

ATTACHMENT J10**Fort Story Electrical Distribution System****Table of Contents**

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J10 Fort Story Electrical Distribution System

J10.1 Fort Story Overview

Fort Story, named for General Patton Story, a well-noted artilleryman, is located at Cape Henry, Virginia and is bounded by the Chesapeake Bay and the Atlantic Ocean. During World War I, Fort Story was made a part of the coastal defense group along with Fort Monroe and Fort Wool. Then in 1925, Fort Story became a designated harbor defense command. As World War II drew nearer, Fort Story went on to become the immediate headquarters of the Harbor Defense Command, which was originally based at Fort Monroe. In 1944, Fort Story slowly transformed its position as Harbor Headquarters to a recovery hospital for returning World War II veterans. In 1946, by the end of World War II, Fort Story redefined its mission by becoming an amphibious training base. In 1962, Fort Story was declared a Class I sub-installation of Fort Eustis. Today, its 1,451-acre territory is primarily used as a "LOTS" training facility, which is also known as Logistics-Over-The-Shore. It supports approximately 3,000 soldiers, sailors, marine personnel, retirees and military family members.

J10.2 Electrical Distribution System Description

J10.2.1 Electrical Distribution System Fixed Equipment Inventory

The Fort Story electric distribution system comprises all appurtenances physically connected to the distribution systems from the point at which 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.

J10.2.1.1 Description

All of Fort Story's electric power is purchased from Norfolk Navy Public Works Center (PWC) who in turn purchases from Virginia Power. Virginia Power supplies the post at 34.5 kV through two primary delivery points at the west and east gates. Service is delivered to the substation at Okinawa Road. Virginia Power owns the substation and the distribution lines to the substation. The substation distributes power to the government-owned switching station through feeders A, B, C, and D at 13.8 kV. The switching station is a conventional, outdoor, air-insulated substation configured in a double-ended main bus arrangement housed in a standard metal cabinet. This substation provides voltage regulation, control, and over-current protection for the distribution feeders and includes space for a future feeder.

The distribution system comprises aboveground system with overhead wiring on poles and underground primary construction utilizing duct and manhole type construction and both exterior pad-mounted transformers and interior primary unit substation transformers. The underground primary facilities are generally arranged in a redundant feeder configuration with transformer primary selector switches.

The aboveground facilities include approximately 13 circuit miles of primary distribution lines. These lines range in size from #4 wire to 2/0 wire. Most of the wiring in the distribution system is copper. Some sections include #336 Aluminum wire. The underground facilities include approximately 1 circuit mile of primary distribution lines. Fort Story underwent a major electrical distribution renovation project in the late 1980s and, as a result, transformers containing PCBs were replaced with non-PCB containing transformers. The electric lines owned by Virginia Power are on poles owned by Virginia Power. The inventory of poles includes only those poles owned by the government.

J10.2.1.2 Inventory

Table 1 provides a general listing of the major electrical system fixed assets for the Fort Story 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 herein, is considered part of the purchased utility.

TABLE 1

1. Fixed Inventory

Electrical Distribution System Fort Story

Item	Size	Quantity	Unit	Approximate Year of Construction
<i>Overhead Distribution System</i>				
3 Phase Large Conductor	#2	56750	lf	1987
3 Phase Large Conductor	1/0	3825	lf	1987
3 Phase Small Conductor	#2	800	lf	1987
Single Phase Conductor	#2	7950	lf	1987
<i>Underground Distribution System</i>				
3 Phase Large Conductor	2/0	5275	lf	1987
Switching Station			ea	1987
<i>Pole-mounted Transformers</i>				
1-phase	10 kVA	22	ea	1979
1-phase	15 kVA	43	ea	1979
3-phase	25 kVA	76	ea	1985
3-phase	37.5 kVA	27	ea	1979
3-phase	50 kVA	16	ea	1979
3-phase	75 kVA	28	ea	1983
3-phase	100 kVA	6	ea	1987
3-phase	112.5 kVA	1	ea	1980
3-phase	150 kVA	5	ea	1982
3-phase	225 kVA	3	ea	1979
3-phase	300 kVA	9	ea	1985
3-phase	500 kVA	3	ea	1985
Poles - Wood		399	ea	1979
Interrupter Switches		46	ea	1984
Manholes		8	ea	1984
Light Fixtures - HPS		216	ea	1989
Electric Meters Listed in Table 5	Various	Approx 39	ea	Various

Notes:

MVA = nominal kilovolt amperes

ea = each
 LF = linear feet
 sf = square feet

J10.2.2 Electrical Distribution System Non-Fixed Equipment and Specialized Tools Inventory

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

TABLE 2

2. Spare Parts

Electrical Distribution System Fort Story

Qty	Item	Make/Model	Description	Remarks
No spare parts for maintenance of the Fort Story electrical distribution system will be available to the new owner of the system. The Army does not maintain an inventory of spare parts for the system. The Fort Story electrical distribution system is currently being operated and maintained by PWC of Norfolk, VA, through an Interservice Support Agreement with Fort Eustis.				

TABLE 3

3. Specialized Equipment and Vehicles

Electrical Distribution System Fort Story

Description	Quantity	Location	Maker
No specialized equipment or vehicles for maintenance of the Fort Story electrical distribution system will be available to the new owner of the system. The Fort Story electrical distribution system is currently being operated and maintained by PWC of Norfolk, VA, through an Interservice Support Agreement with Fort Eustis.			

J10.2.3 Electrical Distribution 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 Story

Qty	Item	Description	Remarks
No manuals, drawings, and records for installed equipment are available for transfer to the new owner of the system. All available construction ("as built") drawings and system maps of the system will be provided to the new owner during the transition period. System maps will be available in the technical library.			

J10.3 Current Service Arrangement

Currently, Virginia Power supplies electric service to Fort Story. Virginia Power bills the Department of the Navy, PWC, for electric consumption. PWC, in turn, bills the Army for consumption of its portion of the electricity. Electric power consumption at Fort Story in each of the fiscal years, FY98, FY99, and FY00, was approximately 14 million kilowatt-hours (kWh). The peak demand in each of those fiscal years was approximately 3.1 million kilowatts (kW), occurring in July or August.

J10.4 Secondary Metering

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

J10.4.1 Existing Secondary Meters

Table 5 provides a listing of the existing (at the time of contract award) secondary meters that will be transferred to the Contractor. The Contractor shall provide meter readings once a month for all secondary meters IAW paragraphs C.3 and J10.5 below.

TABLE 5

5. Existing Secondary Meters

Electrical Distribution System Fort Story

BLDG NO.	METER TYPE	ADDRESS	OCCUPANT	LOCATION
Substation, Main	Electric			
Substation, Alt	Electric			
102	Electric	102 Cape Henry Rd	Navy/Marines	
309	Electric	309 Cape Henry Rd	Navy/Marines	
300 Hsg	Electric			
400 Hsg	Electric			
533	Electric	533 Solomon Rd	Veterinary Service	Meter# 2-654-241
587	Electric	587 Sansapor Rd	Family housing	
593	Electric	593 Atlantic Ave	AAFES	
605	Electric	605 First Landing Rd	Reserve center	
649	Electric	649 New Guinea Rd	Dental clinic	Meter# 2-654-263
705	Electric	705 Leyte Rd	Recreation billets	
709	Electric	709 Marseilles Rd	Family hsg heat plant	
710	Electric	710 Marseilles Rd	Family hsg heat plant	
712	Electric	712 Leyte Rd	UOQ transient	
713	Electric	713 Leyte Rd	Recreation billets	
714	Electric	714 Leyte Rd		
715	Electric	715 Luzon Rd	Recreation billets	
716	Electric	716 Luzon Rd	Recreation billets	
717	Electric	717 Luzon Rd	Recreation billets	

BLDG NO.	METER TYPE	ADDRESS	OCCUPANT	LOCATION
723	Electric	723 Luzon Rd	Family housing	
731	Electric	731 Leyte Rd	Family housing	
732	Electric	732 Leyte Rd	Family housing	
734	Electric	734 Leyte Rd	Family housing	
807	Electric	807 Al Jubayl Rd		
821	Electric	821 Blasters Cove		
893	Electric	893 Omaha Beach Rd	Family housing	
904	Electric	904 Vung Tau Rd	Family housing	
905	Electric	905 Vung Tau Rd	Family housing	
906	Electric	906 Vung Tau Rd	Family housing	
911	Electric	911 Thule Rd	Family housing	
912	Electric	912 Thule Rd	Family housing	
1078	Electric	1078 Hospital Rd	General instruction	
1079	Electric	1079 Hospital Rd	Family housing	
VA Pilot Assn	Electric			
Coast Guard	Electric			
606	Electric	604 Hospital Rd	MWR Car Wash	Meter#16-059-352
1102	Electric		FS Club	Meter#26-54-212
1116	Electric		Cape Henry Inn	Meter#92-681-090

J10.4.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in Table 6. New secondary meters shall be installed IAW Paragraph C.13, Operational Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3 and J10.5 below.

TABLE 6

6. New Secondary Meters

Electrical Distribution System Fort Story

Meter Location	Meter Description
Table 5 above lists all secondary meters in this system in use as of the beginning FY01. The contractor will be given deletions from and additions to Table 5 during the ownership transition period.	

J10.5 Monthly Submittals

The Contractor shall provide the Government monthly submittals for the following:
 Invoice (IAW paragraph 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)

J10.6 Energy Savings Projects

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

- Interior Lighting Upgrades at various buildings.
- Boiler Plant Upgrade
- Fort Story is currently installing a Utility Monitoring and Control System (UMCS). The UMCS will be used to monitor and control the on-post utility systems. It will be connected to components of each of the utility systems. After privatization of the electric distribution system the UMCS will be used to monitor some functions of the system. The contractor will be required to cooperate with UMCS operation at no cost to the government by allowing continued connection to the utility components and connection to existing and new components when required for support of UMCS operation. Detailed information on the UMCS and its operation will be available in the technical library.

J10.7 Service Area

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

J10.8 Off-Installation Sites

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

J10.9 Specific Transition Requirements

IAW Paragraph C.13, Operational 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 Story electrical distribution systems. Since the system is operated and maintained by the Department of the Navy this will require a transition plan to be developed and executed.

TABLE 7

7. Service Connections and Disconnections

Electrical Distribution System Fort Story

Location	Description
None Identified as of the beginning of FY01. A list of service connections and disconnections for the ten-year period from FY91 through FY00 is available in the technical library. 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 Story

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

J10.10 Electric Distribution System Points of Demarcation

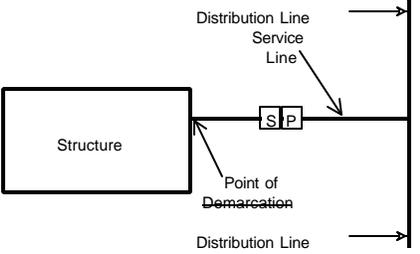
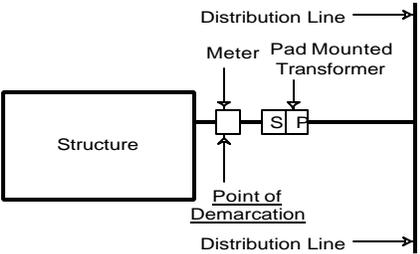
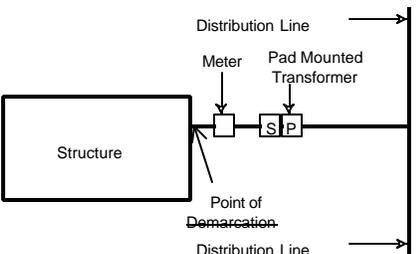
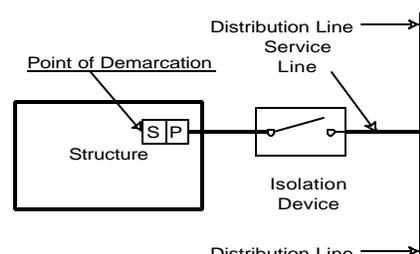
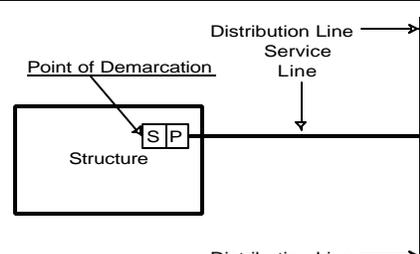
The point of demarcation is defined as the point on the distribution system where ownership changes from the Grantee to the building owner. This point of demarcation will typically be at the point the utility enters a building structure or the load side of a transformer within a building structure. The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

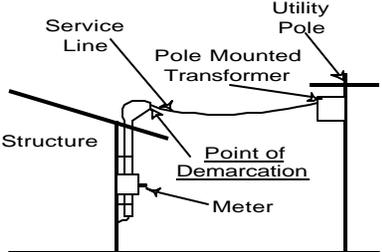
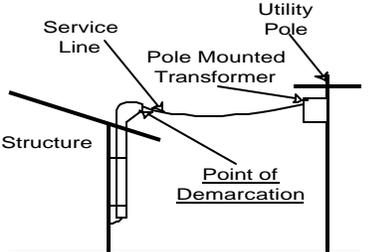
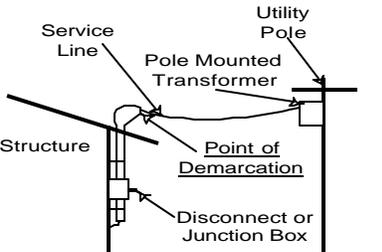
TABLE 9

9. Points of Demarcation

Electrical Distribution System Fort Story

Point of Demarcation	Applicable Scenario	Sketch
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Point of Demarcation	Applicable Scenario	Sketch
<p>Point of demarcation is the first point of disconnect at or in the facility.</p>	<p>Pad Mounted Transformer located outside of structure with underground service to the structure and no meter exists.</p>	 <p>The diagram shows a structure on the left connected to a horizontal distribution line on the right. A service line runs from the distribution line to a pad-mounted transformer (S/P) located outside the structure. The point of demarcation is indicated at the connection point between the structure and the service line.</p>
<p>Down current side of the meter</p>	<p>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>	 <p>The diagram shows a structure on the left connected to a horizontal distribution line on the right. A meter is located on the secondary line between the structure and a pad-mounted transformer (S/P). The point of demarcation is indicated on the secondary line between the meter and the transformer.</p>
<p>Point of demarcation is the first point of disconnect at or in the facility.</p>	<p>Three Phase CT metered service.</p>	 <p>The diagram shows a structure on the left connected to a horizontal distribution line on the right. A meter is located on the secondary line between the structure and a pad-mounted transformer (S/P). The point of demarcation is indicated at the connection point between the structure and the secondary line.</p>
<p>Secondary terminal of the transformer inside of the structure</p>	<p>Transformer located inside of structure and an isolation device is in place with or without a meter</p> <p>Note: Utility Owner must be granted 24-hour access to transformer room.</p>	 <p>The diagram shows a structure on the left containing a transformer and an isolation device. A service line runs from the transformer to a horizontal distribution line on the right. The point of demarcation is indicated at the secondary terminal of the transformer inside the structure.</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>The diagram shows a structure on the left containing a transformer. A service line runs from the transformer to a horizontal distribution line on the right. The point of demarcation is indicated at the secondary terminal of the transformer inside the structure.</p>

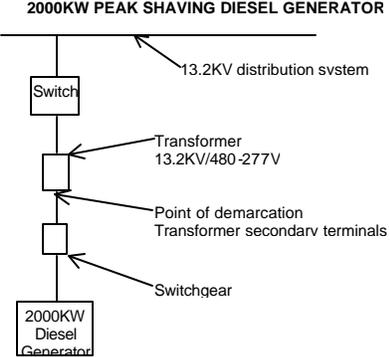
Point of Demarcation	Applicable Scenario	Sketch
<p>Point of demarcation is the point where the overhead conductor is connected to the weather head.</p>	<p>Electric meter is connected to the exterior of the building on an overhead secondary line.</p>	
<p>Point of demarcation is the point where the overhead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

J10.11 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 Story

Point of Demarcation	Applicable Scenario	Sketch
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Point of Demarcation	Applicable Scenario	Sketch
<p>Point of demarcation is the secondary terminals of the transformer(13.2KV/480-277V) connecting the peak shaving generator to the 13.2 KV service.</p>	<p>2000KW PEAK SHAVING DIESEL GENERATOR Diesel generator used for peak demand shaving is connected to the electric distribution system through a transformer.</p>	 <p>NOTE: Depicted here is the approximate configuration and description of the generator system under construction to be completed in 2001. The actual system should be inspected during site visit.</p>

J10.12 Plants and Substations

TABLE 11
 11. Plants and Substations
 Electrical Distribution System Fort Story

Description	Facility #	State Coordinates	Other Information
None			