

**REQUEST FOR  
PROPOSALS**

**FOR**

**BWSSM--02202020**

**PREVENTATIVE  
MAINTENANCE OF  
ELECTRICAL SUB-STATION  
DISTRIBUTION EQUIPMENT**

**AT**

**SOUTH JERSEY PORT CORPORATION  
BROADWAY TERMINAL  
2500  
BROADWAY  
CAMDEN, NJ  
08101**

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**ADVERTISEMENT FOR BIDS**

**SouthJerseyPort.com**

**BWSSM - 02202020**

**PREVENTATIVE MAINTENANCE OF ELECTRICAL DISTRIBUTION  
EQUIPMENT AT BROADWAY TERMINIAL OF  
THE SOUTH JERSEY PORT CORPORATION**

Notice is hereby given that sealed bids will be received by the South Jersey Port Corporation for Preventative Maintenance of Electrical Distribution Equipment at the Broadway Terminal, Camden, NJ.

The project consists of preventative maintenance on one (1) line-up of 34.5 kv switchgear, two (2) step-down 5000 kVA pad-mounted transformers and two (2) sections of 5kv switchgear.

Sealed bids will be received, opened and read aloud in public at the Board Room of the South Jersey Port Corporation, Broadway Terminal, 2500 Broadway, Camden, NJ 08101 on **February 20<sup>th</sup>, 2020 @ 2:00 PM Local Time.**

**A Mandatory Pre-Bid Conference** will be held in the Board Room of the South Jersey Port Corporation, Broadway Terminal, 2500 Broadway, Camden, NJ 08101 on **February 6<sup>th</sup>, 2020 @ 10:00 AM Local Time.**

The South Jersey Port Corporation reserves the right to reject any or all bids received either in whole or in part, and to waive any informality within the bid, or the bids so received.

## INFORMATION FOR BIDDERS

### PREVENTATIVE MAINTENANCE OF ELECTRICAL DISTRIBUTION EQUIPMENT AT BROADWAY TERMINAL of SOUTH JERSEY PORT CORPORATION

#### PERFORMANCE BOND

The Form of Bid Security shall be a Performance Bond “only” in the amount of 10% of the total bid price not to exceed \$20,000. Each bid shall also be accompanied by a letter of intent from the Bidder's Bonding Company confirming that, if the Bidder is awarded the Contract, the Bonding Company will furnish the required Performance Bond to the Bidder for the Project.

Each Surety submitted with the bid must be with a company that is rated at least A- or better with AM Best and proof of same must accompany the bid.

The award shall be subject to securing any necessary permits governing the work.

#### EXAMINATION AND RESPONSIBILITY

Bidders must visit the site and become thoroughly aware of the conditions under which the work will be performed. In addition to individual Bidder's visits, there will be a Bidder's Meeting, see Page A-1. Questions raised by Bidders at the time of the site visit, or at any other time during the bidding, will only be officially answered by the issuance of Addenda to all bidders. Only such Addenda will be considered part of the Contract Documents.

Bidders must carefully examine, for themselves, the plans, detailed drawings, estimated quantities and the location of the proposed work. They shall exercise their own judgement as to the full scope and nature of the work, the difficulties to be encountered and the accuracy of estimated quantities, when given. Each Bidder will be held fully responsible for having complied with, and thoroughly understood the Contract Documents prior to submitting their bid; and shall not at any time thereafter complain of such estimates, nor assert that there was any misunderstanding in regard to the nature or amount of work to be done.

#### QUALIFICATIONS OF BIDDERS

The Owner may make such investigation, as is deemed necessary, to determine the ability of

the Bidder to perform the work; and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or the investigation of such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Contract, and to complete the work therein contemplated. Conditional bids will not be accepted. See also paragraphs in these documents relating to subcontract work.

#### SUBMISSION OF BIDS

Bids must be submitted at the specified time due in sealed envelopes bearing the name and address of the Bidder on the outside, and also bearing, on the outside, reference to work bid upon. Any bid may be submitted or withdrawn prior to the scheduled time for the opening of bids, or the authorized postponement thereof. Any bid received after the time and date specified in the Advertisement for Bids or Addenda will not be considered. No Bid may be withdrawn within sixty (60) days after the actual date of the opening thereof.

#### REJECTION OF BIDS

The Owner reserves the right to reject any or all Bids received. The Owner also reserves the right to receive any and all Bids in whatsoever form they may be, and to waive any informalities in said Bids; or to award the work to whichever Bidder or Bidders it may be considered advantageous so to do, regardless of Bid prices.

#### SUBCONTRACT WORK

The Bidder shall submit with their Bid a description of Contract Work they will not be performing with their organization, if any.

#### OBLIGATIONS OF BIDDERS

At the time of the opening of Bids, each Bidder will be presumed to have inspected the site, and to have read, and to be thoroughly familiar with the Plans and Contract Documents, including all Addenda. The failure or omission of any Bidder to receive or examine any form, instrument, or document, shall in no way relieve any Bidder from any obligations in respect to their bid.

#### CONDITION OF WORK

Each Bidder must inform themselves fully of the conditions relative to the construction under which the work will be performed. Failure to do so will not relieve a successful Bidder of their obligation to furnish all material and labor necessary to carry out the provisions of the Contract Documents, and to complete the contemplated work for the construction set forth in their Bid.

#### PROJECT SCHEDULE

At, or prior, to, Contract Award, the Contractor will submit to the Engineer, for approval, a complete schedule for the performance of the contract, incorporating all conditions of the contract, and separating the various segments of work.

## LIQUIDATED DAMAGES

In case the Contractor fails to complete the work contracted for, in a manner satisfactory to and acceptable to the Owner, within the stipulated time limit, then the Contractor shall and will pay to the Owner for each and every day that they, the Contractor, shall be in default, the sum of Two Thousand Dollars (\$2,000.00) or the sum equal to 1/20 of one percent (1%) of the total consideration provided for under the contract, whichever sum is the greater, which sum per day is agreed upon, fixed and determined by the parties hereto to be liquidated damages, not a penalty.

The Owner shall recover said damages by deducting the amount thereof out of any monies which may be due or become due the Contractor, or by an action of law against the Contractor or their surety, or by either or both of these methods.

In case the Contractor shall be delayed due to the failure on the part of the Owner to furnish anything on its part to be furnished, or of any other cause beyond the control of the Contractor, they shall be entitled to such an extension of time for the delivery of equipment, materials, work and supplies as is the judgment of the Owner shall be fair and just.

### 1.0 GENERAL

#### 1.1 SCOPE OF WORK

- A. Three (3) major items of electrical equipment presently in service at The South Jersey Port Corporation (SJPC) Broadway Terminal, 2500 Broadway, Camden NJ 08101 and installed in 2001 require preventive maintenance in order to continue in reliable service.

The specific equipment is listed as:

1. One (1) line-up of 34.5kv switchgear which comprises a feed-through of the Gloucester-to-Camden 26kv circuit by the electrical utility Public Service Electric and Gas Company (PSE&G) and which also serves as the primary service to the South Jersey Port Broadway Terminal.
2. Two (2) step-down 5000 kVA pad-mounted transformers rated 26.4kv to 4160Y/2400 volts which supply power to the Broadway Terminal's 5kv distribution switchgear.
3. Two (2) sections of 5kv switchgear connected by a source transfer-controlled tie and consisting of eleven (11) bays of 600-amp fused

interrupter switches together with two (2) 1200-amp incoming line and (1) one 1200-amp tie switches.

- B. The subject equipment is located within a secure fenced-in area, known as the main switchyard, at the Broadway Terminal. Access to the switchyard is available from the SJPC Facilities Engineer.
- C. It is critical that the PSE&G feed-through line be available and therefore any shut-down for maintenance purposes must be coordinated with PSE&G and preferably not exceeding eight (8) hours in duration.
- D. It is also important that the SJPC Broadway Terminal be continually supplied with power as much as possible. Some flexibility for this is built into the 4160-volt electrical distribution system by means of the source transfer tie whereby each of the two (2) sections of 5kv switchgear can be separately powered from either of the two (2) transformers.
- E. Maintenance procedures and recommendations are available from the equipment manufacturers. Manufacturer's drawings for all the equipment involved in this preventive maintenance program are available and selected excerpts are included in the REFERENCES section of these specifications.
- F. Spare parts and replacement materials that are required to complete the preventive maintenance program are recommended by the manufacturer of the equipment and can be obtained from the representatives of the respective manufacturers.
- G. Manufacturer's Representatives as follows:
  - 1. S & C Electric Company  
Christopher Young  
9 Roosevelt Way  
Robbinsville, NJ 08691  
609-490-1667 (office)  
609-490-1668 (fax)
  - 2. Cooper Power Systems  
Systems Control Associates, Inc.  
1133 N. Providence Road  
Media, PA 19063  
610-565-2077
- H. It is anticipated that the work be performed when ambient temperatures are seasonally lower. Several of SJPC facilities consist of large refrigerated warehouses that cannot accept long periods without power

when outside temperatures are above freezing.

- I. The work schedule is anticipated to be a “Week End” requirement.
- J. Scheduling of work requiring a power shutdown must be coordinated as much in advance as possible with SJPC. In the cases where work is to be done on the 35-kV systems, both SJPC and PSE&G must be notified in advance of planned power shutdowns.
- K. **The successful award will also include and require the “On-Call” Services of a High Voltage Electrical Contractor (>480 VAC) under a separate and supplied Time and Material rate schedule to be included with the Bid.**

## 1.2 CODES AND STANDARDS

- A. NFPA 70B Recommended Practice for Electrical Equipment Maintenance
- B. Manufacturer’s published maintenance recommendations for their equipment

## 1.3 ACCESS TO THE BROADWAY TERMINAL

- A. Access to the Broadway Terminal is granted by means of a guarded gateway and requires certain ID as a United States citizen. Unsupervised access is allowed only by means of a Transport Workers Identification Card (TWIC).

## 2.0 EQUIPMENT

### 2.1 35-kV OUTDOOR METAL ENCLOSED SWITCHGEAR

- A. Perform complete maintenance service inside and out on an existing, installation of outdoor 35-kV metal-enclosed switchgear owned by SJPC and which is presently active and connected to a 26.4-kV distribution network operated by PSE&G.
- B. This equipment is manufactured by S&C Electric Company under the catalog number CDA-768103 and was installed in 2001.
- C. The switchgear is free standing and installed outdoors on a concrete pad within a fenced-in area. All cabling into and out of the switchgear is underground.
- D. Control and monitoring of the interrupter switch positions is accomplished by means of protective relaying which are remotely operated by PSE&G.

1. Power to operate the relays is derived from a battery/charger system within the switchgear and supplied with charging power from SJPC Broadway Terminal facilities.
- F. A one-line diagram of the switchgear installation is included in the REFERENCE section of these specifications.
1. The 35-kV installation consists of a total of twelve (12) bays.
  2. Two (2) 1200-amp, 34.5-kV interrupter switches as service disconnects with protective relaying and battery/chargers.
  3. Two (2) grounding switch/lightning arrester bays.
  4. Two (2) 1200-amp, 34.5-kV SF<sup>6</sup> vacuum circuit breaker bays.
  5. Two (2) 1200-amp 34.5-kV, 3-pole, fused, power-operated line-out interrupter switches.
  6. Two (2) manually operated non-fused 1200-amp tie switches.
  7. Two (2) PT/CT and protective relaying bays.
  8. One (1) PSE&G revenue-metering cabinet.
  9. Complete installation drawings are stored within Bays 11 or 12.

### 3.1 5000-kVA PAD-MOUNTED TRANSFORMERS

- 3.1.1 Perform all preventive maintenance as listed below on two (2) existing in-service, oil-filled, pad-mounted transformers owned by SJPC each rated 5000-kVA, 26,400 volts delta primary – 4160Y/2400 volts secondary, with 6.49%Z.
- 3.1.2 Both transformers are manufactured by Cooper Power Systems, Waukesha, WI under Catalog No. 0008ZA68K05A.
  1. Unit #1 is S/N CP0126000300 and Unit #2 is S/N CP0126000301
- 3.1.3 Both transformers shipped on 3/16/2001 and were installed shortly after.
- 3.1.4 Nameplate, layout drawings, and factory test reports are included in the REFERENCE section of these specifications.

### 3.2 5-kV OUTDOOR METAL ENCLOSED SWITCHGEAR



- 3.2.1 Perform complete maintenance service inside and out on an existing, installation of outdoor 5-kV metal-enclosed switchgear configured as a double-ended distribution center presently active and connected to a pair of 5000 kVA 26.4-kV – 4160Y/2400V transformers.
- 3.2.2 This equipment is manufactured by S&C Electric Company under the Catalog Number CDA-769130 and was installed in 2001.
- 3.2.3 The switchgear is free standing installed outdoors on a concrete pad within a fenced-in area. All cabling into and out of the switchgear is underground.
- 3.2.4 This equipment consists of two (2) sections of 600-amp fused interrupter switch bays (a North section of six (6) bays and a South section of five (5) bays) connected by a 1200-amp non-fused motor-operated tie switch and two (2) 1200-amp non-fused motor-operated incoming line switches for a total of fourteen (14) switching bays.
- 3.2.5 A source transfer control circuitry prevents source paralleling and allows either source to provide power to the switchgear.
- 3.2.6 A One-Line Diagram of the 5-kV Switchgear is included in the REFERENCES section.

#### 4.0 MAINTENANCE PROCEDURES, DETAILS ETC.

- 4.1 The following maintenance requirements are not intended as limiting the recommendations of the manufacturer or of NFPA70B but are to aid in defining the work to be done for purposes of submitting bids for the project.

#### 4.2 35-kV Outdoor Metal Enclosed Switchgear [All Work While De-Energized]

**Special Note:** *PSE&G may require their representative to be present for certain maintenance operations; therefore, pre-op coordination with PSE&G is required to verify when this will be necessary.*

- 4.2.1.1 Schedule shutdowns by agreement with PSE&G and SJPC
- 4.2.1.2 Observe all pre-requisite grounding procedures before work
- 4.2.1.3 Check ventilation louvers and clean or replace air filters
- 4.2.1.4 Check cabinet interior for evidence of water leaks and reseal as required
- 4.2.1.5 Check bus splices and bolts for tightness
- 4.2.1.6 Inspect insulators and materials for surface tracking
- 4.2.1.7 Check condition and operation of space heaters

- 4.2.1.8 Check switch mechanism, blades and contacts for arcing, condition, alignment, etc.; lubricate moving parts.
- 4.2.1.9 Check power operators for functionality with respective relays
- 4.2.1.10 Clean and inspect cable terminations for tightness, surface tracking.
- 4.2.1.11 Inspect grounding connections and check bolts for tightness
- 4.2.1.12 Replace batteries and inspect and test chargers
- 4.2.1.13 Check fuses and fuse clips
- 4.2.1.14 Test buses, PTs, CTs, and cables with high-potential dc
- 4.2.1.15 Test wiring for controls, meters, and protective relaying with meg-ohmmeter
- 4.2.1.16 Inspect cabinet surface for rust, scratches, dents; restore, repaint as required
- 4.2.1.17 Check proper operation of cabinet door locks, kirk interlocks and lubricate where necessary

#### 4.2.2 5000-kVA Pad-Mounted Transformers

[Work While Unit Is Energized]

- 4.2.2.1 Read and note oil pressure, level, and temperature
  - 4.2.2.2 Check for evidence of oil leaks
  - 4.2.2.3 Visually inspect outside of unit for rust, dents, scratches or other damage
  - 4.2.2.4 Open drain valve and take an oil sample for lab analysis
  - 4.2.2.5 Record position of tap changer
- [Work While Unit Is De-Energized]
- 4.2.2.6 Observe all pre-requisite grounding procedures before work
  - 4.2.2.7 Inspect tank pressure relief device. Pressure test tank to check for leaks.
  - 4.2.2.8 Check ground system connections
  - 4.2.2.9 Check cable connections and tightness of termination bolts
  - 4.2.2.10 Perform turns ratio and power factor tests
  - 4.2.2.11 Perform turn-to-turn and phase-to-phase insulation test
  - 4.2.2.12 Check bushings for evidence of tracking
  - 4.2.2.13 Remove hand hole cover and lower liquid level for inspection of bushings
  - 4.2.2.14 Inspect load tap changer and mechanism
  - 4.2.2.15 Inspect bushings and internal connections
  - 4.2.2.16 Replace insulating liquid to proper level per manufacturer's instructions
  - 4.2.2.17 Replace and re-seal hand hole
  - 4.2.2.18 Paint tank as required
  - 4.2.2.19 5-kV Outdoor Metal Enclosed Switchgear [All Work While De-Energized]
  - 4.2.2.20 Schedule shutdowns by agreement with SJPC
  - 4.2.2.21 Observe all pre-requisite grounding procedures before work

- 4.2.2.22 Check ventilation louvers and clean or replace air filters
- 4.2.2.23 Check cabinet interior for evidence of water leaks and reseal as required
- 4.2.2.24 Check bus splices and bolts for tightness
- 4.2.2.25 Inspect insulators and materials for surface tracking
- 4.2.2.26 Check condition and operation of space heaters
- 4.2.2.27 Check switch mechanism, blades and contacts for arcing, condition, alignment, etc.; lubricate moving parts
- 4.2.2.28 Check power operators for functionality
- 4.2.2.29 Clean and inspect cable terminations for tightness, surface tracking.
- 4.2.2.30 Inspect grounding connections and check bolts for tightness
- 4.2.2.31 Check fuses and fuse clips
- 4.2.2.33 Test buses, PTs, CTs, and cables with high-potential dc
- 4.2.2.34 Test wiring for controls, meters, and with meg-ohmmeter
- 4.2.2.35 Verify condition and operation of Satec metering
- 4.2.2.36 Inspect cabinet surface for rust, scratches, dents; restore, repaint as required
- 4.2.2.37 Check proper operation of cabinet door locks, kirk interlocks and lubricate where necessary.

## 5.0 REFERENCES

- 5.1 One-Line Diagram of the SJPC Broadway Terminal Facility Main Switchyard
- 5.2 S&C One-Line Drawing of 35-kV Switchgear
- 5.3 Nameplate and Layout Drawings for 5000-kVA Transformers
- 5.4 Test Reports for 5000-kVA Transformers

BID FORM

FOR

PREVENTATIVE MAINTENANCE OF ELECTRICAL DISTRIBUTION  
EQUIPMENT AT  
BROADWAY TERMINAL  
SOUTH JERSEY PORT CORPORATION

Having carefully examined the Drawings and Specifications, and any and all Addenda to the same, and having visited the site and examined all conditions affecting the work, the undersigned hereby offers to furnish all plant, labor, materials, supplies, equipment, other facilities and services necessary or proper for, or incidental to providing preventative maintenance services of electrical distribution equipment at Broadway Terminal, South Jersey Port Corporation based on the following Quantity Estimates, Lump Sums, and Unit Prices submitted, under each category of work.

It is understood and agreed that any incidental work necessary to complete the Project in its entirety will be included in the line items, unit prices and lump sums bid, whether or not the line item or items shall specifically state the nature of the incidental work. The line item or items into which the incidental work, and the incidental costs, are included shall be selected by the Bidder. It is also understood and agreed that each line item of work in the Proposal shall include all superintendency costs, markups, and other costs envisioned by the Bidder. In other words, all line item costs bid shall be "all-inclusive". Therefore, the unit prices to be entered on the Bid Form are obtained by dividing the total cost bid to complete the line item by the quantity shown on the form. The bid shall be determined by adding all line item costs for all Bid Items under the Base Bid. This grand total Base Bid Price shall constitute the Base Bid Cost of the Project.

Negotiations for the adjustment of the unit price of any item will be completed only when that item and other work or items affecting its quantity have been completed and the total net

change in the quantity of such item can be ascertained with sufficient accuracy to determine if it be eligible for consideration in accordance with the foregoing provisions.

The bidder must also furnish a price for all Optional Bids or Alternates requested, as well as all separate unit price items requested. Failure to do so will constitute an incomplete bid, which will be rejected by the South Jersey Port Corporation.

Receipt of the following Addenda is acknowledged.

ADDENDUM NO. \_\_\_\_\_ DATED \_\_\_\_\_

ADDENDUM NO. \_\_\_\_\_ DATED \_\_\_\_\_

ADDENDUM NO. \_\_\_\_\_ DATED \_\_\_\_\_

If no addenda are received, indicate by writing or typing the work “NONE” in the space for the first addenda.



SCHEDULE OF BID PRICES FOR PREVENTATIVE MAINTENANCE OF ELECTRICAL DISTRIBUTION EQUIPMENT

AT BROADWAY TERMINAL, CAMDEN, NJ

BID ITEM NO.	APPROX. QUANTITIES	LINE ITEM DESCRIPTION	FOOTNOTES	UNIT BID PRICE WRITTEN DOLLARS	BID PRICE	
					DOLLARS	CENTS
1	1	Maintenance of Outdoor Electrical Equipment		Lump Sum		
2	1	Time and Material Rate Schedule		Time and Material Rate Schedule		
TOTAL BID WRITTEN DOLLARS:						

FOOTNOTES:

(Seal)