PJM Generator Interconnection
T20 Falls 3.3 MW
Feasibility / Impact Study

January 2008

DMS # 462164

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General

Queue T20 is a MF MesaLane 3.3 MW solar - photovoltaic generator interconnection request consisting of 1714 series strings of 11 SunTech (STP 175S-24/Ab) Photovoltaic modules for a total of 18,854 modules. This new plant will be located at 1121 Bordentown Road, Morrisville, Pennsylvania 19067. This plant is scheduled for commercial operation in April 2008.

Direct Connection

The T20 generation will be connected to Falls 34.5 kV line #342 as shown on the one line diagrams (Figures 1 and 2) below.

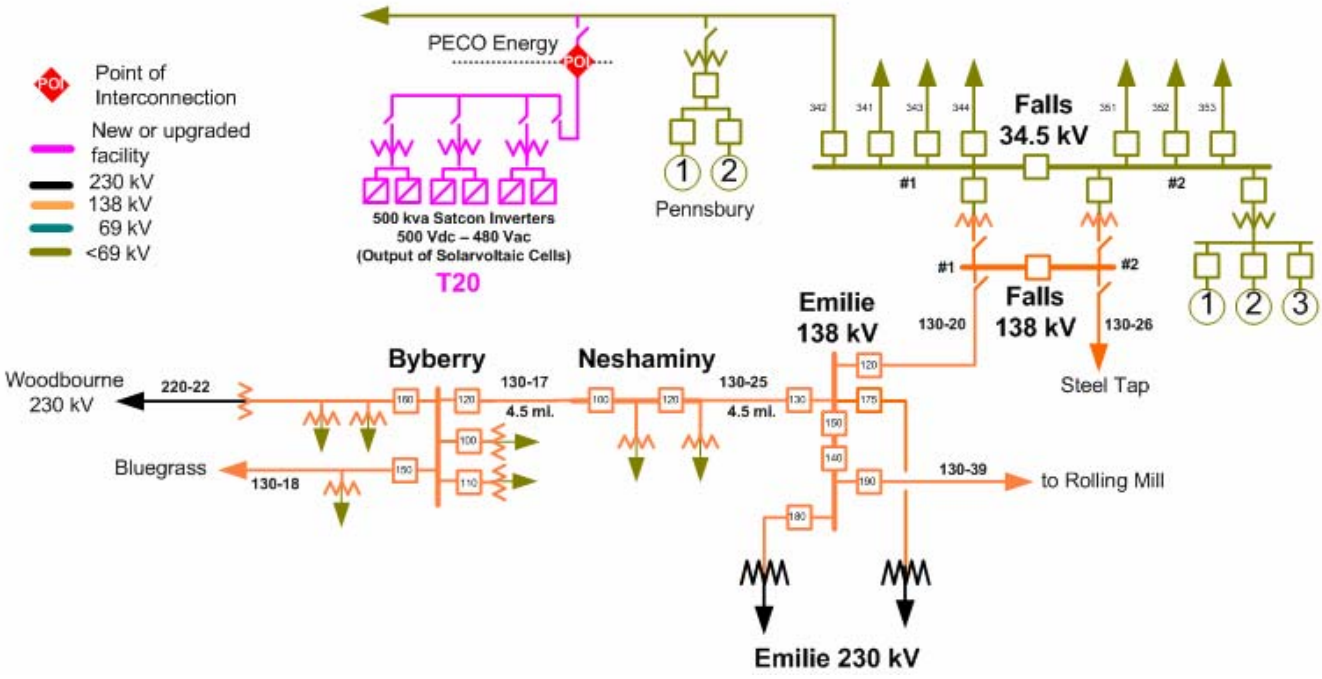

Figure 1

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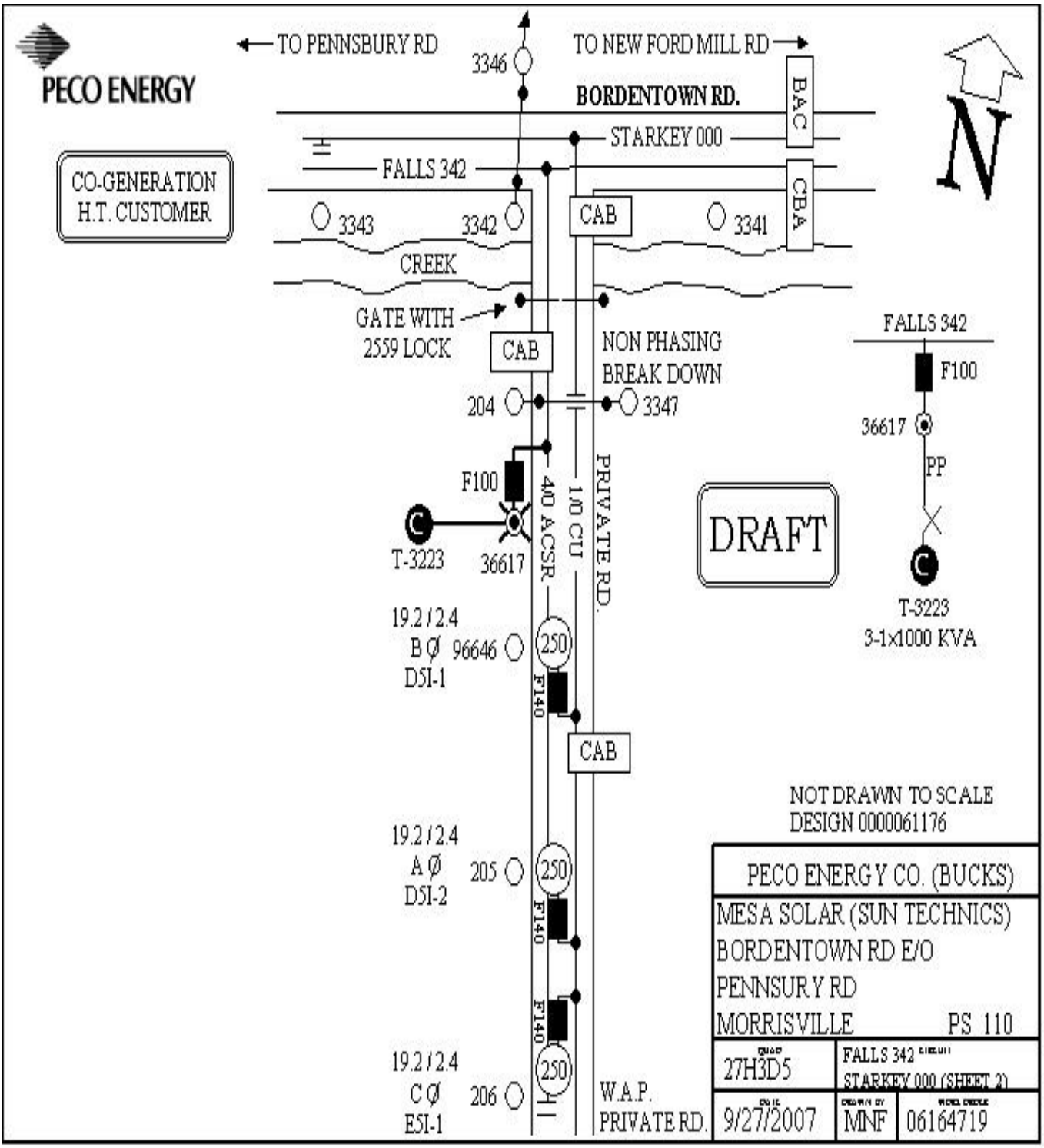

Figure 2

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Interconnection Customer (MF MesaLane) Scope of Direct Connection Work

MF MesaLante is responsible for construction of all facilities on its side of the POI (Point of Interconnection). MF MesaLane proposes to build the interconnection facilities as shown on the one line diagram above.

Metering / telemetering for PJM - Interconnection Customer will be required to install the necessary equipment to provide "Revenue Metering (KWH, KVARH)" and real time data (KW, KVAR) for the Interconnection Customer's Customer Facility. See PJM Manuals M-01 and M-14D available at http://www.pjm.com, and Sections 8.1 through 8.5 of Appendix 2 to this ISA. For additional PJM metering / telemetering information contact Kevin Komara at 610-666-4751 or komarak@pjm.com

Metering / telemetering for Peco Energy - PECO Energy will install metering on the 480 volt side of the MF MesaLane transformers to capture retail energy sales to the Interconnection Customer. PECO does not require instantaneous (real time) telemetering for generation less than 5 MW.

Interconnected Transmission Owner (PECO Energy) Direct Connection Work

PECO Energy will perform the following work:

01 HOT STICK LINE CREW
INTER-SPACE A 55-2 POLE # 36617 BETWEEN POLES # 204 & # 96646. BUILD TOP SIDE OF 34KV TP S-1672-B. MARK LOCATION FOR CONTRACTOR TO INSTALL CABLE ON POLE.

02 LINE CREW
BUILD BOTTOM SIDE OF T.P. AND ENERGIZE SERVICE.

03 CEMS
SET A 1913 PQ SERIES METER, 34KV METERING AUX TRANSFORMERS (P.T. 20,125:120) (C.T. 75:5)

Cost estimate for PECO Energy Direct Connection work:

WORK	Cost
Hot Stick Crew Material & Labor	$9,500.
Metering Material	$12,350.
Metering Labor	$2,300.
Engineering	$5,000.
Total	**$29,150.**

Construction time estimate:
Required PECO Energy construction work is estimated to take 2 weeks but must be fit into a schedule of 12 to 16 weeks lead-time. Therefore overall lead and construction time can be up to 18 weeks from "Notice to Proceed".

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Network Impacts

Queue T20 was studied as a 3.3 MW Capacity injection into the Falls 34.5 kV Feeder 342. Project T20 was evaluated for compliance with reliability criteria for summer peak conditions in 2012. Network impacts were as follows:

Generator Deliverability
(Single or N-1 contingencies for the Capacity portion only of the interconnection)

No problems were identified.

Multiple Facility Contingency
(Double Circuit Tower Line contingencies only for the full energy output. Stuck breaker and bus fault contingencies will be performed for the Impact Study)

No problems were identified.

Contribution to Previously Identified Overloads
(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

None.

Short Circuit
Generation is Inverter connected, there is no significant system short circuit contribution.

Stability Analysis
Not required because of generator size, technology and location in the system.

New System Reinforcements
(Upgrades required to mitigate reliability criteria violations, i.e. "Network Impacts", initially caused by the addition of this project generation)

None

Contribution to Previously Identified System Reinforcements
(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)

None.

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