Process Steps for a DER to order services and equipment from Verizon

When a DER has entered into an 'Interconnection Agreement with LIPA (PSEG-Long Island) they are then directed to follow the steps below to coordinate the DER Remote Terminal Unit (RTU) connection into the Verizon VPN (Virtual Private Network) and PSEGLI Network to satisfy the PSEG-Long Island SCADA circuit communication connectivity to the RTU.

This document provides the requirements for the SCADA installation only for the DER developer. Please refer to the Smart Grid Small Generator Interconnection Procedure (SGIP) for more information. Based upon Smart Grid Small Generator Interconnection Procedure (SGIP) requirements and study requirements, the DER Developer would install the SCADA telecommunication connection and follow the interconnection requirements.

Based upon the interconnection requirements, the DER Developer must adhere to one of the two procedures below to communicate and order equipment from Verizon for the new SCADA telecommunication connection(s)

- **Procedure 1: DER requires both a TLS (Transparent LAN Service) primary connection and a 4G/LTE secondary connection (refer to Page-2)**
- **Procedure 2: DER requires only 4G/LTE as a single connection into the PSGLI Network (Refer to Page 7)**

<u>Procedure 1:</u>

DER requires both a TLS (Transparent LAN Service) primary connection and a 4G/LTE secondary connection

- Ordering the TLS circuit from Verizon to connect the DER RTU to the PSEGLI SCADA Network

Below is the information a DER has to submit to Verizon when ordering a TLS circuit for connecting a DER RTU to PSEG LI SCADA system. Provide all information below to Verizon when ordering since the Verizon agent for the DER will not be familiar with the PSEG LI setup.

From: Customer/DER Location
Address

To:

Step 1

Order TLS circuit for SCADA Circuit – If you have a Dedicated Verizon Account Team, they would perform all the ordering steps – if not – order circuit from Local Verizon Business Office.

- Verizon Business Office
  - www.customercare6@verizon.com or 800-698-7431
- You will be asked to provide the following information
  - Name of Business
  - Address of Service to be installed.
  - Address for all Billing and Correspondence.
  - Current Verizon Billing Account (NY) (if you have any) that the new service should be added to or if you want a new Account Created.
  - Contact Person Ordering the Service, Phone and Email information.
  - Local On Site Contact (LCON) for access and delivery of the service
- Order Information:
  - TLS fiber circuit
  - Contact PAM Group for Domain information to request being connected to:
- Domain to request Connection to *PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order*

NOTE:

- Verizon System will send back an Automated Response with an **NSPE identifier** – retain this information and any future correspondence with the Verizon NSPE and Numbers should be placed in the Subject Line.
- The customer should also receive the following throughout the process:
  - SR – Service Request #
  - Work Order #
  - Circuit ID
- Customers should state that they are looking for a TLS Circuit Install (Transparent LAN Services) with a Physical Connection at the Site and a Virtual Connection (Cloud) to the PSEG LI VPN

Step 2

Once the NSPE Order, Circuit ID, Work Order Number and/or SR (Service Request) number have been issued in Step 1 – Contact your PAM (Power Asset Management) representative for the names of the PSEG LI Sales Executive and Engineer and then contact the Verizon Business Office to order (1) Router, (2) Wireless secondary connection (4G/LTE Verizon Wireless SIM card in the router) and (3) Managed WAN Service

- Contact Verizon Business Office
  - 855-699-5674 or ***https://enterprisecenter.verizon.com***
- You will be asked to provide the following information:
  - Name of Business
  - Address of Service to be installed.
  - Address for all Billing and Correspondence.
  - Current Verizon Billing Account (NY) (if you have any) that the new service should be added to or if you want a new Account Created.
  - Contact Person Ordering the Service, Phone and Email information.
  - Local On Site Contact (LCON) for access and delivery of the service
  - NSPE Order, Circuit ID, Work Order Number and/or SR number have been issued
- You would then explain what you are trying to accomplish:
  - Looking to place a new circuit that was ordered from the Local Verizon Business Office.
  - Order a router to be configured and installed once the TLS Circuit is installed. (Cisco router)
  - Order a Verizon Wireless 4G/LTE SIM card for the router and activation.
  - Managed WAN + 4G secondary and OOB via existing MPLS PWG + CPE Order-MPLSVPN
    - The Cisco router will handle the connectivity for the TLS circuit and secondary to MPLS across 4G/LTE, this connectivity will also handle OOB (Out of Band) access for managed services

Step 3

Secondary Wireless connection and OOB (Out of Band) service

- Contact your Verizon Wireless Account Team or call Verizon Wireless at 800-350-2830
  - Request a new number to be assigned to your account
  - Request that it be added to an existing MPLS-PWG Account
    - 4G secondary and OOB via existing MPLS PWG + CPE Order-MPLSVPN ID: ***provided by Verizon***
    - Bandwidth requirement: *PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order*

Step 4

Site Preparation

- Site surveys are typically performed by Verizon being accompanied by the Customer to identify the location for the fiber termination, placement of backboard or external box, power requirements and conduit feeds. Typical requirements are:
  - 4 x 6 ' backboard (Customer/DER responsibility)
  - 4 (quad) AC power outlet and Ground Bus (Customer/DER responsibility)
  - DC-Power inverter (if site is powered by DC-Power and batteries will be used as backup/primary power) (Customer/ DER responsibility)
  - Verizon Network Interface Device (NID) to connect the TLS circuit (Verizon Responsibility)
  - External conduit (1.5") galvanized/PVC penetration and weather mast from within the Control House near the backboard to allow for (2) external antenna's: (1) Omni-directional or (2) Wilson Directional to be installed outside of the Control House (Customer/Contractor)
  - External antenna masts to be constructed to allow for the installation of two antennas and two coax cables (Customer/Contractor) that are installed at the same height with approximately 18" separation.
  - Cisco ruggedized router to perform both the primary and secondary connections (recommended to be ordered thru Verizon for configuration and installation by Verizon)

Router Ordering Guide (Typical BOM)

PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order

Standard deployment: Dual Antenna with 20 ft. cables antenna extension is required:

Part Number	Description	Qty
ANT-4G-OMNI-OUT-N=	Multiband Omni-Directional Stick Outdoor 4G Antenna	2
CAB-L400-20-TNC-N=	20-ft (6m) Ultra Low Loss LMR 400 Cable with TNC-N Connector	2

Directional signal deployment if extremely weak signal at a location:

- Optional Directional Antennae to replace ANT-4G-OMNI-OUT-N part above if directional antenna is needed instead of standard Omni directional
    - Part Number 314411 – N-Female Wilson Antennae

DER to provide their Verizon Account Manager or Verizon Business Representative the contacts and information listed below to ensure the proper configurations are applied to the IR1101 router to be established onto the PSEGLI Network:

- *PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order*, Sr. Sales Engineer
    - Email:
- *PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order,* Sr. Client Executive to PSEG LI
    - Email:
- Circuit Type
    - TLS
- Domain
    - *PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order*

Step 5 (After Router is received)

Activating 4G Wireless onto *PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order*

In order to activate the 4G Wireless to *PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order.* PSEG LI IT will have to provide information to Verizon Wireless and confirm that the router can be placed on the *PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order*

- DER would be responsible to submit the IMEI and ICCID information from the router that DER purchased back to PSEG LI for activation.
    - Device ID IMEI - provided by DER
    - ICCID (SIM card) - provided by DER
- PSEG LI IT will receive an email from Verizon wireless with a specific format when submitting the order request from PSEG LI and it will give the support team everything Verizon Wireless needs to process the request in a timely manner.

Post Implementation Support/Costs (assumed Verizon manages the router – to be provided by Verizon)

- TLS fiber circuit
- 4G/LTE Wireless cost
- Managed Router
    - Hardware support
    - Managed WAN connection

Procedure 2:

- **DER requires only 4G/LTE as a primary connection into the PSGLI Network**

Below is the information a DER has to submit to Verizon when ordering a 4G circuit for connecting a DER RTU to PSEG LI SCADA system. Provide all information below to Verizon when ordering since the Verizon agent for the DER will not be familiar with the PSEG LI setup.

From: Customer/DER Location
Address

To:

Step 1

4G/LTE as the primary connection and OOB (Out of Band) service

- Contact your Verizon Wireless Account Team or call Verizon Wireless at 800-350-2830
- The Verizon Wireless Account Team will:
  - Request a new number to be assigned to your account
  - Request that it be added to an existing MPLS-PWG Account
    - 4G primary connection and OOB via existing MPLS PWG + CPE Order-MPLSVPN ID: PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order
    - Bandwidth requirement: *PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order*

Step 2

Site Preparation

- Site surveys are typically performed by Verizon being accompanied by the Customer to identify the location for the fiber termination, placement of backboard or external box, power requirements and conduit feeds. Typical requirements are:
  - 4 x 6 ' backboard (Customer/DER responsibility)
  - 4 (quad) AC power outlet and Ground Bus (Customer/DER responsibility)
  - DC-Power inverter (if site is powered by DC-Power and batteries will be used as backup/primary power) (Customer/ DER responsibility)

- External conduit (1.5") galvanized/PVC penetration and weather mast from within the Control House near the backboard to allow for (2) external antenna's: (1) (*PSEG-LI Power Asset Management will be providing the un-redacted version to the Interconnection customers once they are ready to place an order)* Omni-directional or (2) Wilson Directional to be installed outside of the Control House (Customer/Contractor)
- External antenna masts to be constructed to allow for the installation of two antennas and two coax cables (Customer/Contractor) that are installed at the same height with approximately 18" separation.
- Ruggedized router to perform the primary connection (recommended to be ordered thru Verizon for configuration and installation by Verizon)

Router Ordering Guide (Typical BOM)

PSEG LI Power Asset Management will be providing the un-redacted version to Interconnection customers once they are ready to place an order

Standard deployment: Dual Antenna with 20 ft. cables antenna extension is required:

Part Number	Description	Qty
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Directional signal deployment if extremely weak signal at a location:

- Optional Directional Antennae to replace ANT-4G-OMNI-OUT-N part above if directional antenna is needed instead of standard Omni directional
  - Part Number 314411 – N-Female Wilson Antennae

DER to provide their Verizon Account Manager or Verizon Business Representative the contacts and information listed below to ensure the proper configurations are applied to the PSEG-LI (*Power Asset Management will be providing the un-redacted version to the interconnection customers once they are ready to place the order)* **router to be established onto the** *Power Asset*

Management will be providing the un-redacted version to the interconnection customers once they are ready to place the order

- **(***Power Asset Management will be providing the un-redacted version to the interconnection customers once they are ready to place the order),* Sr. Sales Engineer
    - Email:
- **(***Power Asset Management will be providing the un-redacted version to the interconnection customers once they are ready to place the order)* Sr. Client Executive to PSEG LI
    - Email:

Step 3 (After Router is received)

Activating 4G Wireless onto (*Power Asset Management will be providing the un-redacted version to the interconnection customers once they are ready to place the order)*

- In order to activate the 4G Wireless to **(***Power Asset Management will be providing the un-redacted version to the interconnection customers once they are ready to place the order)*, PSEG LI IT will have to provide information to Verizon Wireless and confirm that the router can be placed on the PSEG LI Network.
- DER would be responsible to submit the IMEI and ICCID information from the router DER purchase back to PSEG LI for activation.
    - Device ID IMEI - provided by DER
    - ICCID (SIM card) - provided by DER
- PSEG LI IT will receive an email from Verizon wireless with a specific format when submitting the order request from PSEG LI and it will give the support team everything Verizon Wireless needs to process the request in a timely manner.

Post Implementation Support/Costs (assumed Verizon manages the router – to be provided by Verizon)

- 4G/LTE Wireless Costs Managed Router
    - Hardware support
    - Managed WAN connection