

**City of East Providence
Invitation to Bid
BID # EP091002**

**Station # 1 Electrical Service and Emergency Generator
Upgrade & Replacement**

**East Providence Fire Department
Station # 1
913 Broadway
East Providence, Rhode Island 02914**

SCOPE OF WORK:

The purpose of this Bid specification is to upgrade the present 200 amp electrical service to a new 600 amp, three phase, 120/220 volt, three wire service, and the installation and connection of a new Generac Commercial Series 80 kW Standby Generator, 120/208V three Phase, natural gas fueled, aluminum enclosure complete with new properly rated transfer switch. Equipment to be installed shall be reviewed and approved at a pre-construction meeting with purchaser, by the contractor awarded the Bid. ALL WORK AND EQUIPMENT SHALL MEET ALL APPLICABLE CODES TO INCLUDE BUT NOT LIMITED TO NFPA 70 THE NATIONAL ELECTRICAL CODE.

The service shall come from NET&T Co. Pole #26 located on Orchard Street. Service will be by overhead to building and the riser shall be placed in such a way to allow for a proper drip loop at the point of attachment from the Utility pole. Service will enter the building via the Boiler room or adjoining storage room. The meter socket shall be a CT meter trim and the main breaker. These shall be located in the location required by National Grid.

The new 600 amp Main Distribution Panel shall be located on the front wall in the basement facing Broadway. The existing distribution will remain and be fed by the new Main Distribution Panel. The awarded Bidder must verify that the fault current rating of the existing panel board is suitable for the available fault current of the new 600 amp service.

PANEL BOARDS

Panel boards shall be of the bolt down type with and Available Interrupting Capacity (AIC) rating to meet the availability of the Utility. Panels shall be manufactured by Square D, General Electric, Cutler Hammer, Siemens, or equal. Each panel shall have a door within a door design and not have any openings that could allow contact with any energized parts. The buss shall be of copper with the sufficient spaces to allow for future expansion. The ampacity shall be 600 and the voltage of the panel shall be 250 volts. A ground bar of sufficient size shall be installed within the panel to accept the grounding conductors of each circuit. There shall be 10 spaces for future use left in the new 600 amp Panel board.

The breakers shall be molded case and meet the AIC rating to maintain the integrity of the panel. The breakers shall be sized as to not allow the current to exceed that of what the conductors are capable of supplying. The terminals of the panel shall be suitable to receive the copper conductors of the service.

The Main Distribution Panel (MDP) shall be placed in a location to allow for the new Automatic Transfer Switch (ATS) that will also be installed as part of this bid.

MAIN BREAKER

The main breaker for the service shall be located in the National Grid Approved location near the meter trim. This main shall be of the molded case type and be of sufficient voltage rating to meet the requirements of the service. An enclosure for this breaker shall be of the proper size too allow for factory intended installation of the breaker and be free of any opening that would allow access to energized parts. This breaker must meet the AIC rating of the service. The terminals of the breaker shall be suitable to receive the conductors for the service.

METER SOCKET

A CT meter and trim will be supplied and installed, this must be UL listed and of the type necessary to receive the watt hour meter supplied by the Utility. The trim must be supplied with a factory installed manual by-pass to allow for easy removal and non-interruption of electrical power during removal of the watt hour meter. The AIC rating of the socket must meet that which is available from the Utility. The socket must be provided with terminals properly sized so that they can receive the conductors of the service and be located in the same location as required by National Grid.

CONDUITS - EXTERIOR

All exterior conduits shall be of the heavy wall, rigid type and be the hot dipped galvanized type. The conduit shall be sized at per the most recent National Electrical Code minimum requirements for the conductors it is supporting. All supports of the conduit shall be listed for the purpose. All fittings must be listed for the purpose of being used with rigid conduit and be UL listed.

CONDUITS - INTERIOR - ELECTRICAL METALLIC TUBING (EMT)

Electrical Metallic Tubing may be used within the interior of building. It shall be installed to avoid any physical damage to the conduit. All fittings shall be set screw and of steel and listed for the purpose. The sizing of the conduit shall be based on the most current addition of the National Electrical Code. All fittings shall be UL listed. A copper grounding conductor, sized as required by code must be installed throughout the entire run of the conduit.

FLEXIBLE CONDUIT

Flexible Conduit may be used where the installation of a rigid conduit is not practicable. A copper grounding conductor, sized as required by code must be installed throughout the entire run of all conduits. All fittings must be steel and listed for the purpose. The flexible conduit shall be installed to avoid any physical damage.

CONDUCTORS

All conductors shall be copper and soft drawn type THHN, THWN or THW. The conductors for the riser and feeder portion of the service shall be 600 MCM copper. Any conductors of the size 10 GA or smaller may be solid, all others must be stranded.

GROUNDING

The grounding conductor shall be 1/0 from the main breaker to the street side of the water meter. This conductor shall be copper and installed in such a way as to avoid physical damage to it. The grounding conductor shall be secured to the water system by a listed fitting for the purpose.

A supplement ground of size #6, copper to a copper clad, 8' ground rod shall be installed in the vicinity of the main breaker. The ground conductor shall be secure to the ground rod by a connection so listed for the purpose.

STAND-BY GENERATOR

The new stand-by generator to be installed shall be a Generac Commercial Series 80 kW Emergency Standby Generator for 120/208V, three phase, and natural gas fired, with aluminum enclosure.

AUTOMATIC TRANSFER SWITCH

The new Automatic Transfer Switch (ATS) to be installed shall be UL listed. The rated Ampacity shall be 600 Amps for the voltage of 120/208 Three Phase. The max generator input shall be 600 amps. The max Utility input shall be 600 amps. The enclosure shall be rated for indoor or outdoor installation. The ATS shall be Programmable to allow for a Weekly Exerciser built in allowing automatic exercising of the emergency standby generator to be exercised for a minimum of 15 minutes every week. The ATS shall also have LED's for switching positioning showing standby and utility. The ATS shall be compatible with the emergency standby generator to be installed as part of this bid.

PRE-BID ONSITE BUILDING INSPECTION

There will be a **MANDATORY** Pre-Bid Inspection of the building to allow for all submitting bidders to inspect the locations and equipment to be replaced. Bidders that do not attend this Pre-Bid Inspection and still submit a bid for this work will be automatically disqualified.

AWARDED BIDDER REQUIREMENTS

The City Purchasing Agent must authorize the award to the winning bidder prior to the commencement of any work.

The awarded bidder shall be required after the award of the bid and prior to the commencement of any work to request a WR (work request) number from National Grid and meet with their Engineer onsite for electrical service entrance location and requirements.

Further, the awarded bidder will meet with the representatives of the City for a Pre-Construction meeting to assure that all work and equipment to be installed fully meets the requirements of this bid.

ADD ALTERNATE BIDS:

Electrical Distribution and Sub-Panels to be replaced

There will be additional electrical panels in the building to be listed in the bidder's submittal that will be identified at the Pre-Bid Inspection. All bidders will submit in their bid proposals a per panel cost for each of the identified panels to be replaced with new electrical panels and equipment identified within this bid specification. This is an Alternate bid and will be evaluated for feasibility based upon funding available for this work to be done. The inclusion of this additional work will be decided upon after all work has been completed for the main work in the scope of this bid. The City has the sole option not to include this work in the awarded bid should available funding not be available.