

CHAPTER 1

INTRODUCTION

Throughout this book the term NAED shall refer to North Attleborough Electric Department and the term customer shall refer to the customer or the customers' authorized agent.

Installing new electric service is a joint project between the customer and NAED. NAED is responsible for bringing power to the site, for installing the meter in the socket provided by the customer, and for energizing the service. The customer is responsible for obtaining permits and inspections, providing the overhead path or underground trench for NAED wires, and for installing the equipment at the service entrance.

It is not intended that this book give complete coverage for all wiring details. It has been prepared as a guide and is supplemental to all local electrical codes.

NAED reserves the right to alter, revise, amend this information when necessary and assumes no responsibility to notify persons relative to such revisions.

RESIDENTIAL SERVICE

Residential service is defined as service to a single-family residence or service to a multi-family residence such as an apartment or condominium. Voltage for residential services is 120/240 volts, except for special situations. Services up to 400 amps are single-phase. Current ratings (ampacities) available for single-family residences are listed on the next page.

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Residential service ampacities:

<u>Current Rating</u>	<u>Typical Use</u>	<u>Comment</u>
Less than 200 amps	Small homes	See Note 1, below
200 amps	Medium homes	most common
400 amps	Large homes	See Note 2, below
Over 400 amps	Very large homes	See Note 3, below

Note 1: If the load is less than 200 amps, the meter socket and service panel may be rated at 60 amps or 100 amps, but a 200amp rated meter and service drop will be installed.

Note 2: 400 amp services will be fed from a padmounted transformer located on the customers' property.

Note 3: Services over 400 amps are three-phase. These installations are addressed on an individual basis.

RESIDENTIAL SUBDIVISIONS

The Town of North Attleborough requires that all new residential subdivisions install underground electric facilities. Contact NAED Engineering Division to determine electric layout and obtain underground specifications.

TEMPORARY SERVICE

Temporary service is defined as electric service to a site for less than one year. The most common use of temporary service is to deliver power during the construction phase of a project. When the project is complete, the temporary service is replaced by permanent service. Temporary services are usually 120/240 volts, single-phase, 200 amperes.

The customer will pay in advance the estimated cost of installing and removing the service.

The customer will be billed monthly at the appropriate commercial service rate.

BUSINESS SERVICE

Business service is defined as electric service to a commercial or industrial site, and to a house meter of a multi-family residence such as an apartment or condominium. A customer load data sheet, indicating the service requirements for the project, an electrical one line diagram and a site plan shall be submitted to NAED for all commercial and industrial services at the earliest possible time. Data should include the size of the main disconnect, phase(s), voltages, connected KW load, phase conductor and neutral/ground conductor sizes. Contact NAED Engineering Division for any additional requirements.

VOLTAGE SENSITIVE EQUIPMENT

Customers owning computers, reproduction equipment, X-ray machines or similar devices should be aware that this type of equipment can be extremely sensitive to power system transients or loss of power. Customers should consult the manufacturer of this equipment for suitable devices to protect against damage from system disturbances.

SERVICE CONDITIONS

NAED shall not be liable for, or in any way in respect of, any interruption, abnormal voltage, discontinuance, or reversal of its service, due to causes beyond its immediate control whether accident, condition of fuel supply, the decision of any public authority, or failure to receive any electricity for which in any manner it has contracted, or due to the operation in accordance with good utility practice of any emergency load reduction program by the NAED or one with whom it has contracted for a supply of electricity, or inability for any other reason to maintain uninterrupted and continuous service.

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FLUCTUATING LOADS

Welders, X-ray equipment, pumps, compressors and other equipment having fluctuating load characteristics may require special facilities for service. Voltage dips caused by load fluctuations shall not cause undue disturbance to other customers. NAED reserves the right to withhold connection to such loads which are considered detrimental to other customers.

UNBALANCED LOADS

The customer shall take and use energy in such a manner that the load will be balanced between phases to within nominally 10%. In the event of unbalanced polyphase loads, NAED reserves the right to require the customer to make necessary changes at his expense to correct the unsatisfactory condition.

NUMBER OF SERVICES

Generally one service will be installed to a building.

CUSTOMER COST

The Engineering Division will provide information relating to the portion of the service construction cost, if any, to be paid by the customer. Customers should request this information before ordering equipment or starting construction.

SHORT CIRCUIT CURRENTS

So that architects, engineers, and contractors may select proper service equipment to meet Code requirements for short circuit ratings, the following will apply to new installations served:

Residential

Fault currents available at residential service equipment supplied at 120/240 volts from overhead or underground single phase transformers will generally be more than 5,000 amperes, but less than 10,000 amperes.

Commercial and Industrial

Available fault currents will vary with each installation. Inquiry for a particular location should be directed to NAED Engineering.

INSTALLATION OF NEW SIDING

The customer shall notify NAED before starting the installation of new siding. This notice will give NAED the opportunity to inspect the service attachment and advise the customer of any potential problems that could result. The customer should also check with the local inspection authority for additional service requirements. Removal or replacement of the meter socket or service cable are the responsibility of the customer and will require a service request number from NAED and inspection from the local authority. See page 7 for service request procedure.

ADVISORY SERVICE

NAED offers an advisory service to all customers to assist them in installations which conform to NAED requirements. However, neither by inspection, nor by the rendering of advisory service, nor in any other way, does NAED give any warranty, expressed or implied, as to the adequacy, safety, or other characteristics of any equipment, wires, appliances, or devices owned, used, or maintained by Customers.

AVAILABLE SERVICE VOLTAGES

Standard service characteristics are as follows:

1Ø - 3 wire	120/240V
1Ø - 3 wire	120/208V (from 4 wire system)
3Ø - 4 wire	120/208V
3Ø - 4 wire	277/480V

Assigning Location of Service and Metering Equipment

The locations of the service and metering equipment shall be assigned by NAED. No wiring shall be started until the location has been assigned. Contractors shall notify NAED of their intent to do work at least 72 hours in advance, to allow time to assign the location using the process outlined on the following pages. The Building Inspectors office will not issue an electrical permit for service work without an approved Service Request Number from NAED.

APPLICATION PROCESS FOR NEW SERVICE OR ALTERATION TO EXISTING SERVICE

Application must be made at the NAED Operations Center. Application should be made as far in advance as possible to assure time for engineering and construction. The process is as follows:

- 1- Applicant completes the 4-part Service Request Form (SR Form) requesting new service or a change in service. The entire SR Form is returned to Customer Service Representative (CSR).
- 2- CSR forwards the entire SR Form to the Meter Division to determine a service location.
- 3- Meter Division determines the service location and sketches the service location in the appropriate section on the SR Form. The Meter Division notifies the applicant of an approval or disapproval. The physical service location, on the building is tagged and a service bolt is left with the tag.
- 4- The Meter Division distributes the Form to-
 - White copy: Meter Dept. files
 - Yellow copy: CSR to forward to Applicant, as specified on the SR Form.
 - Pink copy: CSR to forward to Applicant, as specified on SR Form, for filing.

The SR Form is required in order to obtain an electrical permit for work to be done.

Blue copy: Engineering/Operations Division

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- 5- Applicant forwards the yellow copy to the Electrical Inspector's office to acquire an electrical permit for work to be done.
- 6- Electrical work is completed and the Electrical Inspector approves and signs the yellow copy of the SR Form. The yellow copy is returned to the Electrical Inspector's office for filing.
- 7- The approved copy of the Electrical Inspector's SR Form is faxed to the NAED Customer Service Department as authorization to connect the service.
- 8- Meter Division inspects the service for accuracy and compliance.
- 9- The Meter Division forwards the authorization to the Operations Division for service work if required.
- 10- Upon completion of any required service work, the Operations Division initials the SR Form in the appropriate place and forwards to the Meter Division for meter installation or re-seal.