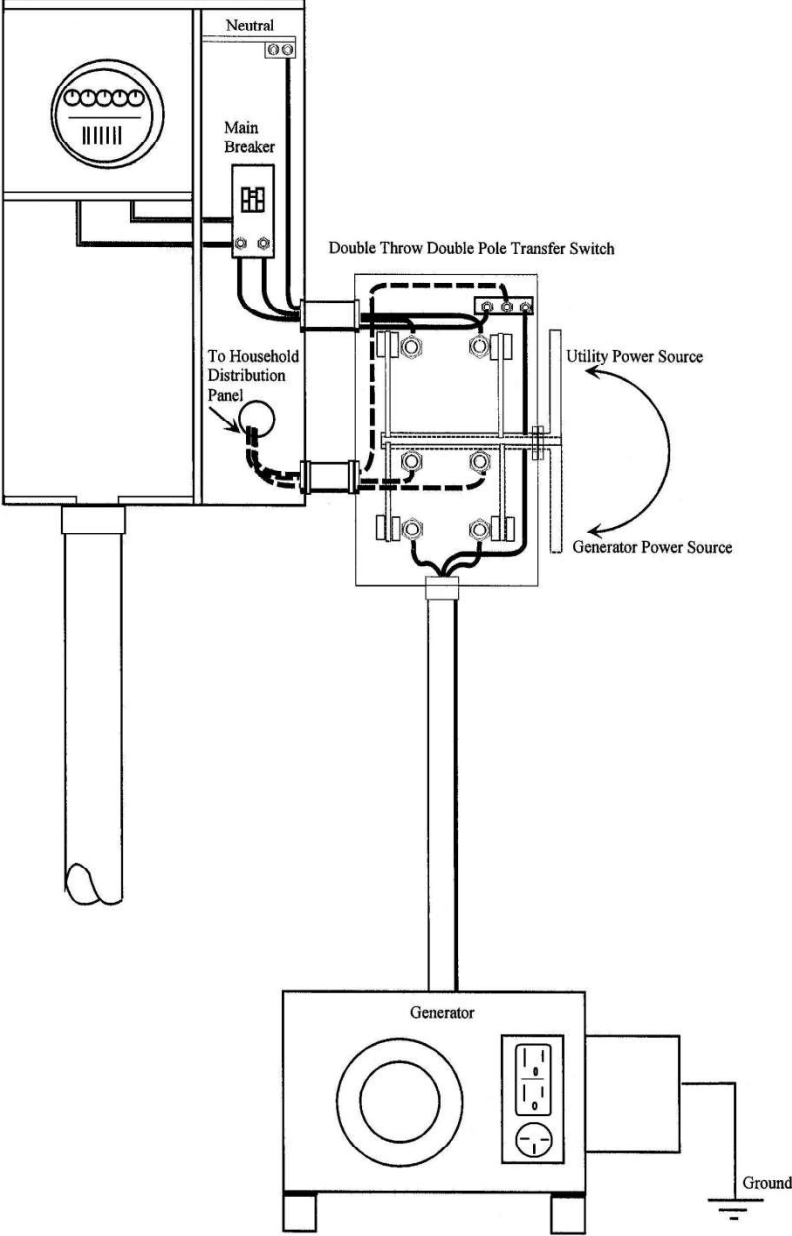
## SECTION 500 - INSTALLATION GUIDELINES & SPECIFICATIONS

### 518 Emergency/Standby Systems (Generators)

- 518.10 Modifying or overriding transfer switch mechanisms **is not** acceptable. The Utility will deny service to or disconnect service from any premises with an standby generation system that is found to have any modifications made to a transfer switch, unless such modifications are in compliance with the listing of the device by an approved testing laboratory and have been approved in writing by the Utility.
- 518.11 Emergency/standby electrical systems intended for parallel operation (closed-transition type) shall not be installed until the customer has entered into an agreement for operation of closed-transition transfer switches with the Utility. Subsequent to the written agreement with the Utility, and prior to the system being made operational, the customer shall schedule with the Utility a time for initial inspection and testing of the closed-transition transfer switch and emergency/standby electrical system.
- 518.12 Meter socket adapter transfer devices **are prohibited** from use on the Utility's system.
- 518.13 Transfer switches, when service rated and when used as the service disconnect, shall be lockable. Locking provisions shall conform to the requirements of Section 305. Service-rated transfer switches shall meet the requirements of Section 306.
- 518.14 This installation guideline and specification shows diagrams for two suggested methods for installation of a double-throw manual transfer switch for a typical single-family residence or small commercial service installation.
- 518.15 "Alternative 1" (page 118) requires the transfer switch be the same size as the main disconnect switch or breaker located adjacent to the meter. This transfer switch arrangement is capable of carrying all existing loads under normal conditions. This means that the only limiting factor on the amount of electrical equipment to run simultaneously under emergency conditions is the size of the generator installed. Under emergency conditions, the customer should turn off all circuit breakers in the distribution panel except for those circuits that feed the emergency load.
- 518.16 "Alternative 2" (page 119) allows selected electrical loads to be separated from the main distribution panel in the building and wired into a sub-distribution panel. This reduces the size of the required transfer switch and may reduce total costs. The limitation with "Alternative 2" is that the building's entire electrical system cannot be incorporated into the standby generator circuit.

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**518 Emergency/Standby Systems (Generators), Alternative 1**



**SECTION 500 - INSTALLATION GUIDELINES & SPECIFICATIONS**

**518 Emergency/Standby Systems (Generators), Alternative 2**

