

ATTACHMENT J01

JUL 2003

Fort McPherson Electrical Distribution System

Table of Contents

J01	Fort McPherson Electrical Distribution System.....	1
J01.1	Fort McPherson Overview	1
J01.2	Electrical Distribution System Description.....	1
J01.3	Current Service Arrangement	4
J01.4	Secondary Metering	5
J01.5	Monthly Submittals.....	5
J01.6	Energy Savings Projects.....	6
J01.7	Service Area.....	6
J01.8	Off-Installation Sites	6
J01.9	Specific Transition Requirements	6
J01.10	Electric Distribution System Points of Demarcation	7
J01.11	Unique Points of Demarcation	8
J01.12	Plants and Substations.....	9

List of Tables

1. Fixed Inventory	2
2. Spare Parts	4
3. Specialized Equipment and Vehicles	4
4. Manuals, Drawings, and Records	4
5. Existing Secondary Electric Meters	5
6. New Secondary Meters.....	5
7. Service Connections and Disconnections.....	6
8. System Improvement Projects	7
9. Points of Demarcation	7
10. Unique Points of Demarcation	8
11. Plants and Substations	9

J01 Fort McPherson Electrical Distribution System

J01.0 Fort McPherson Overview

Fort McPherson is located in the city of Atlanta, four miles southwest of downtown. It covers 487 acres of well-landscaped grounds. Fort McPherson operates a sub-post, Fort Gillem, which is a 1,500-acre site located 10 miles southeast of Atlanta.

Fort McPherson, named for Maj. Gen. James Birdseye McPherson, a Union Army general killed during the battle for Atlanta in 1864, was established in the summer of 1885 and received its first garrison, nine batteries of the 4th Artillery Regiment, in 1889. Today it is home for Headquarters, Forces Command, whose mission is maintaining the readiness of active Army and reserve units throughout the United States and its territories. It is also the headquarters for the 3rd U.S. Army and Army Reserve Command. Fort Gillem is home for the 1st U.S. Army and the U.S. Army Southeast Region Recruiting Command.

J02.0 Electrical Distribution System Description

J01.0.0 Electrical Distribution System Fixed Equipment Inventory

The Fort McPherson electric distribution system comprises all appurtenances 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.

J01.0.0.0 Description

Fort McPherson currently purchases electric power at 12.5 kV from Georgia Power Company (Georgia Power) at a single primary delivery point. The central commercial area is supplied by two Georgia Power 34.5 kV transmission circuits, one overhead construction and one underground.

Fort McPherson owns and operates an electrical distribution system consisting of:

- one 12.5 kV distribution substation;
- approximately 4.3 circuit miles of overhead primary distribution line; and
- approximately 2.8 circuit miles of underground primary distribution line.

The main substation, which supplies the entire Installation, consists of two incoming 34.5 kV transmission line bays, two 7.5 MVA 34.5 – 12.5 kV transformers, three 333 kVA voltage regulators, and five 12.5 kV feeder vacuum circuit breakers. Georgia Power owns the 34.5 kV switching and protective equipment, and the two power transformers. Fort McPherson owns the 12.5 kV vacuum circuit breakers.

The primary distribution system consists of five 12.5 kV circuits. The distribution system is composed primarily of overhead, pole-line construction (which is conventional, open wire construction) with pole-mounted transformer banks. In addition, there is also a small amount of underground primary construction, utilizing both direct burial and duct type construction practices.

J02.0.0.0 Inventory

Table 1 provides a general listing of the existing major electrical system fixed assets for the Fort McPherson 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.

PLEASE NOTE: Fort McPherson will require all future renewals / replacements / upgrades of overhead lines, pole mounted transformers and all overhead facilities to be replaced with underground line, pad mounted transformers, and underground facilities. (See Paragraphs C.3.1 and C11.1)

TABLE 1
1. Fixed Inventory
Electrical Distribution System Fort McPherson

Item	Size	Approx. Quantity	Units	Average Yr. of Construction
<u>Substation Equipment</u>				
12.5 kV Structure / Buswork		6	Bays	1979
12.5 kV VCBs		5	Each	1979
Voltage Regulator		1	Set	1979
Miscellaneous		---	---	1979
<u>Overhead Lines</u>				
12.5 kV / 3 Phase – Large		3.50	Miles	1979
12.5 kV / 3 Phase – Small		0.82	Miles	1981
7.5 kV / 1 Phase		---	Miles	
Group Operated Air Break Switches		8	Each	1986
Secondary		1.08	Miles	1980
Capacitor Banks – 150 KVAR		2	Each	1980
<u>Underground Lines</u>				
12.5 kV / 3 Phase – Large		---	Miles	
12.5 kV / 3 Phase – Small		2.80	Miles	1993
Secondary		0.70	Miles	1980
Pad-mount Sectionalizing Switches		10	Each	2000
Manholes		18	Each	1998
Duct Banks		0.67	Miles	1998
<u>Transformers – Pole Type</u>				
15 kVA & smaller		11	Each	1982
25 kVA		42	Each	1980

Item	Size	Approx. Quantity	Units	Average Yr. of Construction
30 kVA		10	Each	1982
50 kVA		45	Each	1980
75 kVA		5	Each	1981
100 kVA		34	Each	1982
167 kVA		4	Each	1981
<u>Transformers - Pad Mount</u>				
1 Phase – 25 kVA		1	Each	1983
1 Phase – 50 kVA		2	Each	1988
1 Phase – 100 kVA		3	Each	1981
3 Phase – 112.5 kVA & smaller		7	Each	1992
3 Phase – 150 kVA		4	Each	1991
3 Phase – 225 kVA		1	Each	2000
3 Phase – 300 kVA		7	Each	1989
3 Phase – 500 kVA		12	Each	1992
3 Phase – 750 kVA		4	Each	1991
3 Phase – 1000 kVA		4	Each	1995
3 Phase – 2500 kVA		3	Each	1987
<u>Street Lights</u>				
Fixtures		460	Each	1980
Poles		153	Each	1980
Lighting Circuits		4.58	Miles	1980
<u>Services</u>				
3 Phase		169	Each	1986
1 Phase		41	Each	1982

Acronyms:

kVA = Nominal Kilovolt Amperes

J02.0.0 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

2. Spare Parts

Electrical Distribution System Fort McPherson

Quantity	Item	Make/Model	Description	Remarks
Fort McPherson maintains an inventory of spare parts for the electrical distribution system. Contents of the inventory vary as items are used and/or purchased. Availability of this inventory to the new owner will be negotiated before or during the transition period.				

TABLE 3

3. Specialized Equipment and Vehicles

Electrical Distribution System Fort McPherson

Description	Quantity	Location	Maker
No specialized equipment or vehicles for maintenance of the Fort McPherson electrical distribution system will be transferred to the new owner of the system.			

J03.0.0 Electrical System Manuals, Drawings, and Records Inventory

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

TABLE 4

4. Manuals, Drawings, and Records

Electrical Distribution System Fort McPherson

Quantity	Item	Description	Remarks
Fort McPherson maintains a limited collection of technical manuals, drawings, and records on the installed components of the electrical distribution system. This information will be transferred to the new owner during the transition period. System maps will be available in the technical library.			

J03.0 Current Service Arrangement

Fort McPherson currently purchases electric power at 12.5 kV from Georgia Power Company (Georgia Power) at a single primary delivery point. Two Georgia Power 34.5 kV transmission circuits supply the central commercial area: one overhead construction and one underground.

Annual Power Usage Fort McPherson		
FY	Total (kWh)	Peak Demand (kW)
2000	42,050,405	8,170
2001	41,536,764	7,814
Avg	41,793,585	7,992

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 McPherson.

J04.0 Secondary Metering

The Installation 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 Clause C.3.

J01.0.0 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 H.5 and J01.5 below.

TABLE 5

5. Existing Secondary Electric Meters
Electrical Distribution System Fort McPherson

Building No.	Meter Type	Meter No.	Location

J02.0.0 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 Clause C.17, Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Clauses C.3, H.5, and J01.5 below.

TABLE 6

6. New Secondary Meters
Electrical Distribution System Fort McPherson

Meter Location	Meter Description

J05.0 Monthly Submittals

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

Invoice (IAW G.2). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to the Contracting Officer's designee. (This information will be provided upon award.)

Outage Report: The Contractor's monthly outage report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall include the following information for Scheduled and Unscheduled outages:

Scheduled: Requestor, date, time, duration, facilities affected, feedback provided during outage, outage notification form number, and digging clearance number.

Unscheduled: Include date, time and duration, facilities affected, response time after notification, completion times, feedback provided at time of outage, specific item failure, probability of future failure, long term fix, and emergency digging clearance number.

Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award.)

Meter Reading Report: The monthly meter reading report shall show the current and previous month readings for all secondary meters. The Contractor's monthly meter reading report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Meter reading reports shall be submitted by the 15th of each month for the previous month. Meter reading reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award.)

System Efficiency Report: If 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. System efficiency reports shall be submitted by the 25th of each month for the previous month. System efficiency reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award.)

J06.0 Energy Savings Projects

There are currently no existing energy savings projects for the exterior electric system at Fort McPherson.

J07.0 Service Area

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

J08.0 Off-Installation Sites

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

J09.0 Specific Transition Requirements

IAW Clause C.17, Transition Plan, **Table 7** lists service connections and disconnections required upon transfer, and **Table 8** lists the improvement projects required upon transfer of the Fort McPherson electrical distribution system.

TABLE 7

7. Service Connections and Disconnections
Electrical Distribution System Fort McPherson

Location	Description
Required service connections and disconnections will be provided to the contractor, as the requirements become known.	

TABLE 8
8. System Improvement Projects
Electrical Distribution System Fort McPherson

Project Location	Project Description
None identified as of the beginning of FY01.	

J010.0 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.

TABLE 9
9. Points of Demarcation
Electrical Distribution System Fort McPherson

Point of Demarcation	Applicable Scenario	Sketch
Point of demarcation is the first point of disconnect at or in the facility.	Pad Mounted Transformer located outside of structure with underground service to the structure and no meter exists.	<p>The sketch shows a rectangular box labeled 'Structure' on the left. A horizontal line representing the 'Distribution Line' enters from the right. A vertical line labeled 'Service Line' connects the 'Distribution Line' to a box labeled 'S/P' (Service Point) located on the boundary of the structure. An arrow points to the 'S/P' box with the label 'Point of Demarcation'. The 'Distribution Line' continues to the right, and another arrow points to it with the label 'Distribution Line'.</p>
Down current side of the meter	Residential service, 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>The sketch shows a rectangular box labeled 'Structure' on the left. A horizontal line representing the 'Distribution Line' enters from the right. A vertical line labeled 'Service Line' connects the 'Distribution Line' to a box labeled 'S/P' (Service Point) located on the boundary of the structure. A box labeled 'Meter' is located between the 'Structure' and the 'S/P' box. An arrow points to the 'Meter' box with the label 'Point of Demarcation'. The 'Distribution Line' continues to the right, and another arrow points to it with the label 'Distribution Line'.</p>
Point of demarcation is the first point of disconnect at or in the facility.	Three Phase CT metered service.	<p>The sketch shows a rectangular box labeled 'Structure' on the left. A horizontal line representing the 'Distribution Line' enters from the right. A vertical line labeled 'Service Line' connects the 'Distribution Line' to a box labeled 'S/P' (Service Point) located on the boundary of the structure. A box labeled 'Meter' is located between the 'Structure' and the 'S/P' box. An arrow points to the 'Meter' box with the label 'Point of Demarcation'. The 'Distribution Line' continues to the right, and another arrow points to it with the label 'Distribution Line'.</p>

Point of Demarcation	Applicable Scenario	Sketch
<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 weather head.</p>	<p>Electric meter is connected to the exterior of the building on an overhead secondary line.</p>	
<p>Point of demarcation is the point where the overhead conductor is connected to the weather head.</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 weather head.</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>	

J011.0 Unique Points of Demarcation

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

TABLE 10
10. Unique Points of Demarcation
Electrical Distribution System Fort McPherson

Building No.	Point of Demarcation Description
None	

J012.0 Plants and Substations

TABLE 11

11. Plants and Substations

Electrical Distribution System Fort McPherson

Description	Facility No.	State Coordinates	Other Information
Substation - six bay 12.5 kV structure / buswork, five 12.5 kV VCB's, 3 voltage regulators			