



## UNS Electric, Inc. Rules and Regulations

Original Sheet No.: 909  
Superseding: \_\_\_\_\_

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### **SECTION 9** **CHARACTER OF SERVICE – VOLTAGE, FREQUENCY AND PHASE**

- A. For Residential, Lighting and Miscellaneous Service – Energy supplied will be sixty (60) Hertz, single phase, alternating current, three-wire service, 120/240 volts for new service applications. The Company will provide 120 volts, two-wire for those Customers currently receiving that service.
- B. Commercial and Industrial Service – Electric energy furnished under these Rules and Regulations will be sixty (60) Hertz alternating current energy, single or three (3) phase at the standard nominal voltages specified by the Company.
- C. All electric energy supplied will be in accordance with ANSI voltage ratings for electric power systems and equipment.
- D. All voltages referred to above are nominal voltages and may vary somewhat due to local conditions. The Company does not guarantee the constancy of its voltage or frequency, nor does it guarantee against its loss of one or more phases in a delta or three-phase service. The Company will not be responsible for any damage to the Customer's equipment caused by any or all of these occurrences brought about by circumstances beyond its control.
- E. Motor Protection

The following protective apparatus, to be provided by the Customer, is required on all motor installations:

1. No Voltage Protection: Motors that cannot be safely subjected to full voltage at starting must be provided with a device to insure that upon failure of voltage, the motors will be disconnected from the line. Said device should be provided with a suitable time delay relay;
2. Overload Protection: All motors whose voltage does not exceed 750 volts are to be provided with approved fuses of proper rating. Where the voltage exceeds 750 volts, protective devices are to be provided. In these cases it will be found desirable to install standard switching equipment. The installation of overload relays and no-voltage releases is recommended on all motors, not only as additional protection, but as a means of reducing the cost of refusing; and
3. Phase Reversal: Reverse phase relays and circuit breakers or equivalent devices are recommended on all polyphase installations to protect the installation in case of phase reversal or loss of one phase.

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Filed By: Dallas J. Dukes  
Title: Vice President of Customer Experience,  
Programs and Pricing  
District: Entire Electric Service Area

Effective: February 1, 2024  
Decision No. 79277  
Rules and Regulations



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Original Sheet No.: 909-1  
Superseding: \_\_\_\_\_

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**SECTION 9**  
**CHARACTER OF SERVICE – VOLTAGE, FREQUENCY AND PHASE**  
(continued)

**F. Load Fluctuation and Balance**

1. Interference with Service: The Company reserves the right to refuse to supply loads of a character that may seriously impair service to any other Customers. In the case of hoist or elevator motors, welding machines, furnaces and other installations of like character where the use of electricity is intermittent or subject to violent fluctuations, the Company may require the Customer to provide at the Customer's own expense suitable equipment to reasonably limit those fluctuations.
2. The Company has the right to discontinue electric service to any Customer who continues to use appliances or other devices, equipment and apparatus detrimental to the service after the Company notifies the Customer of his or her causing detriment to the service.
3. Allowable Instantaneous Starting Current Values: The instantaneous starting current (determined by tests or based on limits guaranteed by manufacturers) drawn from the line by any motor must not exceed a value (as determined by the Company) that may be deemed detrimental to the normal operation of the system. If the starting current of the motor exceeds that value, a starter must be used or other means employed to limit the current to the value specified. A reduced voltage starter may be required for polyphase motors.
4. When three-phase service supplied under a power rate includes incidental lighting, the Customer will supply any necessary lighting transformers and arrange its lighting to give a substantially balanced three-phase load.

**G. Customer Responsibility for Equipment Used in Receiving Electric Energy**

No statement or requirement in these Rules and Regulations can be construed as the assumption of any liability by the Company for any wiring of electrical equipment or the operation of same, installed in, upon, or about the Customer's premises, nor will the Company be responsible for any loss or damage occasioned or caused by the negligence, want of proper care or wrongful act of the Customer, or any of the Customer's agents or employees or licenses on the part of the Customer in installing, maintaining, using, operating, or interfering with any such wiring, machinery or apparatus.

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