



**MOTORS**  
General

10-01-15  
**ER 13-500-A**  
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**USE:** Rules applicable to serve customer's motors.

**PREVIOUS REVISION**  
03-14-94

**ORIGINATED**  
03-94

**PREVIOUS NUMBER**  
ER 900-C, ER 950, ER 13-510,  
& ER 13-560

**LATEST REVISION:** Combined ER 13-560 into this Standard, added Reference, and updated specifications.

**REFERENCE:** NEMA (National Electrical Manufacturers Association) MG1, latest revision.

**SPECIFICATION:**

**1. GENERAL:**

- 1.1 The Company will give careful attention to all proposed power installations and give all possible latitude permissible in particular cases consistent with rendering good service.
- 1.2 Starting systems shall be used which limit the initial and all successive steps of current to the starting (locked rotor) current values listed in NEMA MG1 and, they shall limit the time interval between steps to not less than one-half second. Starting systems shall be designed so that the circuit will not be opened when changing from one step to another of the starting position. When the starting current of any such motor does not exceed the values given in these tables, the motor may be installed without a starting compensator.
- 1.3 It is strongly recommended that motors be equipped with time delay under voltage, unbalanced voltage, and/or unbalanced current relays to give complete protection against overload or failure of voltage on any one or more phases.
- 1.4 It is strongly recommended that phase reversal relays and circuit breakers or equivalent devices be installed on all polyphase installations for cranes, passenger or freight elevators, or similar equipment to protect the installation in case of phase reversal.
- 1.5 When motors are used to drive a pulsating load, the motor or driven equipment shall have sufficient fly wheel effect or be so designed as to limit the variation in current to 33 per cent above or below the normal running current.

**2. SINGLE PHASE CONSIDERATIONS:**

- 2.1 Power installations of one or more motors aggregating 5 H.P. or less shall be single phase, unless three phase is available at the location where the motor is to be used.
- 2.2 Single phase small motors may be served through the regular residential service lighting meter provided the largest individual motor does not exceed 10 H.P. and the total power does not exceed 20 H.P. (See also ER Standards for RURAL FARM SERVICE.)

**3. THREE PHASE CONSIDERATIONS:**

3.1 The Company will supply three phase 208, 240, 480, 2300 or 4200 nominal voltage regulation, for motor service. In some exceptional cases where a four wire, 120/208 Y volt secondary network has been installed, the three phase service will be approximately 208 volts. However, in all cases the Customer or Contractor shall consult the Company as to the proper supply voltage.

**4. LARGE MOTORS:**

4.1 Motors 50 H.P. and above **must be approved** for use on our distribution circuits by the Electric Distribution Planning Department to ensure no detriment to our circuits. If infrastructure upgrades to NIPSCO's electric system are required to accommodate new or upgraded loads, the customer may be required to pay the total cost of the required system improvements.

4.2 Motors having a rated capacity of 50 H.P. or over should be of the synchronous type.