

# McGhee-Tyson ANGB Electric Distribution System

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# **J9 McGhee-Tyson ANGB Electric Distribution System**

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## **J9.1 McGhee-Tyson ANGB Overview**

The McGhee-Tyson ANGB is located on McGhee-Tyson Airport in Alcoa, Tennessee and is approximately 13 miles south of Knoxville, Tennessee. The installation is home to the 134<sup>th</sup> Air Refueling Wing and consists of 358 acres. An adjacent twelve-acre parcel (included in this privatization effort) houses the 119<sup>th</sup> Tactical Control Squadron (GSU), Alcoa Air National Guard Station, and a Tennessee Army National Guard unit. The base is located on the northwest side of the airport with a total of 39 buildings: 22 industrial, 10 administrative, 3 dormitories, and 4 service buildings; totaling 651,000 square feet. Day-to-day activities are managed by a force of 823 full-time personnel. Two weekends per month the population increases to 1700 during military training assemblies. The 134th Air Refueling Wing flies KC-135E tankers and its mission is to train, equip, and maintain units and individuals to meet worldwide requirements for federal day-to-day and mobilization missions and state emergencies.

## **J9.2 Electric Distribution System Description**

### **J9.2.1 Electric Distribution System Fixed Equipment Inventory**

The McGhee-Tyson ANGB electric distribution system consists of all appurtenances physically connected to the distribution system from the point in which the distribution system enters the Installation and Government ownership currently starts to the point of demarcation, defined by the Right of Way. The system may include, but is not limited to, transformers, circuits, ductbanks, manholes, meters, and utility poles. The actual inventory of items sold will be in the bill of sale at the time the system is transferred. The following description and inventory is included to provide the Contractor with a general understanding of the size and configuration of the distribution system. The Government makes no representation that the inventory is accurate. The Contractor shall base its proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description and inventory. Under no circumstances shall the Contractor be entitled to any service charge adjustments based on the accuracy of the following description and inventory.

Specifically excluded from the electric distribution system privatization are:

- ?? Airfield Lighting
- ?? Parking Lot Lights
- ?? Street Lights
- ?? Ball field Lights
- ?? Auxiliary power generators (total of six)
- ?? Energy Management Control and Load Shedding System

### J9.2.1.1 Description

Electric power enters the base at two locations, one providing power to McGhee-Tyson ANGB and the other serving two units immediately adjacent to the base; Alcoa Air National Guard Station and the Tennessee Army National Guard facility. Electric service is provided at 13.2 kV and distributed primarily underground via a Y configured system. The system consists of approximately 22,300 linear feet of underground wiring in conduit and buried approximately four to six feet deep. There is also approximately 1,160 linear feet of overhead wiring. The system contains 43 three phase pad mounted transformers ranging from 75 to 1000 kVA; along with three single phase pad mounted transformers ranging from 25 to 75 kVA; 9 wooden utility poles 40 feet tall; 32 secondary meters, and 46 pre-cast concrete manholes. An Energy Management Control and Load Shedding System is used to manage electrical power on the base, however, it is not part of the solicitation. There are no substations, switching gear, or unique components associated with this system. Base personnel indicate the system capacity is adequate to meet current and future demands.

### J9.2.1.2 Inventory

**Table 1** provides a general listing of the major electric distribution system fixed assets for the McGhee-Tyson ANGB electric distribution system included in the sale.

**TABLE 1**  
Fixed Inventory  
Electric Distribution System McGhee-Tyson ANGB

Item	Size	Quantity	Unit	Approximate Year of Construction
<b>Underground Circuits</b>	AWG	Length (ft)		
3 phase, 4 wire, 15 kV in conduit	#4 AL	17,900	LF	1998
3 phase, 4 wire, 15 kV in conduit	#4 AL	4,450	LF	2000
<b>Ductbanks</b>				
4 ea, 4 inch PVC in concrete	4 inch	17,900	LF	1998
4 ea, 4 inch PVC in concrete	4 inch	4,450	LF	2000
<b>Overhead Circuits</b>	AWG	Length (ft)		
3 phase, 4 wire, conductor	#1/0 CU	1,160	LF	1985
<b>3 Phase Transformers</b>	Nom kVA			
Oil filled, pad mounted	75	6	EA	1986
Oil filled, pad mounted	75	1	EA	1975
Oil filled, pad mounted	75	1	EA	1998
Oil filled, pad mounted	112.5	2	EA	1986
Oil filled, pad mounted	112.5	1	EA	2000

<b>Item</b>	<b>Size</b>	<b>Quantity</b>	<b>Unit</b>	<b>Approximate Year of Construction</b>
<b>Oil filled, pad mounted</b>	150	2	EA	1997
<b>Item</b>	<b>Size</b>	<b>Quantity</b>	<b>Unit</b>	<b>Approximate Year of Construction</b>
<b>Oil filled, pad mounted</b>	150	1	EA	1952
<b>Oil filled, pad mounted</b>	150	1	EA	1986
<b>Oil filled, pad mounted</b>	150	1	EA	1953
<b>Oil filled, pad mounted</b>	150	1	EA	1956
<b>Oil filled, pad mounted</b>	225	1	EA	1986
<b>Oil filled, pad mounted</b>	225	2	EA	1995
<b>Oil filled, pad mounted</b>	300	6	EA	1986
<b>Oil filled, pad mounted</b>	300	2	EA	1988
<b>Oil filled, pad mounted</b>	300	1	EA	1991
<b>Oil filled, pad mounted</b>	300	1	EA	1992
<b>Oil filled, pad mounted</b>	300	3	EA	1993
<b>Oil filled, pad mounted</b>	300	1	EA	1994
<b>Oil filled, pad mounted</b>	300	1	EA	1995
<b>Oil filled, pad mounted</b>	300	1	EA	1996
<b>Oil filled, pad mounted</b>	500	2	EA	1986
<b>Oil filled, pad mounted</b>	500	1	EA	1992
<b>Oil filled, pad mounted</b>	500	1	EA	1995
<b>Oil filled, pad mounted</b>	750	1	EA	1994
<b>Oil filled, pad mounted</b>	750	1	EA	1997
<b>Oil filled, pad mounted</b>	1000	1	EA	1986
<b>1 Phase Transformers</b>	Nom kVA			
<b>Oil filled, pad mounted</b>	25	1	EA	1986
<b>Oil filled, pad mounted</b>	25	1	EA	1988
<b>Oil filled, pad mounted</b>	75	1	EA	1986
<b>Utility Poles</b>	Height (ft)			
<b>Wood</b>	40	9	EA	1985
<b>Manholes</b>	Type			
<b>Precast concrete</b>	6' x 6' x 6'	36	EA	1986

<b>Item</b>	<b>Size</b>	<b>Quantity</b>	<b>Unit</b>	<b>Approximate Year of Construction</b>
<b>Precast concrete</b>	8' x 8' x 8'	7	EA	1998
<b>Item</b>	<b>Size</b>	<b>Quantity</b>	<b>Unit</b>	<b>Approximate Year of Construction</b>
<b>Precast concrete</b>	8' x8' x 8'	3	EA	2000
<b>Electric Meters</b>	Type			
<b>3 phase, CT meter</b>	1:80	8	EA	1986
<b>3 phase, CT meter</b>	1:80	1	EA	1975
<b>3 phase, CT meter</b>	1:80	1	EA	1953
<b>3 phase, CT meter</b>	1:80	1	EA	1993
<b>3 phase, CT meter</b>	1:80	1	EA	1996
<b>3 phase, CT meter</b>	1:80	1	EA	1997
<b>3 phase, CT meter</b>	1:80	1	EA	1952
<b>3 phase, CT meter</b>	1:80	1	EA	1994
<b>3 phase, CT meter</b>	1:40	1	EA	1988
<b>3 phase, CT meter</b>	1:60	2	EA	1993
<b>3 phase, CT meter</b>	1:60	2	EA	1986
<b>3 phase, CT meter</b>	1:60	1	EA	1991
<b>3 phase, CT meter</b>	1:20	1	EA	1992
<b>3 phase, CT meter</b>	1:20	1	EA	1986
<b>3 phase, CT meter</b>	1:50	1	EA	1997
<b>3 phase, CT meter</b>	1:240	1	EA	1986
<b>3 phase, CT meter</b>	1:320	1	EA	1992
<b>3 phase, CT meter</b>	1:100A	1	EA	1986
<b>3 phase, CT meter</b>	1:200A	2	EA	1986
<b>3 phase, CT meter</b>	1:200A	1	EA	1956
<b>3 phase, CT meter</b>	1:240A	1	EA	1998
<b>1 phase</b>	100 Amp	1	EA	1986
Notes:				
AWG = American Wire Gauge				
EA = each				
LF = linear feet				
Nom kVA = nominal kilovolt -amperes				
PVC = polyvinyl chloride				
CU = copper				
CT = current transformer				
Ft = feet				

Item	Size	Quantity	Unit	Approximate Year of Construction
KV = kilovolt -amperes				
AL = aluminum				

### J9.2.2 Electric Distribution System Non-Fixed Equipment and Specialized Tools

**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, vehicles, and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment, vehicles, and tools.

**TABLE 2**  
Spare Parts  
Electric Distribution System McGhee-Tyson ANGB

Qty	Item	Make/Model	Description	Remarks
None				

**TABLE 3**  
Specialized Vehicles and Tools  
Electric Distribution System McGhee-Tyson ANGB

Description	Quantity	Location	Maker
None			

### J9.2.3 Electric Distribution System Manuals, Drawings, and Records

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

**TABLE 4**  
Manuals, Drawings, and Records  
Electric Distribution System McGhee-Tyson ANGB

Qty	Item Description	Remarks
1	Base Wide Electrical Utilities Map (electronic copy)	AutoCAD Release Version 14

## J9.3 Specific Service Requirements

The service requirements for the McGhee-Tyson ANGB electric distribution system are as defined in the Section C Description/Specifications/Work Statement.

?? Although the duct banks are being turned over to the successful offeror, those ducts not currently used for electrical lines will be reserved for the exclusive use of the government. Additional ducts may be made available to the successful offeror at the discretion of the Contracting Officer.

## J9.4 Current Service Arrangement

?? Provider Name: City of Alcoa

?? Average Annual Usage: 9,389,860 kWh (October 1999 - September 2000)

?? Maximum Monthly Use: 1,040,598 kWh - June

?? Minimum Monthly Use: 655,452 kWh - November

?? Peak demand: load shedding avoids peak

## J9.5 Secondary Metering

### J9.5.1 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 for all secondary meters IAW Paragraph C.3 and J9.6 below.

**TABLE 5**

Existing Secondary Meters

Electric Distribution System McGhee-Tyson ANGB

Meter Location (Building)	Meter Description
90	1:80
113	1:240
412	1:50
111 WEST	1:80
111 NORTH	1:80
404	1:320
207	1:80
126	1:80
243	3 phase, 100 Amp
134	1:60
406	1:60
102 NORTH	1:40
400	1:80
408	1:60
410	1:60

402	1:60
416	1:20
Meter Location (Building)	Meter Description
263	1:80
FAA	1:80
241	1:80
101	1:80
246	1:80
FORESTRY	1:80
123	3 phase , 200 Amp,
254	3 phase , 200 Amp,
262	1:20
256	1:80
Lift Station #2	240v, 3Phase
252	1 phase ,100 amp
120	1:80
240	1:80
150	3 phase ,200 Amp

### J9.5.2 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 Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3 and J9.6 below.

**TABLE 6**  
New Secondary Meters  
Electric Distribution System McGhee-Tyson ANGB

Meter Location (Building)	Meter Description
10	3 phase, kWh
242	3 phase, kWh

### J9.6 Monthly Submittals

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

1. 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 25<sup>th</sup> of

each month for the previous month. Invoices shall be submitted to the person identified at time of contract award.

2. **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 be submitted by the 25<sup>th</sup> of each month for the previous month. Outage reports shall be submitted to the person identified at time of contract award.
3. **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 15<sup>th</sup> of each month for the previous month. Meter reading reports shall be submitted to the person identified at time of contract award.
4. **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 25<sup>th</sup> of each month for the previous month. System efficiency reports shall be submitted to the person identified at time of contract award.

## J9.7 Energy Saving Projects

IAW Paragraph C.3 Requirement, the following projects have been implemented on the distribution system by the Government for energy conservation purposes.

The base utilizes an Energy Management Control and Load Shedding System for utility conservation. This system is not part of the solicitation.

## J9.8 Service Area

IAW Paragraph C.4 Service Area, the service area is defined as all areas within the McGhee-Tyson ANGB boundaries. (See J9.9).

## J9.9 Off-Installation Sites

No off-installation sites are included in the sale of the McGhee-Tyson ANGB electric distribution system. Note: A twelve acre parcel housing the 119<sup>th</sup> Tactical Control Squadron (GSU), Alcoa Air National Guard Station, and an Army National Guard unit is contiguous to the base and included in this solicitation.

## J9.10 Specific Transition Requirements

IAW Paragraph C.13 Transition Plan, **Table 7** provides a listing of service connections and disconnections required upon transfer.

**TABLE 7**  
Service Connections and Disconnections  
Electric Distribution System McGhee-Tyson ANGB

Location	Description
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Various	Address connection of government owned auxiliary power generators during emergencies and exercises

## J9.11 Government Recognized System Deficiencies

**Table 8** provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the McGhee-Tyson ANGB electric distribution system. If the system is sold, the Government will not accomplish these planned improvements. The Contractor shall make a determination as to its actual need to accomplish and the timing of any and all such planned improvements. Capital upgrade projects shall be proposed through the Capital Upgrades and Renewals and Replacements Plan process and will be recovered through Schedule L-3. Renewal and replacement projects will be recovered through Sub-CLIN AB.

**TABLE 8**  
System Deficiencies  
Electric Distribution System McGhee-Tyson ANGB

<b>Project Location</b>	<b>Project Description</b>
None	