

ATTACHMENT J04

Fort Lee Electrical Distribution System

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J04Fort Lee Electrical Distribution System

J04.1 Fort Lee Overview

Fort Lee is a U.S. Army Installation located just three miles from the City of Petersburg in Virginia, just off Interstate 95. Named in honor of General Robert E. Lee, the Installation was started in July 1917. At that time it was named Camp Lee and was used as a mobilization and division training center. It was closed after World War I, but reopened in 1940 and the U.S. Army Quartermaster Center began quartermaster training operations there in 1941. In 1950, the Post was given permanent status and official recognition and designated Fort Lee. Later, Fort Lee was named US Army Combined Arms Support Command & Ft Lee (USACASCOM & FL.)

The installation serves a population of 3019 active duty 4482 family members; 145 Reserve; 5837 civilians. The installation housing consists of 348 officer family units; 972 enlisted family units; 44 unaccompanied officer units; 7 unaccompanied enlisted units. The Temporary lodging consists of 18 distinguished visitors units; 506 visiting officer units; 328 visiting enlisted units; 47 guest house units.

USACASCOM & FL is a Major Subordinate Command of TRADOC. CASCOM provides proponentcy for 40 percent of the Army force structure through command and control of all Combat Service Support (CSS) branch schools.

Ft Lee trains all Quartermaster students and serves as Army, Reserve and Joint Service Trainer for other logistic training. Ft Lee has two primary mission elements; the Quartermaster Center and School and the Army Logistics Management College. Together they have an average load of 2,342 students and graduate over 22,192 soldiers and civilians a year.

The consolidation of CSS Training Developments and Combat Development within CASCOM makes Fort Lee not only the Center for Army Logistics, but also the focal point for all future logistics initiatives.

Major tenants include:

- Readiness Group Lee
- Army Information Systems Software Center Lee
- Defense Commissary Agency
- 49th Quartermaster Group
- Gerow Army Reserve Center

J04.2 Electrical Distribution System Description

J04.2.1 Electrical Distribution System Fixed Equipment Inventory

The Fort Lee electric distribution system consists of all appurtenance physically connected to the distribution system from the point in which the distribution system enters the Installation and/or Government ownership currently, starts to the point of demarcation defined by the real estate instruments. Generally, the point of demarcation will be the building footprint. The system may include, but is not limited to, substations, transformers, underground and overhead circuits, utility poles, switches, vaults, and lighting fixtures. The following description and inventory is included to provide the Offeror with a general understanding of the size and configuration of the distribution system. The inventory is assumed to be approximately 90 percent complete. The Offeror shall base the proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description. Under no circumstances shall the successful Contractor be entitled to any rate adjustments based on the accuracy of the following description and inventory.

J04.2.1.1 Description

Fort Lee currently purchases its electric power requirements from Virginia Power under its Schedule MS Alternate Federal Government Installations, service rates. The Post takes delivery of electric power at 13.2 kV from Virginia Power from two primary voltage delivery points that are located near the northeast corner of the Installation. This rate schedule is available to Federal Government installations with annual, monthly average metered demand of 1,500 kW or more. The golf course area along A Avenue is supplied power by Prince George Electric Cooperative (the Cooperative).

The electric distribution system at Fort Lee is presently operated and maintained by civilian personnel employed by the Army.

Fort Lee owns and operates an electrical utility system consisting of:

- One 13.2 kV distribution switch station
- Approximately 29 circuit-miles of overhead primary distribution lines
- Approximately 63 circuit-miles of underground primary and secondary distribution lines
- 762 pad and pole mounted transformers with an aggregate capacity of 65,719 kVA
- 550 building services
- 1,068 street lights

The switching station provides voltage regulation, control and over-current protection for eight Government-owned 13.2 kV overhead distribution feeders. The majority of the distribution circuits are configured with loop tie switches to neighboring circuits.

The inventoried system is sourced from the Virginia Power delivery point. This is the distribution system that is the focus of this privatization study. The Installation also is served by Prince George Electric Cooperative which provides power to the golf course area located along A Avenue. The Cooperative provides service at secondary voltage and as such there are only very minimal requirements for Government O&M support for the area's exterior electric distribution facilities. The area is also physically separated from the Main Post distribution system. For these reasons, the area is excluded from this privatization study and the related facilities are not included in the system inventory.

The system upgrade generally involved the demolition of overhead distribution facilities and their replacement with an underground system installed in concrete duct banks. Included was the removal of 154 pole mounted and 18 PCB contaminated transformers and the installation of 63 pad mounted transformers and 30 Pad Mounted Sectionalized Switches. Sufficient detailed information was not made available on the individual components of the upgrade to readily enable an update of the inventoried quantities. The implications of the upgrade were instead reflected on an aggregate basis reflected in the inventory.

J04.2.1.2 Inventory

Table 1 provides a general listing of the major electrical system fixed assets for the Fort Lee electrical distribution system included in the purchase. The system will be sold in an "as is, where is" condition without any warrant, representation, or obligation on the part of the Government to make any alterations, repairs, or improvements. All ancillary equipment attached to and necessary for operating the system, though not specifically mentioned here in, is considered part of the purchased utility.

TABLE 1
Fixed Inventory
Electrical Distribution System Inventory, Fort Lee

Item	Size	Quantity	Unit	Approximate Year of Construction
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Substation

Structure/Buswork	13.2 kV	2	Ea	1997
OCB/Switchgear	13.2 kV	8	Ea	1997
Voltage Regulators	13.2 kV	6	Ea	1997
Miscellaneous		1		1997

Overhead Distribution Lines

Large	13.2 kV	87,648	Lf	1987
Small	13.2 kV	64,416	Lf	1987
Single Phase	7.6 kV	10,243	Lf	1987
Secondary		40,550	Lf	1987
Gang Operated Air Break Switches		17	Ea	1987
Three Reclosers				1998

Underground Distribution Lines

Large	13.2 kV/3 Ph	22,651	Lf	1991
Small	13.2 kV/3 Ph	10,032	Lf	1991
Single Phase	7.6 kV/1 Ph	35,006	Lf	1991
Secondary		16,896	Lf	1991
		4	Ea	1991

Street/Security/ Parking Lot Lights

Fixtures		1,068	Ea	1996
Poles		920	Ea	1996

Services

3 Phase		150	Ea	1996
1 Phase		400	Ea	1996

Transformers-Pole Type

15 kVA	61	Ea	1986
25 kVA	59	Ea	1986
37.5 kVA	79	Ea	1986
50 kVA	52	Ea	1986
75 kVA	45	Ea	1986
100 kVA	15	Ea	1986
167 kVA	4	Ea	1986

Transformers-Pad Type

1Ph 50 kVA	15	Ea	1986
1Ph 75 kVA	7	Ea	1986
1Ph 100 kVA	144	Ea	1986
1Ph 167 kVA	4	Ea	1986
1 Ph 250 kVA	0	Ea	1986
3 Ph 75 kVA	17	Ea	1986
3 Ph 112kVA	59	Ea	1986
3 Ph 150 kVA	18	Ea	1986
3 Ph 225 kVA	14	Ea	1986
3 Ph 300 kVA	11	Ea	1986
3 Ph 500 kVA	17	Ea	1986
3 Ph 750 kVA	7	Ea	1986
3 Ph 1000 kVA	5	Ea	1986
3 Ph 1500 kVA	2	Ea	1986
3 Ph 2500 kVA	2	Ea	1986

3ph 2000kva,1 ea, 3ph 15kv sectional switchs 37 ea, 1ph 10kva 1 ea, 1ph 15kva,2ea, 1ph 25kva 4ea, 1ph 37.5kva,4ea, 3ph 45kva,6ea, 3ph,100kva,1 ea.

Notes:

kVA = nominal kilovolt amperes

Ea = each

LF = linear feet

Ph = Phase

J04.2.2 Electrical Distribution System Non-Fixed Equipment and Specialized Tools Inventory

Table 2 lists other ancillary equipment (spare parts) and **Table 3** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment and tools. The successful Contractor shall provide any and all equipment, vehicles, and tools, whether included in the purchase or not, to maintain a fully operating system under the terms of this contract.

TABLE 2

Spare Parts

Electrical Distribution System Fort Lee

Qty	Item	Make/Model	Description	Remarks
NA	Various Parts,etc.	na	Cut Outs, Insulators, Various Guys, Crossarms, Poles, Cable, Rachets,	
1	reclosure testing equipment	automatic	na	na

TABLE 3

Specialized Equipment and Vehicles

Electrical Distribution System Fort Lee

Description	Quantity	Location	Maker
Government owned transformers	Various	DPW Compound at Ft Lee.	Various
Line Truck	1	DPW Compound at Ft Lee	2000 GMC 50'

J04.2.3 Electrical System Manuals, Drawings, and Records Inventory

Table 4 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 4
Manuals, Drawings, and Records
Electrical Distribution System Fort Lee

Qty	Item	Description	Remarks
32	dwgs	Overhead and Underground	1/100
1	dwgs	Main Single Line	1/500

J04.3 Current Service Arrangement

Fort Lee currently purchases its electric power requirements from Virginia Power under its Schedule MS Alternate Federal Government Installations, service rates. The installation takes delivery of electric power at 13.2 kV from Virginia Power via two delivery points supplied by two transformers that are located near the northeast corner of the Installation. This rate schedule is available to Federal Government installations with annual, monthly average metered demand of 1,500 kW or more. The golf course area along A Avenue is supplied power by Prince George Electric Cooperative (the Cooperative).

As required by this contract, the Contractor shall demonstrate the ability to meet and shall establish any and all requirements to provide electric distribution service to Fort Lee.

J04.4 Secondary Metering

The Base may require secondary meters for internal billings of their reimbursable customers, utility usage management, and energy conservation monitoring. The Contractor shall assume full ownership and responsibility for existing and future secondary meters IAW Paragraph C.3.

J04.4.1 Existing Secondary Meters

Table 5 provides a listing of the existing (at the time of contract award) secondary meters that will be transferred to the Contractor. The Contractor shall provide meter readings once a month for all secondary meters IAW paragraphs C.3 and J04.5 below.

TABLE 5
Existing Secondary Meters
Electrical Distribution System Fort Lee

Meter Location	Meter Description
----------------	-------------------

See below

SECONDARY ELECTRIC METER LIST

<u>BUILDING</u>	<u>MISC INFO</u>
1600	
1605	
1614	
1645	
1650	
2300	
2414	
2607	
2609	
3000	
3000/3001	Transformer for chillers
3001	
3002	
3003	
3004	
3004/3005	Transformer for chillers
3005	
3024	
3100	
3101	
3102	
3108	
3118	
3127	
3206	
3219	
3324/3325	
3327	
3408	
3509	
3614	
3620	
3650	
3700	
3701	
4000	
4003	
4005	
4200	
4210	

4225

4300

4301

4307

4309

BUILDING**MISC INFO**

4310

4320

5000

Sub meter for cafeteria

5002

5100

5101

5104

5105

5208

5217

5218

6008

6022

6045

6046

6047

6049

6050

6051

6052

6053

6054

6212

7109A

7118

7122

7143

8000

8019

8022

8025

8026

8035

8036/8037

8039/8040

8041

8042

8043/8047/8050

8045

8130

8131

8133

8134

8135

8150

8151

8204

8400
8401
8402
8421
8515/8516/8533
8519/8520/8521/8522
8525
8526
8534
8536

BUILDING

MISC INFO

8537
8601
8603
9000
9001
9003
9009
9016
9023
9024
9025
9040
9050
9056
9100
9101
9102
9203
9204
9205
9300
9302
9303
9304
9305
9513
10500
10600
10605
10610
11025
11200
11300
11806
11807
11810
12018
12402
12500
13013
15014
15017

19000

J04.4.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in Table 6. New secondary meters shall be installed IAW Paragraph C.13, Operational Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3 and J04.5 below.

TABLE 6
New Secondary Meters
Electrical Distribution System Fort Lee

Meter Location	Meter Description
When determined by customers	

J04.5 Submittals

The Contractor shall provide the Government monthly submittals for the following:

1. Invoicing (IAW paragraph G.2) for the previous months' services. The Contractors invoice shall be prepared in a format proposed by the Contractor and accepted by the Contracting Officer.
2. Monthly Outage Report for the previous month. The Contractor's monthly outage report shall be prepared in the format presented in Attachment 1.
3. Meter Reading Report in support of internal billings, energy usage management, and monitoring. The Contractor's monthly meter reading report shall be prepared in the format presented in Attachment 2.
4. System Efficiency Report. If, at any time during the contract, as required by Paragraph C.3 the Contractor shall submit a system efficiency report in a format proposed by the Contractor and accepted by the Contracting Officer.

J04.6 Energy Savings Projects

IAW paragraph C.3, Utility Service Requirement, the following projects have been implemented by the Government for managing and monitoring I&I:

- None

J04.7 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the Fort Lee boundaries.

J04.8 Off-Installation Sites

There are no off-installation sites associated with this scope.

J04.9 Specific Transition Requirements

IAW Paragraph C.13, Operational Transition Plan, **Table 7** lists service connections and disconnection's required upon transfer, and **Table 8** lists the improvement projects required upon transfer of the Fort Lee electrical distribution system.

TABLE 7
Service Connections and Disconnection's
Electrical Distribution System Fort Lee

Location	Description
As determined by construction and Demo.	

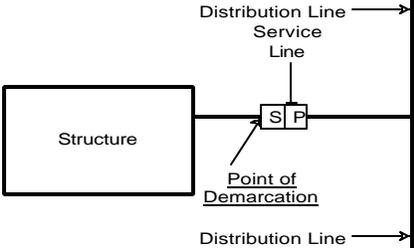
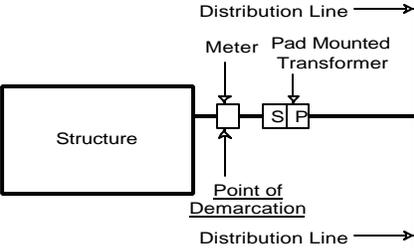
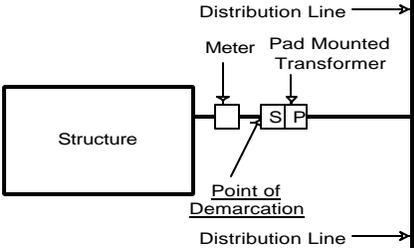
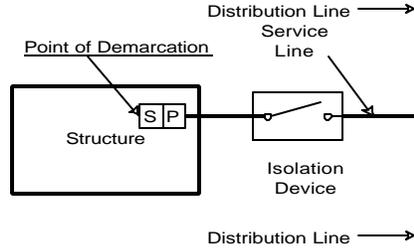
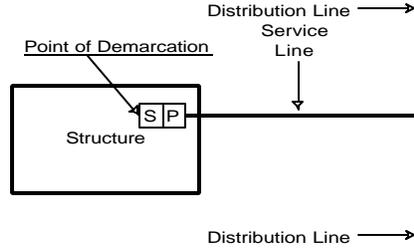
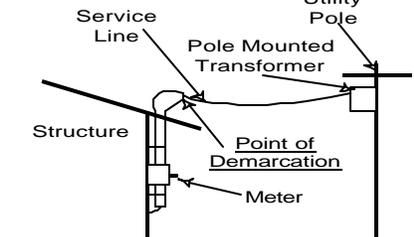
TABLE 8
System Improvement Projects
Electrical Distribution System Fort Lee

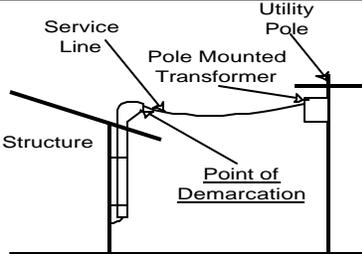
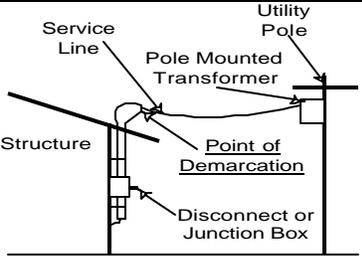
Project Location	Project Description
None Identified.	

J04.10 Electric Distribution System Points of Demarcation

The point of demarcation is defined as the point on the distribution system where ownership changes from the Grantee to the building owner. This point of demarcation will typically be at the point the utility enters a building structure or the load side of a transformer within a building structure. The table below identifies the type and general location of the point of demarcation with respect to the building for each scenario. During the operation and maintenance transition period, concurrence on specific demarcation points will be documented during the joint inventory of facilities.

Point of Demarcation	Applicable Scenario	Sketch

Point of Demarcation	Applicable Scenario	Sketch
<p>Point of demarcation is the transformer secondary terminal spade.</p>	<p>Pad Mounted Transformer located outside of structure with underground service to the structure and no meter exists.</p>	
<p>Down current side of the meter</p>	<p>Residential service (less than 200 amps and 240V 1-Phase), and three phase self contained meter installations. Electric Meter exists within five feet of the exterior of the building on an underground secondary line.</p>	
<p>Point of demarcation is the transformer secondary terminal spade.</p>	<p>Three Phase CT metered service.</p>	
<p>Secondary terminal of the transformer inside of the structure</p>	<p>Transformer located inside of structure and an isolation device is in place with or without a meter</p> <p>Note: Utility Owner must be granted 24-hour access to transformer room.</p>	
<p>Secondary terminal of the transformer inside of the structure</p>	<p>Transformer located inside of structure with no isolation device in place.</p> <p>Note: Utility Owner must be granted 24-hour access to transformer room.</p>	
<p>Point of demarcation is the point where the overhead conductor is connected to the weatherhead.</p>	<p>Electric meter is connected to the exterior of the building on an overhead secondary line.</p>	

Point of Demarcation	Applicable Scenario	Sketch
<p>Point of demarcation is the point where the overhead conductor is connected to the weatherhead.</p>	<p>Pole Mounted Transformer located outside of structure with secondary attached to outside of structure with no meter.</p>	
<p>Point of demarcation is the point where the overhead conductor is connected to the weatherhead.</p>	<p>Service may be overhead or underground. A disconnect switch or junction box is mounted to the exterior of the structure with no meter.</p>	

Unique Points of Demarcation

The following table lists anomalous points of demarcation that do not fit any of the above scenarios.

Building No.	Point of Demarcation Description
None	

Plants and Substations

Description	Facility #	State Coordinates	Other Information
None			