

ATTACHMENT J1

# Grissom ARB Electric Distribution System

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**TABLE OF CONTENTS**

**GRISSOM ARB ELECTRIC DISTRIBUTION SYSTEM ..... I**

**J1 GRISSOM ARB ELECTRIC DISTRIBUTION SYSTEM ..... 1**

J1.1 GRISSOM ARB OVERVIEW ..... 1

J1.2 ELECTRIC DISTRIBUTION SYSTEM DESCRIPTION ..... 2

*J1.2.1 Electric Distribution System Fixed Equipment Inventory ..... 2*

        J1.2.1.1 Description ..... 3

        J1.2.1.2 Inventory ..... 3

*J1.2.2 Electric Distribution System Non-Fixed Equipment and Specialized Tools ..... 5*

*J1.2.3 Electric Distribution System Manuals, Drawings, and Records ..... 6*

J1.3 SPECIFIC SERVICE REQUIREMENTS ..... 6

J1.4 CURRENT SERVICE ARRANGEMENT ..... 6

J1.5 SECONDARY METERING ..... 6

*J1.5.1 Existing Secondary Meters ..... 6*

*J1.5.2 Required New Secondary Meters ..... 7*

J1.6 MONTHLY SUBMITTALS ..... 7

J1.7 ENERGY SAVING PROJECTS ..... 8

J1.8 SERVICE AREA ..... 9

J1.9 OFF-INSTALLATION SITES ..... 9

J1.10 SPECIFIC TRANSITION REQUIREMENTS ..... 9

J1.11 GOVERNMENT RECOGNIZED SYSTEM DEFICIENCIES ..... 9

**List of Tables**

Fixed Inventory ..... 3

Spare Parts ..... 5

Specialized Vehicles and Tools ..... 5

Manuals, Drawings, and Records ..... 6

Existing Secondary Meters ..... 6

New Secondary Meters ..... 7

Service Connections and Disconnections ..... 9

System Deficiencies ..... 9

# J1 Grissom ARB Electric Distribution System

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## J1.1 Grissom ARB Overview

Grissom ARB is located in north-central Indiana, about 50 miles north of Indianapolis. Grissom is currently home to the 434<sup>th</sup> Air Refueling Wing, an Air Force Reserve Command unit. Grissom ARB is the largest aerial refueling unit in the Air Force Reserve. Although Grissom continues to complete actions associated with base realignment and closure (BRAC) actions, it remains the largest employer in the local economy and third largest in the region. Privatization focuses on two utility systems, electric and gas, while the water and wastewater systems were transferred to Peru Utilities ownership under the BRAC efforts.

Grissom ARB land area was significantly reduced as a result of BRAC and now consists primarily of a cantonment area with both the wing operations and support elements consolidated within this area. Initially a number of base support elements were outside the cantonment area. Recent construction projects have placed all government elements inside the fence. The Grissom Redevelopment Authority (GRA) currently manages much of the land areas and facilities transferred under BRAC. Another influence of BRAC is the presence of two electrical utility providers, whose service territory was established by the public service commission. Miami-Cass County Rural Electric Membership Corporation (REMC) provides the electric utility to the cantonment area while Peru City Utilities is the provider for most customers surrounding the base.

### History

Grissom ARB dates back to 1942 when it was established and occupied by the US Navy. Originally named Bunker Hill Naval Air Station, the base was a flight training facility for naval pilots. Closed and deactivated at the end of WWII, the base came to the attention of the Air Force with the outbreak of the Korean War. Still the property of the Navy, Bunker Hill Air Force Base was established with the Navy providing the construction and supervision of building new facilities. Title was officially transferred from the Navy to the Air Force in 1982.

Reopened in 1954, the Tactical Air Command called Bunker Hill home with a Fighter-bomber wing and later an Air Defense Fighter Interceptor Squadron operating from the base. A few years later, the Strategic Air Command occupied the base and the 8<sup>th</sup> Air Force became the parent organization. About the same time the first air refueling squadron was stationed at Bunker Hill.

The 1960's began a number of changes for the base. In 1968, after 26 years being Bunker Hill, the base was renamed Grissom Air Force Base in honor of LTC Virgil "Gus" Grissom, one of the original seven astronauts and a casualty of the Apollo 1 fire. In 1970, an air-refueling wing was stationed at Grissom, making it one of the largest tanker bases in the country. In 1971, an Air Force Reserve unit, 434<sup>th</sup> Special Operations Wing, was assigned to Grissom, making it a joint active duty and reserve installation. This combination remained until 1994.

At the height of its operations, Grissom was home to one active duty wing and two reserve wings. With changes in the Air Force mission, the active duty wing and one of the reserve refueling wings were deactivated in 1994. Additionally, under the BRAC process, Grissom was transferred from an active installation to the reserves. It is now home of the 434<sup>th</sup> Air Refueling Wing, and is the fourth largest installation in the Air Force Reserve Command.

## Land Cession

In a post-BRAC environment, Grissom ARB now constitutes approximately 1,312 acres and has 98 buildings on its inventory. A new CE complex has been completed as have Phases I and II of the Services Complex. The Marine Reserve facility will be occupied shortly. All the current land holdings were an integral part of the Grissom federal lands prior to implementation of BRAC. In 1994, Grissom was realigned as an Air Force Reserve installation.

## Host Unit

Grissom ARB is home to the 434<sup>th</sup> Air Refueling Wing with its three major organizations, the 434<sup>th</sup> Operations Group, 434<sup>th</sup> Mission Support Group and the 434<sup>th</sup> Logistics Group. Assigned to the Air Wing are two squadrons, the 72<sup>nd</sup> and 74<sup>th</sup> Air Refueling Squadron. Both squadrons have identical missions and have combined assets of 22 KC-135R Stratotankers. The wing has a combined civilian-military workforce of 1,700 personnel.

# J1.2 Electric Distribution System Description

## J1.2.1 Electric Distribution System Fixed Equipment Inventory

The Grissom ARB 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, protective devices, utility poles, ductbanks, switches, street lighting fixtures, and other ancillary fixed equipment. 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:

Runway and Taxiway Lighting and Markers, Emergency Generating Equipment, area lighting, and street lighting not mounted on utility poles.

**J1.2.1.1 Description**

Grissom ARB purchases its electricity from Miami-Cass County Rural Electric Membership Corporation (REMC). The power is delivered via a single 12.47 kV overhead feeder originating from the Wabash Valley Power Association-owned substation north of the base. There are three separate circuits (A, B, & C) leaving the substation. Circuits A and C have been sold to local utility providers under BRAC efforts. Circuit B operates as the main distribution feeder for Grissom ARB. The nominal system operating voltage is 12.47 kV grounded WYE.

The government-owned feeder consists of a combination of both overhead and underground service. The typical materials for the overhead system consists of 1/0 copper mounted on 40-foot poles on conventional horizontal crossarms. Sectionalizing is accomplished via pole or pad mounted switches located throughout the system. The underground service distribution is typically a 4-wire circuit, in conduit encased in a ductbank. The depth of burial is approximately 24 inches.

The REMC meters incoming power at a main meter pole located between poles 2028 and 2029, which can be located on the electrical utility installation drawing. Grissom ARB presently has approximately 28 additional meters at other locations although typically only five are read each month for the reimbursable tenants. The meters are presently maintained and read by base personnel.

**J1.2.1.2 Inventory**

**Table 1** provides a general listing of the major electric distribution system fixed assets for the Grissom ARB electric distribution system included in the sale. The inventory shown reflects the project currently under design to place the remaining overhead service underground. Grissom Air Reserve Base has contracted a project to replace approximately 3425 lineal feet of overhead distribution with underground electrical service along Hoosier Boulevard from the overhead connection at Harry Foreman Avenue to the underground connection near the West Gate. Project will include the removal of 12 pole-mounted clusters of transformers (3 transformers per cluster) and the installation of appropriate replacement pad mounted transformers and connections to 8 buildings. New street lights along Hoosier Boulevard will be owned by the Air Force and the point of demarcation between ownership will be a pad mounted transformer installed near the Tee intersection of Harry Foreman Avenue and Hoosier Boulevard.

TABLE 1  
Fixed Inventory  
Electric Distribution System Grissom ARB

Item	Size	Qty	Unit	Materials	Approximate Year of Construction
<b>Primary Underground Circuits</b>					
Shielded Cable, 1w, 15kV	AWG 1/0	600	SCLF	CU	1964
Wire, neutral	AWG 1/0	600	SCLF	CU	1964
Shielded Cable, 1w, 15kV	AWG 1/0	2,520	SCLF	CU	2003
Wire, neutral	AWG # 1	840	SCLF	CU	2003

Item	Size	Qty	Unit	Materials	Approximate Year of Construction
High Voltage Cable 3ph, 4w, 15kV	AWG # 1	1,250	SCLF	CU	1964
High Voltage Cable 3ph, 4w, 15kV	AWG # 1	1,875	SCLF	CU	1975
High Voltage Cable 3ph, 4w, 15kV	AWG # 1	3,050	SCLF	CU	1983
High Voltage Cable 3ph, 4w, 15kV	AWG # 1	500	SCLF	CU	1998
High Voltage Cable 3ph, 4w, 5kV	500 kcmil	4,500	SCLF	AL	2000
High Voltage Cable 3ph, 4w, 15kV	AWG 1/0	11,300	SCLF	CU	2004
<b>Secondary Underground Circuits</b>					
3ph,3w, In Conduit	AWG 4/0	5,000	SCLF	CU	1975
3ph,3w, In Conduit	AWG 4/0	3,100	SCLF	CU	1987
3ph, 4w, 15kV, in conduit	AWG 1/0	10,000	SCLF	CU	2004
<b>Ductbank</b>					
Ductbank 1x1	4"	2450	LF	PVC	1964
Ductbank 1x1	4"	6875	LF	PVC	1975
Ductbank 1x1	4"	3050	LF	PVC	1983
Ductbank 1x1	4"	3100	LF	PVC	1987
Ductbank 1x1	4"	500	LF	PVC	1998
Ductbank 1x1	4"	840	LF	PVC	2003
Ductbank 1x1	4"	5325	LF	PVC	2004
<b>Protective Devices</b>					
Fuse Cutouts	< 200 Amp	42	EA		1999
<b>Capacitors</b>					
Capacitors	1.2 MVAR	1	MVAR		1998
<b>Manholes</b>					
Manholes	6'X10'X7'	3	EA		1960
Switch Gear Chamber	36"x36"x12"	7	EA		1964
Switch Gear Chamber	36"x36"x12"	7	EA		1975
Switch Gear Chamber	36"x36"x12"	7	EA		1987
<b>Switchgear</b>					
Disconnect switch, gang operated	15kV	2	EA		1964
Disconnect switch, gang operated	15kV	2	EA		1975
Disconnect switch, gang operated	15kV	5	EA		1987
Swgear, 600 amp, 2 posn, NEMA 1	600 AMP	1	EA		1959
Swgear, 600 amp, 2 posn, NEMA 1	600 AMP	1	EA		1964
Swgear, 600 amp, 2 posn, NEMA 1	600 AMP	2	EA		1975
Swgear, 600 amp, 2 posn, NEMA 1	600 AMP	1	EA		1987
<b>Electric Meters</b>					
1ph & 3ph 120 - 480 V		28	EA		1985
<b>Junction Box</b>					
Pad Mounted,	12.7 kVA	1	EA		2000
<b>Transformers Single Phase</b>					
Transformers, Single phase	10 kVA	5	EA	Pad Mt.	2004
Transformers, Single phase	15 kVA	9	EA	Pad Mt.	2004
Transformers, Single phase	25 kVA	16	EA	Pad Mt.	2004

Item	Size	Qty	Unit	Materials	Approximate Year of Construction
Transformers, Single phase	37.5 kVA	20	EA	Pad Mt.	2004
Transformers, Single phase	50 kVA	13	EA	Pad Mt.	2004
Transformers, Single phase	75 kVA	3	EA	Pad Mt.	2004
Transformers, Single phase	100 kVA	3	EA	Pad Mt.	2004
Transformers, Single phase	225 kVA	4	EA	Pad Mt.	2004
<b>Transformers, Three Phase</b>					
Transformers, Three phase	75 kVA	1	EA	Pad Mt.	1964
Transformers, Three phase	75 kVA	1	EA	Pad Mt.	1975
Transformers, Three phase	75 kVA	1	EA	Pad Mt.	1988
Transformers, Three phase	150 kVA	1	EA	Pad Mt.	1977
Transformers, Three phase	150 kVA	1	EA	Pad Mt.	1988
Transformers, Three phase	112.5 kVA	1	EA	Pad Mt.	1987
Transformers, Three phase	112.5 kVA	1	EA	Pad Mt.	1998
Transformers, Three phase	225 kVA	1	EA	Pad Mt.	2000
Transformers, Three phase	300 kVA	1	EA	Pad Mt.	1975
Transformers, Three phase	300 kVA	1	EA	Pad Mt.	1986
Transformers, Three phase	300 kVA	12	EA	Pad Mt.	1988
Transformers, Three phase	300 kVA	1	EA	Pad Mt.	2003
Transformers, Three phase	500 kVA	1	EA	Pad Mt.	1984
Transformers, Three phase	500 kVA	2	EA	Pad Mt.	1986
Transformers, Three phase	500 kVA	1	EA	Pad Mt.	1988
Transformers, Three phase	500 kVA	2	EA	Pad Mt.	1989
Transformers, Three phase	750 kVA	1	EA	Pad Mt.	1989
Transformers, Three phase	2000 kVA	1	EA	Pad Mt.	1987

Notes:

AWG = American Wire Gauge

V = volts

PVC = polyvinylchloride

ea = each

w = wire

lf = linear feet

ph = phase

Nom kVA = nominal kilovolt-amperes

SCLF = Single Conductor Linear Feet

### J1.2.2 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 Grissom ARB

Qty	Item	Make/Model	Description	Remarks
<b>None</b>				

TABLE 3

Specialized Vehicles and Tools

Electric Distribution System Grissom ARB

Description	Quantity	Location	Maker
None			

### J1.2.3 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 Grissom ARB

Qty	Item	Description	Remarks
1	AutoCad 2000 dwg	Grissom Electric 2001 project number CTGB 0X-XXXX	Sheet reference X-1

## J1.3 Specific Service Requirements

The service requirements for the Grissom ARB electric distribution system are as defined in the Section C, *Description/Specifications/Work Statement*.

## J1.4 Current Service Arrangement

- Provider Name: Miami-Cass County Rural Electric Membership Corporation
- Average Usage: 35, 447 kWh/day; 12, 938, 000 kWh annually
- High Month: January 02 - 1,198,000 kWh
- Low Month: May 02 - 927,000 kWh
- Maximum Demand: July 02 - 1,754.5 KW

## J1.5 Secondary Metering

### J1.5.1 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 J1.6 below.

TABLE 5  
Existing Secondary Meters  
Electric Distribution System Grissom ARB

Meter Location/ Building No.	Meter Description
------------------------------	-------------------

404	Hydraulic FL, Bldg.
420	Vehicle Maintenance Shop
426A	Shop. ACFT Gen. Purpose
426B	Shop. ACFT Gen. Purpose
427A	RES Forces, C-E/Training
427B	RES Forces, C-E/Training
434	Heating Central Plant
435A	Maintenance Dock, Fuel System
435/436	Maintenance Dock, Fuel System
436	BE Paving & Grounds Facility
437	HG Maintenance
438	HG Maintenance
438/439	HG Maintenance
439	HG Maintenance
453	Shop ACFT Gen. Purpose
592A	BE Maintenance
592B	BE Maintenance
595	RES Forces, G/Training Shop
596	RES Forces, OPL/Training
597	RES Forces, G/Training Shop
600	Readiness Crew
663	SQ Operations
668	SQ Operations
669	RES Forces, OPL/Training
670	RES Forces, OPL/Training
671	SQ Operations
N/A	Apron Lights
N/A	SIMS

### J1.5.2 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 J1.6 below.

TABLE 6  
New Secondary Meters  
Electric Distribution System Grissom ARB

Meter Location	Meter Description
None	

### J1.6 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:

Name: Contracting Officer  
Address: 434 Operational Contracting  
448 Mustang Ave.  
Grissom ARB, IN 46971  
Phone number: 765-688-3101

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:

Name: 434 MSG/CEC  
Address: 641 Readiness Circle  
Grissom ARB, IN 46971  
Phone number: 765-688-2227

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:

Name: 434 MSG/CEC  
Address: 641 Readiness Circle  
Grissom ARB, IN 46971  
Phone number: 765-688-2227

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:

Name: 434 MSG/CEC  
Address: 641 Readiness Circle  
Grissom ARB, IN 46971  
Phone number: 765-688-2227

## J1.7 Energy Saving Projects

IAW Paragraph C.3, Requirement, there are no projects implemented on the distribution system by the Government for energy conservation purposes.

## J1.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the Grissom ARB cantonment area boundaries.

## J1.9 Off-Installation Sites

No off-installation sites are included in the sale of the Grissom ARB electric distribution system.

## J1.10 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 Grissom ARB

Location	Description
None	

## J1.11 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 Grissom ARB electric distribution system. If the system is sold, the Government will not accomplish these planned improvements. The Contractor shall make a determination as to their 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 Renewal and Replacement 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 Grissom ARB

Project Location	Project Description
NONE	