

**New Jersey Department of Transportation
QUALITY IMPROVEMENT ADVISORY**

QIA No.: 044

CAPITAL PROGRAM SUPPORT

Director: Lynn Rich

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Approved: Lynn Rich
Date: February 23, 2007

Subject: Specification - JCP&L Electric Facility Relocation

Process Affected:

Scope Design Right of Way Utilities Environmental Historic Construction

Bureaus Affected:

Program Support Services (Quality Assurance)

Procedure(s) Affected:

Design Submission-Preparation of Special Provisions

Nature of Issue(s):

The Jersey Central Power and Light (JCP&L) Company has instructed the Department that it will no longer let the contracts to relocate its facilities; instead, it will authorize the Department to perform such works through the NJDOT Construction contracts.

In order to implement this policy, the Designers are hereby directed to add the following Specifications to Section 622 (2001 Standard Specifications) while preparing Special Provisions for the project requiring work to be done on the JCP&L electric facilities.

The designers are further directed to implement this requirement immediately and until further notice.

Recommendation(s):

The following is added to Section 622.

Description.

This Provision describes the requirements for the installation, relocation and removal of Jersey Central Power and Light (JCP&L) electric utility facilities including conduits, manholes, transformer vaults, handholes, and appurtenances and shall include all work necessary to transfer services.

Materials.

Except as noted below, JCP&L will supply all materials necessary for the work at no cost to the Contractor. The Contractor must provide JCP&L written notice 30 days in advance of when materials will be required. The electric subcontractor must take delivery of the materials from JCP&L's storage facility within two weeks of the notice from JCP&L that the material is available. If the electric subcontractor fails to take delivery, the material may not be available, and the Contractor may be required to provide an additional request for materials. Additionally, the Contractor may be required to compensate the Department for any additional handling costs incurred by JCP&L for failure to take delivery within the time required.

The electric subcontractor is responsible for loading the material, delivering it to the job site, and all subsequent handling and delivery within the jobsite. The Contractor shall be responsible for the adequate storage and protection of all materials received from JCP&L. All excess materials furnished by JCP&L shall be returned and delivered to JCP&L's storage facility. The Contractor shall obtain a receipt for all material received, maintain a documented inventory of materials used and obtain a receipt for all material returned.

The Contractor supplied materials:

1. Tack Coat which shall conform to Subsection 904.03
2. HMA which shall conform to Section 903

3. Portland Cement Concrete – which shall conform to Section 914
4. Controlled Low Strength Material (CLSM) which shall conform to Subsection 919.22

Construction.

General. The work of constructing and relocating JCP&L electric facilities may only be performed by an electric subcontractor approved by JCP&L. The following is a list of electric subcontractors that have been previously approved by JCP&L. This list is provided as information only, and shall not be considered an endorsement by the Department of any subcontractor. The Contractor is responsible for soliciting from a subcontractor that will be approved by JCP&L when preparing their Bid. Work restricted to the electric subcontractor shall not preclude the Contractor from performing the work of layout, traffic control, sawcutting, pavement removal, temporary or final pavement restoration, and landscape restoration associated with the work of installing or relocating JCP&L electrical facilities.

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Att: Charles Gravina - Mgr. Electric Operations
email: cgravina@hawkeyellc.com

Henkels & McCoy, Inc.
985 Jolly Road
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Tel: 215-283-7707
Fax: 215-283-7573
Att: Alan L. Lippy - Director, Power Operations East
email: alippy@henkels.com

JBL Electric Inc.
250 Lackawanna Ave
West Paterson, NJ 07424
Tel: 973-774-4218
Att: Jim Leary - President
email: jleary@jblelectric.com

MYR (Harlan & The L.E. Myers Company)
1416 Trindle Road 3-A
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Att: Jim Collins
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M.J. Electric, Inc.
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Att: Mike Troutman
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Asplundh
161 Second Street
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Fax: 570-822-0770

Attn: Vincent Stanbro
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Tri-M Corp
PO Box 69
204 Gale Lane
Kennett Square, PA 19348
Tel: 610-444-1001 ext 159
Fax: 484-731-0209
Attn: Ron Baugess
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Approved for underground work only:

J. Fletcher Creamer & Son, Inc.
1701 E. Linden Avenue
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Att: Ted Paliwoda
email: tpaliwoda@jfcson.com

Scheduling of Work and Interruption to Utilities. The electric subcontractor shall provide the Engineer and the designated JCP&L representative with a detailed schedule of the electric utility work. The schedule of electric utility work shall include the number of crews, work locations and time of day (such as night shift, day shift, and weekends). The electric subcontractor shall coordinate all work with the JCP&L representative, and shall notify the Engineer and the JCP&L representative at least two weeks prior to starting electric utility work. The Contractor shall not interrupt existing facilities until approved by the JCP&L representative.

Weather conditions may significantly delay or prevent connections to existing systems between June 1 and September 30. The electric subcontractor may not perform work, which will require electric transmission service interruptions from June 1 through September 30 without the approval of JCP&L. This period may be extended based on weather conditions and system demand requirements as determined by JCP&L. The electric subcontractor shall notify JCP&L at least one month in advance prior to commencing conductor work.

If service transfers are required, the electric subcontractor shall coordinate service transfers with the JCP&L representative. The electric subcontractor shall notify the property owner and all tenants affected by service interruptions or transfers. This work shall be performed to minimize the disruption of the normal operations of the existing facility and minimize the down time to the existing facility. The electric subcontractor shall protect existing facilities during construction and installation of the service transfer.

Quality Control and Quality Assurance. The Contractor shall at all times, provide access to the work by the JCP&L representative. The electric subcontractor shall perform all work in a manner acceptable to the JCP&L representative. The electric subcontractor shall perform all electric utility work in accordance with JCP&L standards and details.

Safety. The electric subcontractor shall perform work in accordance with applicable OSHA regulations, N.J.S.A. 34:6-47 "High Voltage Proximity Act", and JCP&L safety standards.

Abandonment and Removal. Prior to beginning any work, the electric subcontractor shall review condition of all existing electric utility facilities noted to be removed with the JCP&L representative. If the JCP&L representative designates the material to be salvaged, remove the material and deliver it to a JCP&L storage facility. The electric subcontractor shall remove and dispose of all other electrical utility material designated for removal unless otherwise noted on the plans.

Excavation. When excavation is required in areas of existing pavement and sidewalk, the Contractor shall sawcut full depth existing pavement and sidewalk. The Contractor shall excavate trenches for conduit, manholes and vaults and appurtenances. Any unstable material at the bottom of the excavation shall be removed and backfilled with granular material. Do not excavate trenches more than 300 feet (90 meters) in advance of installing conduit unless approved by the Engineer. The Contractor shall provide and maintain trench crossings where necessary to maintain access. The Contractor shall not leave trenches open overnight unless protected by temporary fencing or by steel plates.

Existing Utilities. The Contractor shall determine the location of all surface and subsurface structures within the work area, including but not limited to underground electric, telecommunication, gas, and sewer facilities. The Contractor shall protect and support all existing utilities exposed during excavation operations.

Backfill. The electric subcontractor shall backfill with suitable material in lifts not exceeding 6 inches (150 mm) thick, loose measurement. If the backfill is predominantly granular material, the electric subcontractor shall compact the backfill material with a vibratory plate compactor. For other suitable material, the subcontractor shall compact the backfill material with a vibratory rammer compactor. If adequate compaction of backfilled material is not possible, the Contractor may be required to backfill with CLSM with the approval of the JCP&L representative.

CLSM may only be placed when the ambient temperature is at least 30 F (0°C). CLSM may not be placed on frozen ground. The electric subcontractor shall ensure that CLSM is discharged directly from the truck into the trench, and allowed to cure after placement. CLSM may not be used to replace pavement, base courses or drainage layers in the roadway. Excess or unsuitable material shall be removed and disposed as per Subsection 202.12.

Restoration. The Contractor shall restore any areas disturbed in the performance of electrical utility relocations to its original condition. The Contractor shall provide temporary restoration to the satisfaction of the Engineer where final grading, pavement, or landscaping is otherwise already provided in the plans in these areas. If open cut trenching across a road is required, the Contractor shall restore the pavement in-kind with existing pavement.

Field Testing. The electric subcontractor shall perform a high-potential test (also known as a dielectric voltage withstand test) on all cables and splices prior to energizing. Testing must be performed by a person who is qualified to operate the test equipment, and is familiar with the cable system. The electric subcontractor must ensure that the cables are disconnected from non-cable systems equipment, and that adequate physical clearances are maintained between all cable ends, energized cables, and electrical grounds and all other equipment are maintained during the test. Prior to performing the test, the electric subcontractor shall verify that all taps or laterals in the circuit are cleared. In the event hot poured compound filled splices and terminations are involved, testing should not be performed until they have cooled to ambient temperature. The relays in the high voltage direct current test equipment shall be set to operate between 5 and 25 milliamperes leakage. The shape of the leakage curve under constant voltage is more important than the absolute leakage current of a “go or no go” withstand test result. The field test voltage is related to the final factory applied dc potentials using a factor of 80 percent.

The high potential test must be performed in the presence of the JCP&L representative. The electric subcontractor shall apply a direct current field test voltage according to the following table:

Field Test Values				
Rated Voltage Phase to Phase	dc Hi-Pot Test		dc Hi-Pot Test	
	(15 Minutes)			
	Wall - mils	Kv	Wall - mils	kV
5000	90	25	115	35
8000	115	35	140	45
15000	175	55	220	65
25000	260	80	320	95
28000	280	85	345	100
35000	345	100	420	125
46000	445	130	580	170
69000	650	195	650	195

Note: If the leakage current quickly stabilizes, the duration may be reduced to 10 minutes.

After the voltage has been applied and the test level reached, the electric subcontractor shall record leakage current at one-minute intervals. If the leakage current decreases or stays steady after it has leveled off, the cable is considered satisfactory. If the leakage current starts to increase, excluding momentary spurts due to supply-circuit disturbances, the test may be extended to see if the rising trend continues. At the conclusion of the test, the electric subcontractor shall discharge the circuit through the test set and voltmeter circuit. After the potential drops below 95% of the test value, the electric subcontractor shall ground the cable and discharge the circuit. The grounds shall be left on all conductors for a minimum of four times as long as the test voltage was applied.

If the cable fails to meet the requirements of the direct current field test, the electric subcontractor shall remove

and replace the cable. The Contractor shall be responsible to reimburse the Department for any additional material costs incurred by the Department.

Energizing Lines. Energizing lines will be performed by the electric subcontractor with the guidance of the JCP&L representative. Prior to energizing any lines, the electric subcontractor must submit a request to JCP&L. Switching orders may only originate from JCP&L employees. The Contractor must submit a request for permission to energize transmission lines 10 days in advance of when the work will be performed. The Contractor must request permission to energize distribution lines in a manner that will permit the JCP&L representative to submit a request to JCP&L's Dispatch Office by noon the previous business day.

Asbuilts. Upon completion of the work, the electric subcontractor shall submit to JCP&L as-built drawings in accordance with JCP&L standards. Prints of construction drawings marked to show the final location are acceptable. The electric subcontractor shall provide a copy of the as-built drawings to the Engineer.

Method of Measurement.

ELECTRICAL UTILITY RELOCATION, JCP&L will not be measured, and payment will be made on a lump sum basis.

Basis of Payment.

Payment will be made under:

Pay Item
Electrical Utility RELOCATION, JCP&L

Pay Unit
LS

Revision to Standard Input regarding Clearing Site requirement is as follows:

201.03 Clearing Site.

THE FOLLOWING IS ADDED:

If JCP&L related utility work is to be performed, add the following:

All trees or branches within 15 feet of the end of JCP&L pole cross arms shall be removed.

Impact Assessment:

Schedule Quality Cost Scope

Cost Impact:

None

Implementation: Immediate