**ATTACHMENT J07**

# Fort Monroe Electrical Distribution System

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# J07 Fort Monroe Electrical Distribution System

## J07.1 Fort Monroe Overview

Fort Monroe is located at the southeastern tip of the Virginia lower peninsula on a sand spit between Hampton Roads and the Chesapeake Bay. Fort Monroe is completely surrounded by water except for the northern tip and is connected to the mainland by two bridges at the western end. Originally named Fortress Monroe, in honor of James Monroe, our fifth president, it was designated Fort Monroe by the secretary of war in 1832. The Fort encompasses 568 acres, of which approximately 108 acres are under water. Today, Fort Monroe is the home of the Army's Training and Doctrine Command (TRADOC), whose mission is to develop the doctrine, weapon systems, equipment, organizations and training needed for the battlefields.

## J07.2 Electrical Distribution System Description

The Fort Monroe electric distribution system consists of all appurtenances physically connected to the distribution system from the point in which the distribution system enters the Base, and/or Government ownership currently, starts to the point of demarcation defined by the real estate instruments. Generally, the point of demarcation will be the building footprint. The system may include, but is not limited to, substations, transformers, underground and overhead circuits, utility poles, switches, vaults, and lighting fixtures. The following description and inventory is included to provide the Offeror with a general understanding of the size and configuration of the distribution system. The inventory is assumed to be approximately 90 percent complete. The Offeror shall base the proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description. Under no circumstances shall the successful Contractor be entitled to any rate adjustments based on the accuracy of the following description and inventory.

### J07.2.1 Electrical Distribution System Fixed Equipment Inventory

Fort Monroe currently purchases electric power requirements from Virginia Power under its Schedule MS Alternative tariff rates. The rate schedule is available to Federal Government installations with monthly average metered demands of 1,500 kW or more. A single 13.2-kV Virginia Power delivery point is located near the center of the installation.

Fort Monroe owns and operates an electrical utility system consisting of:

- One 13.2 KV Metal Clad Switchgear Station
- Approximately 7 circuit-miles of underground primary distribution lines
- 105 Pad-mounted Transformers with an aggregate capacity of 18,576 kVA
- 323 Building Services
- 513 Street Light Fixtures

Main Post Inventory (Fort Monroe)

The electric distribution system is composed of 13.2kV underground primary construction, which mainly employs duct-type construction practices and pad-mounted transformers. With the completion of the upgrade project, all conventional overhead, pole line facilities have now been retired. The 13.2 kV circuits are supplied from primary circuit breakers located in a Government owned metal clad switchgear assembly at the Main Substation. This equipment provides control and

over-current protection for six 13.2 kV underground feeders. Virginia Power owns the incoming 23kV sub-transmission and 23/13.2 power transformation equipment.

### J07.2.1.2 Inventory

**Table 1** provides a general listing of the major electrical system fixed assets for the Fort Monroe electrical distribution system included in the purchase. The system will be sold in an "as is, where is" condition without any warrant, representation, or obligation on the part of the Government to make any alterations, repairs, or improvements. All ancillary equipment attached to and necessary for operating the system, though not specifically mentioned here in, is considered part of the purchased utility.

**TABLE 1**
1. Fixed Inventory
Electrical Distribution System Inventory, Fort Monroe

| ITEM | SIZE | QUANTITY | UNIT | APPROXIMATE YEAR OF CONSTRUCTION |
|---|---|---|---|---|
| Structure/Buswork | | | | |
| Primary Sectionalizing Switches | 13.2 kV | 9 | Ea | 1994 |
| OCB Switchgear | 13.2 kV | 9 | Ea | 1994 |
| | | | | |
| Underground Distribution Lines | | | | |
| Large (3 Phase) | 13.2 kV | 33,751 | Ft | 1996 |
| Single Phase | 7.6 kV | 3,150 | Ft | 1996 |
| Secondary | | 31,600 | Ft | 1996 |
| | | | | |
| Street/Security/Parking Lot Lights | | | | |
| Fixtures | | 513 | Ea | 1996 |
| Poles | | 446 | Ea | 1996 |
| Conductor Underground | | 61,125 | Ft | 1996 |
| | | | | |
| Pad – Mounted Transformers | 1 Ph 25 kVA | 5 | Ea | 1996 |
| | 1 Ph 37.5 kVA | 3 | Ea | 1996 |
| | 1 Ph 50 kVA | 7 | Ea | 1996 |
| | 1 Ph 75 kVA | 6 | Ea | 1996 |
| | 1 Ph 100 kVA | 11 | Ea | 1996 |
| | 1 Ph 167 kVA | 7 | Ea | 1996 |
| | 1 Ph 250 kVA | 2 | Ea | 1996 |
| | 3 Ph 45 KVA | 3 | Ea | 1996 |
| | 3 Ph 75 kVA | 8 | Ea | 1996 |
| | 3 Ph 112 kVA | 7 | Ea | 1996 |
| | 3 Ph 150 kVA | 12 | Ea | 1996 |
| | 3 Ph 225 kVA | 14 | Ea | 1996 |
| | 3 Ph 300 kVA | 11 | Ea | 1996 |
| | 3 Ph 500kVA | 7 | Ea | 1996 |
| | 3 Ph 750 kVA | 2 | Ea | 1996 |

**Notes:**

* - For linear footage figures above, 3-phase cable (3 conductors plus ground) is counted as one entity, not four separate wires. Thus 500 linear foot of 3-phase cable is counted as 500 linear feet, NOT 4 wiresx500=2000 linear feet.
kVA = nominal kilovolt amperes
Ea = each
LF = linear feet
Bldg. = building
Ph = Phase

## J07.2.2 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 Monroe

| |
|---|
| Fort Monroe maintains an inventory of spare parts for the electrical distribution system. Contents of the inventory vary as items are used and/or purchased. Availability of this inventory to the new owner will be negotiated before or during the transition period. |

**TABLE 3**
3. Specialized Equipment and Vehicles
Electrical Distribution System Fort Monroe

| |
|---|
| No specialized equipment or vehicles for maintenance of the Fort Monroe electrical distribution system will be transferred to the new owner of the system. |

## J07.2.3 Electrical System Manuals, Drawings, and Records Inventory

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

**TABLE 4**
4. Manuals, Drawings, and Records
Electrical Distribution System Fort Monroe

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

# J07.3 Current Service Arrangement

Fort Monroe currently purchases electric power requirements from Virginia Power under its Schedule MS Alternative tariff rates. The rate schedule is available to Federal Government installations with monthly average metered demands of 1,500 kW or more. A single 13.2-kV Virginia Power delivery point is located near the center of the installation.

As required by this contract, the Contractor shall demonstrate the ability to meet and shall establish any and all requirements to provide electric distribution service to Fort Monroe.

# J07.4 Secondary Metering

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

## J07.4.1 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 C.3 and J07.5 below.

**TABLE 5**
5. Existing Secondary Meters
Electrical Distribution System Fort Monroe

| ELECTRICAL METERS (NON-FAMILY HOUSING) | | |
|---|---|---|
| **FAC NAME & NO.** | **METER NO.** | **NEW** |
| Bldg 82 Clinic | | |
| COMMISSARY, 181 | 14611018 | |
| **Old Point National Bank** | 81803043 | |
| BLDG 12 HDBLL CT | 70263943 | |
| SPORTS CENTER | 64475267 | |
| PX BLDG 210 | 30-990-610 | |
| **Ft. Monroe Credit Union** | GE67859012 | |
| Bldg 165 JWFC | 92-693-808 | |
| Bldg 96 JWFC | 31-456-139 | |
| O' CLUB, 185 | New | |
| TOWER NO. 28 NAVAL ON POLE | 49901374 | |
| BOWLING ALLEY | 90-198-273 | |
| Bldg 221, Combined Activity Center | 12-280-149 | |
| NAVAL ORDINANCE LAB TSTING FAC | 90-198-272 | |
| NAVAL ORDINANCE LAB TEST FAC. CABLES | 78-492-957 | |
| NAVAL BLDG 88 | 45936552 | |
| MONROE APT CORP BLDG 88 SUTH E | 46712395 | |
| BLDG 36 | 86-326-796 | |
| NAVY BLDG 204 | 11-986-854 | |
| NAVY BLDG 205 | 11-830-381 | |
| U. S. COAST GUARD | 259422 | |
| Bldg 139 SAFTA | 12700331 | |
| PX WAREHOUSE bldg 164 | 1186037 | |

| ELECTRICAL METERS (NON-FAMILY HOUSING) | | |
|---|---|---|
| **FAC NAME & NO.** | **METER NO.** | **NEW** |
| Bldg 6 Located in fenced area on trans | 91-477-596 | |
| Bldg 82 Admin | 6400664D03 | |
| YMCA (For construction contractor) | ABB86386369 | |
| Bldg 59 | 78-786-188 | |
| Total number of meters - 27 | | |

| FAMILY HOUSING ELECTRICAL METERS | | |
|---|---|---|
| **QUARTERS NUMBER** | **METER NO.** | **NEW** |
| 1. QTRS 186A | 39-891-564 | |
| 2, QTRS 186B | 39-891-565 | |
| 3. QTRS 187A | 39-891-823 | |
| 4. QTRS 187B | 39-891-624 | |
| 5. QTRS 188A | 39-891-601 | |
| 6. QTRS 188B | 39-891-602 | |
| 7. QTRS 193A | 39-891-619 | |
| 8. QTRS 193B | 39-891-620 | |
| 9. QTRS 192A | 39-891-599 | |
| 10. QTRS 192B | 39-891-600 | |
| 11. QTRS 191A | 39-891-625 | |
| 12. QTRS 191B | 39-891-626 | |
| 14. QTRS 194A | 39-891-615 | |
| 15. QTRS 194B | 39-891-616 | |
| 16. QTRS 195A | 39-891-617 | |
| 17. QTRS 195B | 39-891-618 | |
| 18. QTRS 196A | 39-891-621 | |
| 19. QTRS 196B | 39-861-622 | |
| 20. QTRS 129B | 39-89-536 | |
| 21. QRS 129A | 39-891-535 | |
| 22. QTRS 79B | 93-104-618 | |
| 23. QTRS 79A | 93-104-626 | |
| 24. QTRS 70B | 93-104-620 | |
| 25. QTRS 70A | 93-104-619 | |
| 26. QTRS 69B | 93-104-652 | |
| 27. QTRS 69A | 93-104-651 | |
| 28. QTRS 68B | 93-104-625 | |
| 29. QTRS 68A | 93-104-617 | |
| 30. QTRS 124B GO | 39-891-538 | |
| 31. QTRS 124A | 39-880-511 | |
| 32. QTRS 103A GO | 39-891-59 | |

| FAMILY HOUSING ELECTRICAL METERS | | |
|---|---|---|
| **QUARTERS NUMBER** | **METER NO.** | **NEW** |
| 33. QTRS 103B | 39-891-560 | |
| 34. QTRS 102B | 39-891-562 | |
| 35. QTRS 102A | 39-891-561 | |
| 36. QTRS 101B | 39-891-568 | |
| 37. QTRS 101A | 39-891-567 | |
| 38. QTRS 31A | 39-89-575 | |
| 39. QTRS 31B | 39-89-576 | |
| 40. QTRS 30A | 39-891-578 | |
| 41. QTRS 30B | 39-891-577 | |
| 42. QTRS 26A | 39-891-557 | |
| 43. QTRS 26B | 39-891-558 | |
| 44. QTRS 25A | 39-891-555 | |
| 45. QTRS 25B | 39-891-556 | |
| 46, QTRS 109B | 39-891-570 | |
| 47. QTRS 109A | 39-891-569 | |
| 48. QTRS 110A | 39-891-591 | |
| 49. QTRS 110B | 39-891-592 | |
| 50. QTRS 111A | 39-891-593 | |
| 51. QTRS 111B | 39-891-594 | |
| 52. QTRS 112B | 39-891-551 | |
| 53. QTRS 112A | 39-891-552 | |
| 54. QTRS 113A | 39-891-553 | |
| 55. QTRS 113B | 39-891-554 | |
| 56. QTRS 130A | 39-891-607 | |
| 57. QTRS 130B | 39-891-608 | |
| 58. QTRS 131A | 39-891-609 | |
| 59. QTRS 131B | 39-894-610 | |
| 60. QTRS 132A | 39-891-611 | |
| 61. QTRS 132B | 39-891-612 | |
| 62. QTRS 115A | 39-891-545 | |
| 63. QTRS 115B | 39-891-546 | |
| 64. QTRS 114A | 39-891-543 | |
| 65. QTRS 114B | 39-891-544 | |
| 66. QTRS 143ABCD | 39-891-613 | |
| 67. QTRS 144ABCD | 39-892-614 | |
| 68. QTRS 61A | 39-880-509 | |
| 69. QTRS 61B | 39-880-510 | |
| 70. QTRS 152A | 39-891-589 | |
| 71. QTRS 152B | 39-891-395 | |

| FAMILY HOUSING ELECTRICAL METERS | | |
|---|---|---|
| **QUARTERS NUMBER** | **METER NO.** | **NEW** |
| 72. QTRS 151A | 39-891-587 | |
| 73. QTRS 151B | 39-891-588 | |
| 74. QTRS 167A&B | 39-891-563 | |
| 75. QTRS 153A | 39-891-596 | |
| 76. QTRS 153B | 39-89-597 | |
| 77. QTRS 154A | 39-89-598 | |
| 78. QTRS 154B | 39-891-566 | |
| 79. QTRS 90 | 39-891-579 | |
| 80. QTRS 140A | 39-891-581 | |
| 81. QTRS 140B | 39-891-582 | |
| 82. QTRS 150A | 39-891-580 | |
| 83. QTRS 150B | 39-891-571 | |
| 84. QTRS 149A | 39-891-572 | |
| 85. QTRS 149B | 39-891-573 | |
| 88. QTRS 148B | 39-861-574 | |
| 89. QTRS 148A | 39-891-590 | |
| 90. QTRS 123A | 39-880-535 | |
| 91. QTRS 123B | 39-880-536 | |
| 92. QTRS 65A | 93-104-624 | |
| 93. QTRS 65B | 93-104-623 | |
| 95, QTRS 55 | 39-880-528 | |
| 96. QTRS 66A | 93-104-650 | |
| 97. QTRS 66B | 93-104-643 | |
| 98. QTRS 67A | 93-104-627 | |
| 99. QTRS 67B | 93-140-628 | |
| 100. QTRS 18A | 39-891-539 | |
| 101. QTRS 18D | 39-891-540 | |
| 102. QTRS 18B | 39-891-542 | |
| 103. QTRS 18C | 39-891-541 | |
| 104. QTRS 17A | 39-880-541 | |
| 105. QTRS 17D | 39-880-542 | |
| 106. QTRS 17B | 39-880-543 | |
| 107. QTRS 17C | 39-880-544 | |
| 108. QTRS 16A | 39-880-501 | |
| 109. QTRS 16B | 39-880-502 | |
| 110. QTRS 62A | 39-880-517 | |
| 111. QTRS 62B | 39-880-520 | |
| 112. QTRS 63A | 39-880-518 | |
| 113. QTRS 63B | 39-880-519 | |

| FAMILY HOUSING ELECTRICAL METERS | | |
|---|---|---|
| **QUARTERS NUMBER** | **METER NO.** | **NEW** |
| 114. QTRS 128A | 39-880-493 | |
| 115. QTRS 128B | 39-880-494 | |
| 116. QTRS 50A | 39-880-495 | |
| 117. QTRS 50B | 39-880-496 | |
| 118. QTRS 50C | 39-880-503 | |
| 119. GENQTR 127A | 39880-533 | |
| 120. GENQTR 127B | 39-880-534 | |
| 121. QTR 1 GO | 39-880-512 | |
| 122. QTRS 126A | 39-891-547 | |
| 123. QTRS 126B | 39-891-548 | |
| 124. QTRS 3A | 39-891-550 | |
| 125. QTRS 3B | 39-891-549 | |
| 126. QTRS 156A | 39-891-534 | |
| 127. QTRS 156B | 39-891-533 | |
| 128. QTRS 155A | 39-891-531 | |
| 129. QTRS 155B | 39-891-532 | |
| 130. QTRS 147 | 39-880-526 | |
| 131. QTRS 146 | 39-884-527 | |
| 132. QTRS 64 | 39-880-525 | |
| 133. QTRS 60 | 23-604-711 | |
| 135. GENQT 141 | 38276468 | |
| 136. GENQTR 142 | 37709313 | |
| 137. GENQTR 118 | 37-709-314 | |
| 138. GENQTR 119 | 16-782-929 | |
| 139. GENQT119 AC | 15-074-158 | |
| 140. GENQTR 120 | 37726679 | |
| 141. GENQTR 121A | 37709312 | |
| 142. QTRS 121B | 37709315 | |
| 143. Qtr 93 SES | 02-182-937 | |
| Total Number of meters - 138 | | |

## J07.4.2 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 Clause C.13, Operational Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Clauses C.3 and J07.5 below.

**TABLE 6**

6. New Secondary Meters
Electrical Distribution System Fort Monroe

| Meter Location | Meter Description |
|---|---|

| Meter Location | Meter Description |
|---|---|
| Bldg 100 | Electrical |
| Bldg 80 | Electrical |
| Bldg 11 | Electrical |
| Bldg 37 | Electrical |
| Bldg 133 | Electrical |
| Bldg 134 | Electrical |
| Bldg 161 | Electrical |
| Bldg 163 | Electrical |
| Bldg 10 | Electrical |
| Bldg 5 | Electrical |
| Bldg 105 | Electrical |
| Bldg 56 | Electrical |
| Bldg 135 | Electrical |
| Bldg 245 | Electrical |

# J07.5 Monthly Submittals

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

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

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

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

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

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

System Efficiency Report. If required by Paragraph C.3, the Contractor shall submit a system efficiency report in a format proposed by the Contractor and accepted by the Contracting Officer. System efficiency reports shall be submitted by the 25th of each month for the previous month. System efficiency reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award)

# J07.6 Energy Savings Projects

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

- None

# J07.7 Service Area

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

# J07.8 Off-Installation Sites

Big Bethel Reservoir and Water Treatment Plant are Army and Fort Monroe real property assets and Government electrical lines serving this area are included in the scope of this privatization effort. The electrical distribution system serving Big Bethel Reservoir and Water Treatment Plant include the following:

- 3,954 linear feet of 3-phase (3 conductor plus a ground, not counted seperately) primary electrical cable running overhead down Semple Farm Road from the connection point with VA Power to the water treatment plant.
- 375 feet of exterior lighting wiring
- 28 utility poles
- 925 linear feet of secondary cabling

# J07.9 Specific Transition Requirements

IAW Clause 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 Monroe electrical distribution system.

**TABLE 7**
7. Service Connections and Disconnections
Electrical Distribution System Fort Monroe

| Description |
|---|
| None identified as of the beginning of FY01. 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 Monroe

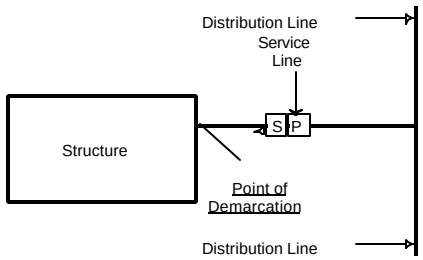
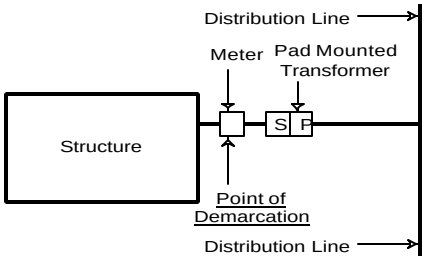
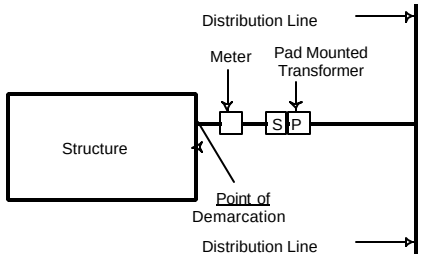
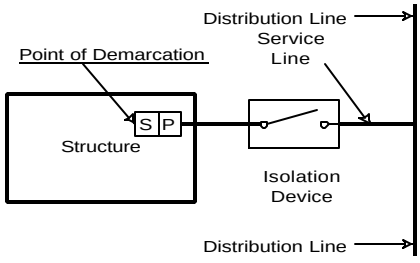
| Project Description |
|---|
| None identified as of the beginning of FY01. |

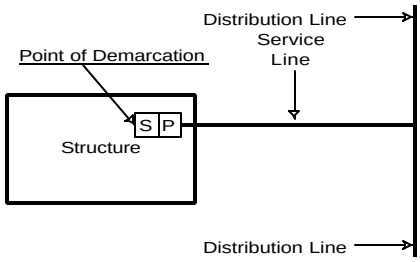
# J07.10 Electric Distribution System Points of Demarcation

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 Monroe

| Point of Demarcation | Applicable Scenario | Sketch |
|---|---|---|
| Point of demarcation is the first point of disconnect at or in the facility. | Pad Mounted Transformer located outside of structure with underground service to the structure and no meter exists. |  |
| Down current side of the meter | Residential service (less than 200 amps and 240V 1-Phase), and three phase self contained meter installations. Electric Meter exists within five feet of the exterior of the building on an underground secondary line. |  |
| Point of demarcation is the first point of disconnect at or in the facility. | Three Phase CT metered service. |  |
| Secondary terminal of the transformer inside of the structure | Transformer located inside of structure and an isolation device is in place with or without a meter<br>Note: Utility Owner must be granted 24-hour access to transformer room. |  |

| Point of Demarcation | Applicable Scenario | Sketch |
|---|---|---|
| Secondary terminal of the transformer inside of the structure | Transformer located inside of structure with no isolation device in place.<br><br>Note: Utility Owner must be granted 24-hour access to transformer room. |  |

# J07.11 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 Monroe

| Building No. | Point of Demarcation Description |
|---|---|
| None | |