

ATTACHMENT J1

# Hickam AFB Electric Distribution System

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# J1 Hickam AFB Electric Distribution System

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## J1.1 Hickam AFB Overview

Hickam Air Force Base (AFB) is located on the south-central coast of the Island of Oahu, about 2 miles west of the City of Honolulu. The total land area of Hickam AFB (including Fort Kamehameha, acquired from the U.S. Army in 1993) is 2,515.05 acres, and the Base contains approximately 1,238 buildings and other facilities occupying approximately 8,775,824 square feet. The Base population is more than 10,000 during daytime working hours, including approximately 5,000 Air Force and 2,500 Hawaii Air National Guard (HIANG) personnel; many of these personnel and their families also live at the Base.

Hickam AFB is situated immediately south of the Pearl Harbor Naval Reservation, and is bounded on the west by Pearl Harbor and on the south by the Pacific Ocean (Mamala Bay). The Base shares runways and taxiways with Honolulu International Airport (HIA), which is adjacent to the eastern border of the Base. Hickam AFB is situated on a relatively flat expanse of land where elevations range from zero to only 20 feet above mean sea level; most of the Base is at an elevation of approximately 10 feet. Housing, administration, aircraft maintenance and transport facilities, and support facilities have resulted in the intensive development of the Base.

The federal government purchased the property currently occupied by Hickam AFB in 1935; the land was previously used for agriculture and a fish pond. Hickam Field was activated in 1938 and redesignated as Hickam AFB in 1948. Since that time the Base has served as home to the Air Transport Command (ATC) and its successors, the Military Air Transport Service (MATS), the Military Air Command (MAC), and today's Air Mobility Command (AMC). Base operations have supported the movement of troops and materials from the mainland to the Far East, with peaks of activity during World War II and the Korea and Vietnam conflicts.

Hickam AFB is now owned and operated by the 15<sup>th</sup> Air Wing (AW), whose primary mission is to support Headquarters Pacific Air Forces (PACAF). The Base is home to the HQ PACAF; 715th Air Mobility Operations Group; HIANG's 154th Wing and 201st Combat Communications Group; Air Force Reserves; and the Army Air Force Exchange Service. 15 AW has also supported the Apollo Astronauts in the 1960s and 1970s, the Eniwetok Atoll Radioactive Cleanup Operation from 1977 to 1980, and the National Aeronautical and Space Administration's (NASA's) space shuttle missions in the 1980s.

The land occupied by Hickam AFB will undergo development in the near future. Major changes include the arrival of several C-17 aircraft. New C-17 facilities will include three large-sized hangars, numerous support facilities, and an expansion of the aircraft parking ramp. Other future on-base projects include upgrades and replacements of the electrical distribution system, improvements to Military Family Housing (MFH), a new Joint Mobility Complex, a consolidated munitions facility, a ramp expansion, and several AT/FP upgrades.

## J1.2 Electric Distribution System Description

### J1.2.1 Electric Distribution System Fixed Equipment Inventory

The Hickam AFB 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, duct banks, 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:

- Taxiway 1 lighting
- Hickam Elementary School which feeds off vault 625
- The Navy owned electric circuit which comes from poles D29 and D50
- The Navy owned Sewage Treatment Plant (STP) circuit which comes from the load side of the Fort Kam breaker, located inside the Back Station, Building 1072.
- The Navy owned Bishop Point circuit from the load side of the Bishop Point breaker, located inside the Back Station, Building 1072.
- Building 3190
- Army Building 40
- Privatized Capehart and Earhart Housing secondaries - point of demarcation is the secondary lugs of the transformer to the unit.

#### J1.2.1.1 Description

Electrical service to Hickam AFB is provided by Hawaiian Electric Company (HECO). The system consists of both above ground and below ground circuits. Underground circuits are approximately 3 feet below grade, and approximately 5 percent of the underground cable is beneath asphalt or paved surfaces.

Ownership of Hickam AFB's electric utility system begins at six points:

- The first is at the Front Switch Station transformers low-side terminals (in the outdoor yard). HECO owns the three transformers at the Front Station. The Front Switch Station is located at the intersection of 18th Street and Fox Boulevard, approximately in the

center of the northern portion of the Base, north of the runways. The station consists of an outdoor yard for the HECO incoming equipment and transformers, and Building 165 housing the Air Force-owned indoor metal-clad switchgear and ancillary equipment. The underground cables from the low-side terminals into the switchgear room belong to the base. Circuit breakers at the Front Station, Building 165, feed various areas of Hickam AFB.

- The second is at the Back Switch Station, building 1072, on the load side terminals of the Air Force owned breaker serving Bishop Point.
- The third is on the line side of the disconnect switch on Pole D-29.
- The fourth is at the terminals on the Hickam side of the pole mounted switch at the emergency back-up connection at the Navy Station K.
- The fifth and sixth are at the two connections to the Navy-owned Sewage Treatment Plant; the load side terminals of the of the Air Force owned breaker on the Fort Kamehameha circuit ( the Navy owns the conductors and the Air Force owns the ducts from there up to the border of the STP). The HIANG circuit connection to the STP is Air Force owned up to the terminals on the line side of the air switch on pole R-14.

Feeders for the Hickam AFB electric distribution system were originally designed as a three-wire delta with a floating neutral/ground. Where underground feeders are replaced, a fourth conductor is added to the system. When an area is improved, generally the pole-top transformers are replaced with pad-mounted transformers and underground feeds to the pad-mounted transformers. Much of the underground duct is 3-1/2 inches, limiting the conductor size that can be used. If the duct lines cannot be replaced for whatever reason, cable replacement is done with the same conductor size, paper-insulated lead cable (PILC).

The electric distribution inventory does not include the inventory for the privatized housing areas: Capehart Housing and Earhart Housing.

Both the non-privatized and the privatized housing area's are fed from the Hickam AFB primary circuits and do not receive a separate service connection from the commodity supplier, HECO. Of the total inventory being privatized Approximately 40 percent of the electric distribution system inventory provides service for non-privatized military housing at Hickam AFB.

The Front Station Building 165 is owned by Hickam AFB and maintained by HECO.

### J1.2.1.2 Inventory

**Table 1** provides a general listing of the major electric distribution system fixed assets for the Hickam AFB electric distribution system included in the sale.

**TABLE 1**  
Fixed Inventory  
*Electric Distribution System*

Item	Size	Quantity	Unit	Approximate Year of Construction
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**TABLE 1**  
Fixed Inventory  
*Electric Distribution System*

Item	Size	Quantity	Unit	Approximate Year of Construction
<b>Main Base:</b>				
<b>Switch Station – Front: Building 165</b>				
Current Transformers	15kV	39	EA	1976
Station service transformers	75kva	1	EA	1976
Breakers	1200 A, 15 kV	12	EA	1976
Cable terminations		36	EA	1976
Battery charger	130 VDC	1	EA	1976
Battery (gel cell)	12 Volt	10	KAH	1999
Station grounding	#4 Copper	500	SCLF	1976
Yard crushed gravel	¾-inch or minus	17	CY	1976
Foundation for switch gear		120	SF	1976
<b>Switch Station – Back: Building 1072</b>				
Current transformers	15kV	27	EA	1970
Station service transformers	100 kVA	3	EA	1970
Breakers	1200 A, 15 kV	11	EA	1970
Cable terminations	15 KV	33	EA	1970
Battery charger	130 VDC	1	EA	1970
Battery (gel cell)	12 Volt	10	KAH	1999
<b>Underground Circuits</b>				
	<b>AWG</b>			
3-phase, 3-wire, copper	#2/0	8,244	SCLF	1995
3-phase, 3-wire, copper	#250	36,297	SCLF	1995
3-phase, 3-wire, copper	#500	32,040	SCLF	1995
3-phase, 3-wire, copper	#2/0	24,354	SCLF	1985
3-phase, 3-wire, copper	#4/0	39,456	SCLF	1985
3-phase, 3-wire, copper	#2/0	49,500	SCLF	1975
3-phase, 3-wire, copper	#4/0	180	SCLF	1975
3-phase, 3-wire, copper	#500	11,160	SCLF	1975
3-phase, 3-wire, copper	#2	5,310	SCLF	1965
3-phase, 3-wire, copper	#2/0	18,720	SCLF	1965
3-phase, 3-wire, copper	#4/0	34,758	SCLF	1965

**TABLE 1**  
Fixed Inventory  
*Electric Distribution System*

<b>Item</b>	<b>Size</b>	<b>Quantity</b>	<b>Unit</b>	<b>Approximate Year of Construction</b>
3-phase, 3-wire, copper	#350	38,700	SCLF	1965
3-phase, 3-wire, copper	#500	44,820	SCLF	1965
1-phase, 2-wire, copper	#2 AWG	11,042	SCLF	1980
1-phase, 2-wire, copper	#2 AWG	9,720	SCLF	1980
1-phase, 2-wire, copper	#4/0 AWG	13,847	SCLF	1980
1-phase, 2-wire, copper	#2 AWG	368	SCLF	1980
Ductbank		132,002	LF	1980
<b>Overhead Circuits</b>				
3-phase, 3-wire, copper	#2 AWG	5,040	SCLF	1975
3-phase, 3-wire, copper	#2/0 AWG	14,796	SCLF	1975
3-phase, 3-wire, copper	#2/0 AWG	61,200	SCLF	1965
3-phase, 3-wire, copper	#4 AWG	24,606	SCLF	1955
3-phase, 3-wire, copper	#2 AWG	47,916	SCLF	1955
3-phase, 3-wire, copper	#2/0 AWG	18,000	SCLF	1955
1-phase, 2-wire, copper	#2 AWG	4,532	SCLF	1980
1-phase, 2-wire, copper	#4 AWG	1,775	SCLF	1980
1-phase, 2-wire, copper	#2 AWG	2,818	SCLF	1980
1-phase, 2-wire, copper	#4 AWG	643	SCLF	1980
<b>Pad- Mounted Transformers</b>				
	<b>Nom kVA</b>	<b>No.</b>		
1-phase transformer, pad mounted, oil filled	10kva	1	EA	1980
1-phase transformer, pad mounted, oil filled	15kva	2	EA	1980
1-phase transformer, pad mounted, oil filled	25kva	15	EA	1980
1-phase transformer, pad mounted, oil filled	37.5kva	7	EA	1980
1-phase transformer, pad mounted, oil filled	50kva	33	EA	1980
1-phase transformer, pad mounted, oil filled	75kva	20	EA	1980
1-phase transformer, pad mounted, oil filled	100kva	26	EA	1980
1-phase transformer, pad mounted, oil filled	167kva	15	EA	1980
1-phase transformer, pad mounted, oil filled	250kva	6	EA	1980
1-phase transformer, pad mounted, oil filled	333kva	3	EA	1980

**TABLE 1**  
Fixed Inventory  
*Electric Distribution System*

<b>Item</b>	<b>Size</b>	<b>Quantity</b>	<b>Unit</b>	<b>Approximate Year of Construction</b>
3-phase transformer, pad mounted, oil filled	15kva	32	EA	1980
3-phase transformer, pad mounted, oil filled	25 kva	1	EA	1980
3-phase transformer, pad mounted, oil filled	37.5kva	3	EA	1980
3-phase transformer, pad mounted, oil filled	45kva	3	EA	1980
3-phase transformer, pad mounted, oil filled	50kva	1	EA	1980
3-phase transformer, pad mounted, oil filled	75kva	8	EA	1980
3-phase transformer, pad mounted, oil filled	100kva	2	EA	1980
3-phase transformer, pad mounted, oil filled	112.5kva	7	EA	1980
3-phase transformer, pad mounted, oil filled	150kva	21	EA	1980
3-phase transformer, pad mounted, oil filled	225kva	16	EA	1980
3-phase transformer, pad mounted, oil filled	300kva	19	EA	1980
3-phase transformer, pad mounted, oil filled	500kva	21	EA	1980
3-phase transformer, pad mounted, oil filled	750kva	6	EA	1980
3-phase transformer, pad mounted, oil filled	1000kva	3	EA	1980
3-phase transformer, pad mounted, oil filled	1500kva	1	EA	1980
<b>Pole Mounted - Transformers</b>				
1-phase transformer, pole mounted, oil filled	10kva	8	EA	1980
1-phase transformer, pole mounted, oil filled	15kva	15	EA	1980
1-phase transformer, pole mounted, oil filled	25kva	42	EA	1980
1-phase transformer, pole mounted, oil filled	37.5kva	25	EA	1980
1-phase transformer, pole mounted, oil filled	50kva	33	EA	1980
1-phase transformer, pole mounted, oil filled	75kva	7	EA	1980
1-phase transformer, pole mounted, oil filled	100kva	5	EA	1980
1-phase transformer, pole mounted, oil filled	150kva	2	EA	1980
<b>Utility Poles</b>				
	<b>Height (ft)</b>	<b>No.</b>		
Wood (pine)	30	6	EA	1980
Wood (pine)	35	5	EA	1980
Wood (pine)	45	201	EA	1980
Wood (pine)	60	50	EA	1980

**TABLE 1**  
Fixed Inventory  
*Electric Distribution System*

Item	Size	Quantity	Unit	Approximate Year of Construction
Cross Arms	6-ft	262	EA	1980
<b>Switches</b>				
	<b>Type</b>	<b>No.</b>		
Sectionalizing switches	2-Way	8	EA	1980
Sectionalizing switches	3-Way	13	EA	1980
Sectionalizing switches	4-Way	10	EA	1980
Isolation switch	2-Way	22	EA	1980
Pole mount gang switch	2-Way	11	EA	1980
Pole mount knife switch	2-Way	3	EA	1980
Loop feed selected switch	2-Way tap double throw	23	EA	1980
<b>Vaults</b>				
	<b>Type</b>	<b>No.</b>		
Estimated size 4' x 6' x 6'	Utility	39	EA	1980
<b>Meters</b>				
	<b>Type</b>			
Service Meter	Utility	125	EA	1985
<b>Manholes</b>				
	<b>Type</b>			
48" Diameter	Utility	242	EA	1980
<b>Street Lighting by Circuits</b>				
	<b>Type</b>	<b>No.</b>		
O'Malley Blvd circuit lighting	250 HPS	77	EA	1990
Steel pole	40'	77	EA	1990
Lighting circuit (est. at 200 ft/light pole)	#4 AWG	15,400	SCLF	1990
Overpass circuit lighting	250 HPS	25	EA	1980
Steel pole	35'	25	EA	1980
Lighting circuit (est. at 200 ft/light pole)	#4 AWG	5,000	SCLF	1980
Vandenberg circuit lighting	250 HPS	30	EA	1989
Fiber glass pole	40'	30	EA	1989
Lighting circuit (est. at 200 ft/light pole)	#2 AWG	6,000	SCLF	1989

**TABLE 1**  
Fixed Inventory  
*Electric Distribution System*

<b>Item</b>	<b>Size</b>	<b>Quantity</b>	<b>Unit</b>	<b>Approximate Year of Construction</b>
Hangar Ave circuit lighting	250 HPS	37	EA	1988
Steel pole	35'	37	EA	1988
Lighting circuit (est. at 200 ft/light pole)	#4 AWG	7,400	SCLF	1988
Signer Blvd circuit lighting	250 HPS	103	EA	1996
Fiber glass pole	35'	103	EA	1996
Lighting circuit (est. at 200 ft/light pole)	#2 AWG	20,600	SCLF	1996
Vickers Ave circuit lighting	250 HPS	53	EA	1986
Steel pole	35'	53	EA	1986
Lighting circuit (est. at 200 ft/light pole)	#2 AWG	10,600	SCLF	1986
Library circuit lighting	100HPS	135	EA	1976
Fiber glass pole	16'	135	EA	1976
Lighting circuit (est. at 150 ft/light pole)	#2 AWG	20,250	SCLF	1976
HIANG circuit lighting (on primary distribution poles)	250 HPS	77	EA	1987
Lighting circuit (est. at 30 ft/light pole)	#6 AWG	2,310	SCLF	1987
<b>Housing</b>				
<b>Underground Circuits</b>		<b>AWG</b>		
3-phase, 3-wire, copper	#2/0	5,496	SCLF	1995
3-phase, 3-wire, copper	#250	24,198	SCLF	1995
3-phase, 3-wire, copper	#500	21,360	SCLF	1995
3-phase, 3-wire, copper	#2/0	16,236	SCLF	1985
3-phase, 3-wire, copper	#4/0	26,304	SCLF	1985
3-phase, 3-wire, copper	#2/0	33,000	SCLF	1975
3-phase, 3-wire, copper	#4/0	120	SCLF	1975
3-phase, 3-wire, copper	#500	7,440	SCLF	1975
3-phase, 3-wire, copper	#2	3,540	SCLF	1965
3-phase, 3-wire, copper	#2/0	12,480	SCLF	1965
3-phase, 3-wire, copper	#4/0	23,172	SCLF	1965

**TABLE 1**  
Fixed Inventory  
*Electric Distribution System*

Item	Size	Quantity	Unit	Approximate Year of Construction
3-phase, 3-wire, copper	#350	25,800	SCLF	1965
3-phase, 3-wire, copper	#500	29,880	SCLF	1965
1-phase, 2-wire, copper	#2 AWG	7,362	SCLF	1980
1-phase, 2-wire, copper	#2 AWG	6,480	SCLF	1980
1-phase, 2-wire, copper	#4/0 AWG	9,231	SCLF	1980
1-phase, 2-wire, copper	#2 AWG	246	SCLF	1980
Ductbank		88,001	LF	1980
<b>Overhead Circuits</b>				
3-phase, 3-wire, copper	#2 AWG	3,360	SCLF	1975
3-phase, 3-wire, copper	#2/0 AWG	9,864	SCLF	1975
3-phase, 3-wire, copper	#2/0 AWG	40,800	SCLF	1965
3-phase, 3-wire, copper	#4 AWG	16,404	SCLF	1955
3-phase, 3-wire, copper	#2 AWG	31,944	SCLF	1955
3-phase, 3-wire, copper	#2/0 AWG	12,000	SCLF	1955
1-phase, 2-wire, copper	#2 AWG	3,022	SCLF	1980
1-phase, 2-wire, copper	#4 AWG	1,183	SCLF	1980
1-phase, 2-wire, copper	#2 AWG	1,878	SCLF	1980
1-phase, 2-wire, copper	#4 AWG	429	SCLF	1980
<b>Pad Mounted - Transformers</b>				
1-phase transformer, pad mounted, oil filled	25kva	2	EA	1980
1-phase transformer, pad mounted, oil filled	37.5kva	21	EA	1980
1-phase transformer, pad mounted, oil filled	50kva	26	EA	1980
1-phase transformer, pad mounted, oil filled	75kva	28	EA	1980
1-phase transformer, pad mounted, oil filled	95kva	1	EA	1980
1-phase transformer, pad mounted, oil filled	100kva	36	EA	1980
1-phase transformer, pad mounted, oil filled	150kva	1	EA	1980
1-phase transformer, pad mounted, oil filled	167kva	58	EA	1980
3-phase transformer, pad mounted, oil filled	25kva	2	EA	1980
3-phase transformer, pad mounted, oil filled	15kva	24	EA	1980
3-phase transformer, pad mounted, oil filled	25kva	7	EA	1980

**TABLE 1**  
Fixed Inventory  
*Electric Distribution System*

<b>Item</b>	<b>Size</b>	<b>Quantity</b>	<b>Unit</b>	<b>Approximate Year of Construction</b>
3-phase transformer, pad mounted, oil filled	75kva	1	EA	1980
3-phase transformer, pad mounted, oil filled	100kva	1	EA	1980
3-phase transformer, pad mounted, oil filled	112.5kva	14	EA	1980
3-phase transformer, pad mounted, oil filled	150kva	5	EA	1980
3-phase transformer, pad mounted, oil filled	1000kva	2	EA	1980
<b>Pole Mounted- Transformers</b>				
1-phase transformer, pole mounted, oil filled	25 kva	4	EA	1980
1-phase transformer, pole mounted, oil filled	37.5kva	5	EA	1980
1-phase transformer, pole mounted, oil filled	50kva	26	EA	1980
1-phase transformer, pole mounted, oil filled	75kva	25	EA	1980
1-phase transformer, pole mounted, oil filled	100kva	4	EA	1980
<b>Utility Poles</b>				
	<b>Height (ft)</b>	<b>No.</b>		
Wood (pine)	30	4	EA	1980
Wood (pine)	35	3	EA	1980
Wood (pine)	45	134	EA	1980
Wood (pine)	60	34	EA	1980
Cross arms	6-ft	175		1980
<b>Switches</b>				
	<b>Type</b>	<b>No.</b>		
Sectionalizing switches	2-Way	5	EA	1980
Sectionalizing switches	3-Way	8	EA	1980
Sectionalizing switches	4-Way	6	EA	1980
Isolation switch	2-Way	28	EA	1980
Pole mount gang switch	2-Way	7	EA	1980
Pole mount knife switch	2-way	2	EA	1980
Loop feed selected switch	2-Way tap double throw	16	EA	1980
<b>Lighting by Circuits</b>				
	<b>Type</b>	<b>No.</b>		
TV-7 housing circuit lighting	100 HPS	115	EA	1976
Fiber glass pole	16'	115	EA	1976
Lighting circuit (est. at 150 ft/light pole)	#4 AWG	17,250	SCLF	1976

**TABLE 1**  
Fixed Inventory  
*Electric Distribution System*

Item	Size	Quantity	Unit	Approximate Year of Construction
TV-18 housing circuit lighting	100 HPS	162	EA	1976
Aluminum pole	16'	162	EA	1976
Lighting circuit (est. at 150 ft/light pole)	#4 AWG	24,300	SCLF	1976
Freedom Ave circuit lighting	250 HPS	8	EA	1976
Wood pole	35'	8	EA	1976
Lighting circuit (est. at 200 ft/light pole)	#6 AWG	1,600	SCLF	1976
Onizuka Village circuit lighting	250 HPS	42	EA	1976
Steel pole	35'	42	EA	1976
Lighting circuit (est. at 200 ft/light pole)	#8 AWG	8,400	SCLF	1976
Earhart Village circuit lighting (on primary distribution poles)	250HPS	48	EA	1974
Lighting circuit (est. at 200 ft/light pole)	#6 AWG	9,600	SCLF	1974
Officers LP circuit lighting	Merc Vap	3	EA	1974
Fiber glass	16'	3	EA	1974
Lighting circuit (est. at 150 ft/light pole)	#6 AWG	450	SCLF	1974

## Notes:

A = ampere

AWG = American Wire Gauge

CY = cubic yard

EA = each

FT = feet

HPS = high-pressure sodium

KAH = kilo ampere hour

kv = kilovolt

kVA = kilovolt ampere

LF = linear feet

MVA = megavolt ampere

Nom kVA = nominal kilovolt-amperes

SCLF = single conductor linear feet

SF = square 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 Hickam AFB*

<b>Qty</b>	<b>Item</b>	<b>Manufacturer</b>	<b>Description</b>	<b>Remarks</b>
3	Transformer, pole-mounted		10 kva	None
2	Transformer, pole-mounted		25 kva	None
20	Transformer, pole-mounted		37.5 kva	None
8	Transformer, pole-mounted		50 kva	None
8	Transformer, pole-mounted		75 kva	None
6	Transformer, pole-mounted		100 kva	None
3	Transformer, pole-mounted		167 kva	None
1	Transformer, pad-mounted		50 kva	None
6	Transformer, pad-mounted		75 kva	None
5	Transformer, pad-mounted		100 kva	None
1	Transformer, pad-mounted		112.5 kva	None
2	Transformer, pad-mounted		150 kva	None
2	Transformer, pad-mounted		167 kva	None
5	Transformer, pad-mounted		225 kva	None
3	Transformer, pad-mounted		300 kva	None
2	Switch		1-way	None
2	Switch		2-way	None
3	Switch		3-way	None
4	Switch		4-way	None

Notes:  
kva = kilovolt amperes

**TABLE 3**  
Specialized Vehicles and Tools  
*Electric Distribution System Hickam AFB*

Description	Quantity	Location	Maker
Cable Trailer, located in Building 1207			

### 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 Hickam AFB*

Qty	Item	Description	Remarks
1	Drawings	Base Comprehensive Plan - Electric System (G-tab)	
1	Drawings	Bellows AFS Comprehensive Plan – Electric Distribution System	
	Manuals and Records	Operation and Maintenance Manuals	Located in the Hickam AFB Exterior Electric Shop.

## J1.3 Specific Service Requirements

The service requirements for the Hickam AFB electric distribution system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Hickam AFB electric distribution system and are in addition to those found in Section C. If there is a conflict between requirements described below and Section C, the requirements listed below take precedence over those found in Section C.

- Contractor will not commence any activities until any required permits are formally approved (e.g., construction), and will immediately notify the Base of any contractor activity that may constitute a permit violation. Contractor will notify the Base and obtain the Base's prior approval for all new, modified, or decommissioned pollution sources or regulated activities on the installation used by contractor or its contractors. Examples include, but are not limited to, well closures, tank removals, and use of temporary sources such as generators.
- Contractor will provide the Base, in advance and in a timely manner, any information that relates to contractor's activities that might have an impact upon the installation's air conformity status. Contractor will provide the Base with advance notice of any changes in operations or conditions that might result in increased air emissions in sufficient time to

allow the Base to obtain any necessary permits, or permit modifications. Contractor will provide a timely and complete response to the Base's requests for information

3. Contractor will immediately report all hazardous waste or hazardous material releases to the Base emergency response activity, and fully cooperate with any emergency response in accordance with the Base's plans and directives. Contractor is responsible for remediation and disposal of materials and contract costs.
4. Contractor will participate in exercises conducted by the Base. These will be identified by Hickam AFB.
5. Contractor will CC the base on all correspondence regarding environmental enforcement actions. The contractor shall provide the Contracting officer a copy of any and all testing information and reports that are submitted to any agency.
6. Where resolution of enforcement actions, fines, or penalties involve implementation of Supplemental Environmental Projects (SEPs), contractor will provide the Base with a list of all projects which may qualify as a SEP.
7. For all fines and penalties for which contractor is determined to be responsible and which are paid directly by the Base, contractor shall promptly transfer funds to the Base for payment of such fines or penalties. Reimbursable, as required, for payment of fines or penalties.
8. Contractor will coordinate and get approval (AF Form 103 Base Civil Engineering Work Clearance Request) from the Base before proceeding with any excavation.
9. Contractor will notify the Base of any scheduled or unscheduled outages (electric). For scheduled outages the Contractor will notify all affected occupants/users, Civil Engineering and Public Affairs Office prior to proceeding. For unscheduled outages the contractor will provide an operational report in accordance to AFI 10-206/PACAFSUP1 and when practical, notify all affected occupants/users.
10. Contractor will notify the Base Civil Engineering Power Production Shop prior to re-energizing commercial power.
11. Contractor will notify the Base (Security Forces, Medical Group, Fire Dept and Civil Engineering) of any road closures.
12. Contractor will be responsible for disconnecting Contractor's utilities for facilities to be demolished and insure no disruption of utilities to other adjacent facilities.
13. The Contractor shall enter into a Memorandum of Understanding with the Hickam AFB Fire Department for fire protection of all facilities included in the purchase of the utility. The Memorandum of Understanding shall be completed during the transition period and a copy provided to the Contracting officer.
14. The Contractor shall abide by Hickam fire protection requirements. The utility system purchased by the Contractor may include facilities. These facilities may or may not include fire alarm systems. Where required by federal, state or local regulations, the Contractor shall maintain the fire alarm system for all facilities owned and operated by the Contractor. The

Contractor shall permit Fire Department personnel access to their facilities to perform fire inspections and emergency response.

15. Contractor shall contact the owner of the land through which Contractor's utility line passes through to establish an easement or right-of-way for any part of the utility system that is on Non-AF land.

16. Contractor shall furnish information of any undertaking involving ground disturbance or alterations to a building/structure to the Environmental Planning Office (15 CES/CEVP) in order for the Air Force to submit a Section 106 document to the Hawai'i State Historic Preservation Office. If historic resources are identified in the area, the grantee shall not remove or disturb, or cause or permit to be removed or disturbed, any historical, archaeological, architectural, or other cultural artifacts, relics, vestiges, remains, or objects of antiquity without an archaeological monitor or historic architect to oversee such actions. Contractor shall pay for all historic preservation compliance issues associated with the undertaking, such as archaeological monitoring.

In the event such items are discovered inadvertently on the Premises without an archaeological monitor, Contractor shall cease its activities at the site (30 days for human remains) and immediately notify the Base Historic Preservation Officer and protect the site and the material from further disturbance until said officer gives clearance to proceed. Any costs resulting from this delay shall be the responsibility of Contractor.

## J1.4 Current Service Arrangement

Hickam AFB currently receives power (commodity supply) from the Hawaiian Electrical Company (HECO). During 2002, the annual electric power consumption at Hickam AFB was approximately 148,580,520 kilowatt-hours (kWh), with a maximum monthly consumption of 14,098,200 kWh during the month of September. The lowest monthly consumption for the year was approximately 10,447,440 kWh in January.

Major system upgrades are performed by the Hickam AFB Exterior Electric Shop.

## 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.3.3 and J1.6 below.

**TABLE 5**  
Existing Secondary Meters, Hickam AFB  
*Electric Distribution System*

Facility	Location	Meter Number
HECO	Building 165	12-129-959
A-Buss	Building 165	02-728-106

**TABLE 5**  
Existing Secondary Meters, Hickam AFB  
*Electric Distribution System*

<b>Facility</b>	<b>Location</b>	<b>Meter Number</b>
Onizuka	Building 165	30-903-208
Capehart	Building 165	30-903-207
HC-2	Building 165	30-903-209
Ohana Nui	Building 165	30-903-212
B-Buss	Building 165	02-728-105
Earhart	Building 165	30-908-210
HV-1	Building 165	30-903-206
1072-A	Building 165	30-903-214
HC-1	Building 165	30-903-213
C-Buss	Building 165	02-728-105
1072-B	Building 165	30-903-205
HK-2	Building 165	30-903-211
Fort Kamehameha	Building 1072	
AC-1	Building 1072	
MC-1	Building 1072	
Officers	Building 1072	66-093-116
Bishops Point	Building 1072	27-185-203
1072-A	Building 1072	17-193-912
1072-B	Building 1072	27-193-913
K-3/AC-2	Building 1072	
MC-2	Building 1072	
HIANG	Building 1072	
Kamehameha Housing	TP 5	75-573-180
Kamehameha Housing	TP 4	21-298-068
Kamehameha Housing	TP 6	75-571-617
Kamehameha Housing	TP 3	75-572-695
Youth Center	Building 1335	68-156-343
Burger King	Building 2096	01-564-183
Food Court	TP 1250	02-723-451
Class VI	TV 1224	77-386-657
NCO Tennis Courts	TP 427	81-985-016

**TABLE 5**  
Existing Secondary Meters, Hickam AFB  
*Electric Distribution System*

Facility	Location	Meter Number
Building 471	TP 485G	77-323-558
Building 470	TP 485H	77-323-559
Tradewinds	TP 422	01-122-837
Building 814	TP 711E	01-129-442
Building 815	TP 711D	77-323-556
Officers Billeting	Building 725	77-323-562
VIP Quarters	Building 728	77-323-565
Officers Club Snackbar	TV 900	77-386-630
Officers Club	TV 916	47-144-254
Officers Billeting	TP 924	77-386-625
Building 934	TP 935	77-386-629
Building 940 & 941	TV 939	77-323-561
Building 969 & 970	TV 965	77-323-560
Building 992	Building 992	77-323-564
Building 992 & 999	TV 503	77-740-003
502 AOG	Building 2045	85-589-638
In-Flight Kitchen / Fleet Service	Building 2037	71-627-740
MCI Satellite	Satellite Farm	81-888-375
Wake Island Satellite	Satellite Farm	77-337-563
102B 11th St.	Building 439	15-921-326
102A 11th St.	Building 439	15-921-323
Main Commissary	Secondary Load Center in Warehouse	60-882-745
Commissary Warehouse	Secondary Load Center in Warehouse	60-882-739
Building 3456 Main St. Federal Fire Dept. Office	Administrative Offices	70-526-974
NAVY Alpha Docks	Bishop Point Circuit Breaker	27-185-203
Waste Treatment Plant	Building 1351	92-512-391
Waste Treatment Plant	Building 1351	90-515-370
Waste Treatment Plant	Waste Treatment Fort Kamehameha Cubicle	12-286-418 31-056-224
Waste Treatment Plant	Waste Treatment HIANG Cubicle	12-286-419 31-056-223

**TABLE 5**  
Existing Secondary Meters, Hickam AFB  
*Electric Distribution System*

<b>Facility</b>	<b>Location</b>	<b>Meter Number</b>
Contractor	MH b23-6a on a trailer	20-266-291
Contractor	Building 3305	161-92-39
ARMY OFFICE	Building 3221	17-745-254
Mortuary	Building 45	76-788-521
ID Lab	Building 45	76-788-531
Army Office	Trailer 4	80-505-853
Army Office	Trailer 3	81-709-764
Army Office	Trailer 2	81-709-762
Army Office	Trailer 1	85-029-725
S-2	Trailer	18-275-582
S-3	Trailer	18-275-584
S-4	Trailer	18-275-583
S-5	Trailer	11-909-386
S-1	Trailer	22-204-668
S-6	Trailer	20-266-290
Ft Kamehameha Chapel	Building 3373	86-300-459
Middle Marker	Pole R-73	33-244-262
Approach Lights For Runway 8L	Pole R57	95-368-238
FAA Warehouse	Building 3568	81-391-690
Dept of Energy	TP 3225	30-816-477
GSA Store	Building 1725	71-627-747
GSA Warehouse	Building 1726	01-244-514
First Hawaiian Bank	Building 1257	63-182-884
Telephone Exchange Building	Building 989	4009 908
Telephone Exchange Building	Building 989	68-195-164
Oahu Telephone System	Building 1108	02-047-204
Hickam Federal Credit Union	Building 1256	58-696-840
Hickam Elementary School	TP	04-368-318
Bio-Environmental	Building 2070	71-429-062
Hickam Clinic	TP 559	4009-975
POL Trucks	Building 3020	85-710-521

**TABLE 5**  
Existing Secondary Meters, Hickam AFB  
*Electric Distribution System*

<b>Facility</b>	<b>Location</b>	<b>Meter Number</b>
Building 3407	TP 3407	95-914-443
Building 3411	Pole R120	61-281-181
Flight Sim	TP 3385	84-128-584
201 Combat	TP 3382	49-886-912
Building 3415	Pole R-130	61-270-919
Building 3416	TP 3416A	61-311-730
Building 3416	TP 3416B	73-071-693
Aircraft Maintenance Hangar	TP 3400	58-545-412
Latrine	Pole R-137	48-657-488
Battery Selfridge Armory	Building 3440	61-281-164
HIANG READINESS	TP 3392	03-838-364
Old Parachute Shop	TP 954	77-386-624
HIANG AGE Facility 1045	TP 1045	13-124-158
HIANG Survival	Building 1055	02-160-698
Boeing	Building 1055	4009-242
Hangar	Building 2020	4010-909
Hangar	Building 2021	4009-243
HIANG Operations	Building 2035	31-062-368
Building 3424	Secondary Load Center Room	61-048-319
Building 3431	Building 3431	68-423-410
Crew Chiefs	Building 3426	61-287-751
HIANG AGE Facility	Building 3379	75-528-728
Hangar AVIONICS	Building 3386	4010-911
551	201 8 <sup>th</sup>	85-029-720
538	202 7th	85-029-721
540	204 7th	67-804-595
550	203 8th	52-655-757
549	205 8th	85-029-723
546	207 8th	87-337-698
545	704 Beard	21-000-239
517	601 Bouquet	21-000-238

**TABLE 5**  
Existing Secondary Meters, Hickam AFB  
Electric Distribution System

Facility	Location	Meter Number
656	301 Julian	21-091-930

### 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.3.3 and J1.6 below.

**TABLE 6**  
New Secondary Meters  
Electric Distribution System Hickam AFB

Meter Location	Meter Description
There are no new secondary meters with the system to be privatized	

### 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:* 15 CES/CERU  
*Address:* 75 H Street, Hickam AFB, HI 96853-5233  
*Phone number:* (808) 449-2628

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:* 15 CES/CERU  
*Address:* 75 H Street, Hickam AFB, HI 96853-5233  
*Phone number:* (808) 449-2628

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:* 15 CES/CERU  
*Address:* 75 H Street, Hickam AFB, HI 96853-5233  
*Phone number:* (808) 449-2628

## J1.7 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.

There are no energy savings projects associated with the system to be privatized.

## J1.8 Service Area

**For Hickam AFB:** IAW Paragraph C.4, Service Area, the service area is defined as all areas within the Hickam AFB boundaries.

**For Bellows AFS:** IAW Paragraph C.4, Service Area, the service area is defined as all areas within the Bellow AFS boundaries and includes utility easements through lands owned by others: the United States Marines, GSA Fee Control lands and the state of Hawaii.

## J1.9 Off-Installation Sites

Bellows AFS is included in the sale of the Hickam AFB electric distribution system.

### J1.9.1.1 Bellows AFS Overview

Bellows AFS is located on the eastern coast of the Island of Oahu, approximately 30 miles east of Hickam AFS. As of April 1, 2003, the Station occupies 486.54 acres and contains approximately 104 buildings and other facilities with a total of approximately 133,999 square feet. The Station has a year-round staff of approximately 100 (both Air Force personnel and civilians), while up to 6,000 people use the Station for recreational purposes on a daily basis.

Bellows AFS is bordered to the north-northwest by the Keolu Hills, to the south-southwest by the Koolau Mountains, and to the east by Waimanalo Bay (the Pacific Ocean). Much of the Station is relatively flat, at an at an elevation of 25 feet or less above mean sea level, but the Station's northern and western extents include hills and ridgelines at elevations up to approximately 400 feet above mean sea level.

Bellows AFS was originally established in 1917 as the Waimanalo Military Reservation, and was renamed Bellows Field in 1933. Bellows Field was greatly expanded during World War II, after which it was transferred from the Army to the Air Force and redesignated Bellows AFS. From the late 1940s through the mid-1950s, the installation was used primarily as a military recreation area and for U.S. Marine Corps (USMC) field training exercises. These uses continue to the present. A communications relay complex was constructed in the late

1950s, whereupon the installation was redesignated Bellows AFS and its runways were closed. The operation and maintenance of this communications complex defined the primary mission of Bellows AFS through the mid-1990s, when its functions were transferred to other Air Force and Navy facilities in Hawaii. HIARNG relocated the Hawaii Military Academy from Fort Ruger to Bellows AFS in 1987. They just recently constructed a new facility on the Marine Corps land adjacent to Bellows AFS. Other non-Air Force tenants at the Station include the University of Hawaii (for its atmospheric testing research program) and the National Marine Fisheries Service and Montana State University (which conduct wildlife research).

Bellows AFS is currently operated by 15<sup>th</sup> Air Wing (AW), Detachment 1, 15th Mission Support Group. The installation is currently used primarily for military training exercises and military and civilian recreation. Nearly two-thirds of the installation is used for military training; USMC units train at Bellows AFS an average of 240 days per year. Bellows AFS also supports training exercises for Army and Navy units, and limited training for the State of Hawaii Department of Public Safety. The northern portion of the Bellows AFS beachfront is designated the "Bellows Recreation Center" and is restricted to use by active duty, reserve, guard, and retired military personnel and DoD civilian employees and their dependents and guests. This area is open throughout the year and is heavily used. The southern beachfront area, designated "Bellows Field Beach Park," is used for military training on weekdays and is open for public use on weekends and holidays. More than 200,000 people use the Bellows AFS beaches each year.

Several new recreational facilities are planned for Bellows AFS during the next 5 years that will increase the total square footage of buildings and other facilities at the Station by approximately 6.0 percent.

### **J1.9.1.2 Electric Distribution System Description**

#### **J1.9.1.2.1 Electric Distribution System Fixed Equipment Inventory**

The Bellows AFS 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:

- Overhead single phase lines/poles from Kalaniana'ole Hwy to beach bathhouse facilities, which belong to Hawaiian Electric Company (HECO).

### J1.9.1.2.1.1 Description

The electric distribution system at Bellows AFS is a 4.16-kV system, with pole-top transformers and aerial secondaries and with a small primary underground section in the southern portion of Bellows AFS. An upgrade is planned to replace the pole-mounted transformers and pole-top hardware (cross-arms, braces, and insulators).

There are two feeds from Hawaiian Electric Company (HECO) at Bellows AFS. Each HECO feed is metered separately. The HECO sources for the northern and southern portions of the Station are Lanikai and Waimanalo, respectively.

Most of the electrical system is overhead. Portions have been abandoned in place. The Station has 105 building units, consisting of Station support facilities and housing units. Most of the housing units are residential duplexes. The underground portion of the electrical system is approximately 3 feet below grade with approximately 3 percent below asphalt or paved surfaces.

The physical condition of the lines, transformers, poles, and cross-arms at Bellows is poor because of termites and the corrosion of the bolts and cross-arm supports.

### J1.9.1.2.1.2 Inventory

Table 7 provides a general listing of the major electric distribution system fixed assets for the Bellows AFS electric distribution system included in the sale.

**TABLE 7**  
Fixed Inventory, Bellows AFS  
*Electric Distribution System*

Item	Size	Quantity	Unit	Approximate Year of Construction
<b>Underground Circuits</b>		<b>Length (ft)</b>		
3-phase, 4-wire, copper, 4.16/2.4 kV	#2/0	1,700	SCLF	1976
Ductbank		1,700	LF	
<b>Overhead Circuits</b>				
3-phase, 4-wire, copper, 4.16/2.4 kV	#2 CU	21,320	SCLF	1976
3-phase, 4-wire, copper, 4.16/2.4 kV	#1/0 CU	8,110	SCLF	1976
<b>Transformers</b>		<b>Nom kVA</b>	<b>No.</b>	
1-phase, oil-filled, pole mounted	10	5	EA	1976
1-phase, oil-filled, pole mounted	15	2	EA	1976
1-phase, oil-filled, pole mounted	25	23	EA	1976
1-phase, oil-filled, pole mounted	37.5	6	EA	1976
1-phase, oil-filled, pole mounted	50	4	EA	1976
1-phase, oil-filled, pole mounted	75	2	EA	1976

**TABLE 7**  
Fixed Inventory, Bellows AFS  
*Electric Distribution System*

Item	Size	Quantity	Unit	Approximate Year of Construction
1-phase, oil-filled, pole mounted	167	3	EA	1976
<b>Utility Poles</b>	<b>Height (ft)</b>	<b>No.</b>		
Wood	25	18	EA	1976
Wood	40	155	EA	1976
Fiberglass	40	1	EA	2000
Cross Arms – 6 ft.		173	EA	1976
<b>Switches</b>	<b>Type</b>	<b>No.</b>		
	2-way	4	EA	1976
<b>Vaults</b>	<b>Type</b>	<b>No.</b>		
4' x 6' x 6'	Utility	6	EA	1976
<b>Lighting</b>	<b>Type</b>	<b>No.</b>		
Street Lights	400 W HPS	61	EA	1976
Wood Pole	30'	61	EA	1976
Circuit	#4 AWG	11,290	SCLF	1976

## Notes:

AWG = American Wire Gauge

EA = each

ft = feet

HPS = high pressure sodium

LF = linear feet

SCLF = Single conductor linear feet

### J1.9.1.3 Specific Service Requirements

The service requirements for the Bellows AFS electric distribution system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Bellows AFS electric distribution system and are in addition to those found in Section C. If there is a conflict between requirements described below and Section C, the requirements listed below take precedence over those found in Section C.

- Specific service requirements are the same as those listed for Hickam AFB Section J1.3.

### J1.9.1.4 Current Service Arrangement

Bellows AFS currently receives power (commodity supply) from the Hawaiian Electrical Company. During 2002, the annual electric power consumption at Bellows AFS was approximately 1,984,800 kilowatt-hours (kWh), with a maximum monthly consumption of

189,400 kWh during the month of October. The lowest monthly consumption for the year was approximately 147,400 kWh in both December and March.

Several new recreational facilities are planned for Bellows AFS during the next 5 years that will increase the total square footage of buildings and other facilities at the Station by approximately 6.0 percent. Major system upgrades are performed by the Hickam AFB Exterior Electrical Shop.

### **J1.9.1.5 Secondary Metering**

#### **J1.9.1.5.1 Existing Secondary Meters**

**Table 8** 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 8**  
Existing Secondary Meters, Bellows AFS  
*Electric Distribution System*

<b>Meter Location</b>	<b>Meter Description</b>
There are no existing secondary meters included with the system to be privatized.	

#### **J1.9.1.5.2 Required New Secondary Meters**

The Contractor shall install and calibrate new secondary meters as listed in **Table 9**. 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 9**  
New Secondary Meters, Bellows AFS  
*Electric Distribution System*

<b>Meter Location</b>	<b>Meter Description</b>
There are no new secondary meters with the system to be privatized	

## **J1.10 Specific Transition Requirements**

IAW Paragraph C.13, Transition Plan, **Table 10** provides a listing of service connections and disconnections required upon transfer.

**TABLE 10**  
Service Connections and Disconnections  
*Electric Distribution System Hickam AFB*

Location	Description
	The government does not require any service connections or disconnections during the transition period.

## J1.11 Government Recognized System Deficiencies

**Table 11** provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the Hickam AFB and Bellows AFS 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 Renewal and Replacement Plan process and will be recovered through Schedule L-3. Renewal and Replacement projects will be recovered through Sub-CLIN AB.

Note: Further Project information will be in the Utilities Privatization Technical Library.

**TABLE 11**  
System Deficiencies  
*Electric Distribution System Hickam AFB*

Project Number	Title	FY
941066	Hickam AFB: Replace Underground Cable Earhart Village	2003
961009	Hickam AFB: Alternate Circuits	2003
	Primary Ground Fault Protection	2003
	Upgrade K-3 Feeder and Relocate AC-2 Feeder	2004
	Upgrade Electrical System at Fort Kam Housing	2004
	Upgrade MC-1 and MC-2	2005
013001	Hickam AFB: Upgrade Electric Distribution System	2005
941036	Hickam AFB: Replace Transformer Station (Wing HQ/Base Ops)	2006
	Upgrade Electrical Station 1242	2006
	Upgrade Electrical System MH B-11	2006
981006	Hickam AFB: Upgrade Base Exchange Electrical System	2007
	Upgrade Commissary Electrical System	2007
	Upgrade Supply Squadron Electrical System	2007
	Upgrade Electrical System for PME Center, Dormitories,	2007

**TABLE 11**  
System Deficiencies  
*Electric Distribution System Hickam AFB*

<b>Project Number</b>	<b>Title</b>	<b>FY</b>
	Arts & Crafts, Bowling Center	
	Upgrade Hickam Village Circuit Capability	2007
031014	Hickam AFB: Upgrade Electrical Service	2007
	Upgrade Reimbursable Monitoring Devices	2007