



SUBJECT

Customer Negotiations - General

SECTION

Negotiations

**Scope**

Description of the negotiation process. See OE Processes DSGN-01 and DSGN-01.A for process flowcharts.

**Procedures in this Section**

- SPO 21010.1** - Customer Provided Information / Plans
- SPO 21010.2** - Types of Electric Services
- SPO 21010.3** - Standard Service Voltages
- SPO 21010.4** - Point of Delivery / Location of Facilities
- SPO 21010.5** - Basic Electrical Formulae - Transformer & Service Sizing
- SPO 21010.6** - Service & Meter Socket Requirements / Vault & Pad Specifications / Request for Fault Current Info
- SPO 21012** Field Survey Checklist
- SPO 21013** Permits
- SPO 21014** Telecom
- SPO 21016** Distribution Easements
  - SPO 21016.1** - Legal Descriptions of Land
  - SPO 21016.2** - Easement Examples
  - SPO 21016.4** - Release of Easement
  - SPO 21016.5** - Vacating Public Rights-of-Way
- SPO 21019** Line Clearing - New Construction
- SPO 21020** Notification of FPL Facilities Near Construction Site
  - SPO 21020.1** - Warning to Equipment Operators Working Near FPL Lines
  - SPO 21020.2** - Construction Equipment Contact with FPL Lines
- SPO 21021** Request for purchase of FPL Distribution Facilities

**Customer Letters**

Downloadable letters and agreements are available from the Design ShareNet Library

- Service Availability (Confirmation to Serve) & Request for Info/Plans
- Request for Pre-Design Meeting Letter
- First Contact Follow-up Letter
- Differential Cost Letter - URD Tariff
- Differential Cost Letter - Non URD Tariff
- Fault Current Disclosure Letter
- Vault/Pad Specifications Transmittal Letter
- Acceptance Letter
- Site Ready for Construction Letter
- Easement Letter

**Service Planner Operations**

SUBJECT

**Customer Provided Information / Plans**

SECTION

**Negotiations****Scope**

Customer information to be obtained to facilitate the design of the electric service.

**Plans**

Complete and accurate plans are essential. Changes or inaccuracies in information supplied on any plan(s) may critically affect the type, size, placement or easements required for FPL facilities. Advise the customer of his responsibility to inform the FPL representative of any plan changes that may affect the electric service.

The following plans should be requested from the customer during the initial stages of negotiations.

**Site Plans** - Necessary to determine the proposed building's location and future placement of FPL facilities. It is preferable to receive plans which have been authorized by the governing Water Management District; these plans will delineate wetlands, conservation easements, and other environmentally sensitive areas.

**Utility (Water, Sewer & Gas) Plans** - Necessary to prevent potential conflicts with other utilities. Particular care must be taken to avoid conflicts with storm sewers due to their size, fire hydrants, water meters, etc. These plans also assist in determining elevations for underground utility coordination.

**Paving & Drainage Plans** - Similar to the utility plans in avoiding conflicts with drainfields, paving, pipes, etc. These plans enable determination of grade for padmount transformers and help assure proper depth of buried cables.

**Electrical and Mechanical Plans** - Necessary for load calculations and determination of FPL to customer service connection. **Early** review of these plans are essential to verify that the customer's requested voltage is the same that FPL is prepared to offer to prevent potential misunderstanding in the future. These plans include:

- Panel Schedules
- Riser Diagrams
- Customer Wire Sizes & Quantities
- Air Conditioning Sizing

**Street Lighting Plans** - Necessary for extensive street lighting systems which are designed for a certain illumination level and typically require an engineer qualified in this area of design. The plan should specify the size and location of the lights, and pole heights. FPL does not provide lighting system design services.

**Architectural & Structural Plans** - Used to determine the location and structural information of building facilities, such as footers, columns, and vaults, and may be used to determine the area of the structure (ft<sup>2</sup>) for load calculations.



**Service Planner Operations**

SUBJECT <b>Customer Provided Information / Plans</b>	SECTION <b>Negotiations</b>
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**Legal Description** The legal description is required for preparation and/or verification of easements and may be obtained from:

- Deed (Should include the owner's name and legal description of the property)
- Survey
- Plats

**Service Address** Required to establish customer account. If the service address is not available initially, request the customer to provide it at the earliest opportunity.

**Load Data** Typically obtained from customer plans and should include the following:

- Service Voltage requested
- KVA Connected – existing, added
- KW Demand - existing, added
- Motor Sizes and Quantity
- A/C Size (total tons and largest unit)
- Main Line Switch Size (Amps)
- Customer's Wire Size & Quantity
- Square Footage of Building

**Customer Requested Service** Typically obtained from the customer plans. When FPL is to provide a voltage or service other than that shown on the plans or requested by the customer, it is extremely important that all interested parties (engineer, electrician, etc.) be notified, in writing, of the change to avoid potential and costly misunderstanding. Typical service voltages:

**Single Phase**

**Three Phase**

120/240 Volt	120/240 Volt Delta (Hi-Leg)
120/208 Volt (3PH Source)	120/208 Volt Wye
277/480 Volt (3PH Source)	277/480 Volt Wye

Refer to **SPO 21010.3** for information regarding **standard** voltages, **SPO 21010.4** regarding FPL designated points of delivery, and **SPO 21450** regarding customer contributions.



SUBJECT	SECTION
Types of Electric Service	Negotiations

**Scope** Types of electric service to customers, and the limitations and requirements of each.

**Overhead Service** FPL is an overhead rate based utility. FPL will install overhead facilities to **FPL's** designated point of delivery, at no cost to the customer, subject to the following:

The overhead extension (wood poles, standard design and pole height) is revenue justified if four (4) times the estimated annual base rate revenue (4 x EAR) exceeds the estimated WMS cost estimate sheet "Total Cost of Job" (less service and meter) (**SPO 21454**), **and**, the voltage is the "standard" voltage for the load being served (**SPO 21010.3**).

**Note:** Revenue is used to justify **only** the overhead "extension" expenditures (the WMS cost estimate sheet "Total Cost of Job" less service and meter), or portion thereof, for the **standard** voltage offered by FPL for the load being served. In addition to any CIAC that may have been required for an overhead extension at the standard voltage, the customer is responsible for paying the difference between the total cost of the requested service (UG, non-standard voltage, concrete poles, etc.) and the total cost of the OH service that would have been provided at that standard voltage (**SPO 21454**).

New overhead transformer installations should be limited to 300 KVA or less for 3PH or 100 KVA or less for 1PH. This allows for replacement in the event of added load. Overhead facilities must not be located in hazardous locations (e.g. subject to being struck by vehicular traffic) and must adhere to all clearance requirements. Other requirements, including adequate service attachment "anchorage" by the customer, may require consideration.

**Underground Service** FPL owned underground services are, for the most part, limited to residential applications and installed from either overhead or underground distribution systems (**SPO 21462**). There are, however, a **limited** number of non-residential applications in which FPL will install and own the UG service. These involve small services from overhead FPL distribution facilities as specified in FPL's Riser Policy (**SPO 21456**), where no future load is expected to be added to that service, **and** FPL secondary down the pole to a handhole (to attach to customer's UG service), would otherwise appear imprudent. These limited exceptions are due to the fact customer owned risers are no longer allowed on FPL or telephone company poles.

Non-residential UG services (excluding the few exceptions outlined in FPL's Riser Policy) to FPL's designated point of delivery (padmounted transformers, handholes, vaults, etc.) are installed, owned, and maintained by the customer. CIAC applies for applications where overhead would have, at FPL's preference, been designated as standard service. The amount is the difference between the **total** cost of the requested UG service and the **total** cost of the OH service that would have been provided at the standard voltage and design to FPL's designated point of delivery (**SPO 21454**).



SUBJECT

Types of Electric Service

SECTION

Negotiations

**Underground Service (Cont.)**

CIAC applies when a voltage other than the standard voltage for the load being served is requested (**SPO 21010.3**).

Transformers and handholes have cable (size and number) limitations. Consider when first reviewing customer plans so changes can be negotiated, if necessary.

- 1PH padmounted transformer installations are limited to 167 KVA. Regular style transformers are recommended for most non-residential applications.
- 3PH 120/208V padmounted transformer installations are limited to 1000 KVA.
- 3PH 277/480V padmounted transformers are limited to 2500 KVA (radial) and 1000 KVA (loop).
- 3PH 120/240V closed delta service is not available from padmounted transformers.
- CIAC (differential cost) is required for vault service when a padmounted transformer installation would have, at FPL's preference, been provided. Vaults should only be used where padmounted transformers cannot.

Exercise caution when considering installation of maximum size (KVA) padmounted transformers. If load is added, they cannot be replaced with those of larger capacity.

**Temporary/ Construction Service**

Temporary service refers to any type of electrical service installed with the intent it be removed sometime later. Construction service refers to electrical service used primarily for the construction of a building. Although this service is "temporary," it is known as "construction" service. Customers pay, in advance, the estimated installation and removal costs of the facilities required to provide temporary service.

If 1PH or 3PH temporary service is requested; there is adequate capacity in lines, transformers and other equipment at the requested point of delivery, and the size of the service does not exceed 200 amps; the service can be installed and removed on a SMO (**SPO 21044**) with the "flat charges" specified in **Tariff Sheet 4.030**.

If the customer requests temporary service requiring installation/removal of facilities other than those shown in **SPO 21044**, use the Job Order as outlined in **SPO 21140**, with charges estimated according to **SPO 21140.2**.

Temporary distribution facilities to serve construction sites must be placed to avoid future conflicts with construction of the project or permanent FPL facilities. Facilities required to provide permanent service may be considered for early installation to provide temp/const service if resources are available (materials and crews) and minimal added cost is incurred due to early installation.



<b>Service Planner Operations</b>	
SUBJECT	SECTION
<b>Standard Service Voltages</b>	<b>Negotiations</b>

**Scope** Explanation of standard service voltages (excluding street lighting).

**General** Standard service voltages are generally a function of customer load. FPL's standard practice is to provide a single voltage to a customer. If, however, the local inspecting authority approves the installation, all Electrical and Safety codes are adhered to, and the customer pays the additional costs, FPL may agree to provide a second voltage.

The following are guidelines for FPL's standard voltages.

**120/240 Volt - 1 PH** Many appliances and small electrical apparatus are manufactured for single phase power. FPL's standard voltage for residences and many small business is 120/240V 1PH. Single phase service is limited to a maximum demand of 167 KVA (unless a vault is provided) due to transformer sizes, therefore take into consideration the growth potential of the customer, especially when used for business applications. FPL's standard voltage for motors less than seven and one-half (7 ½) horsepower is single phase.

**240/480 Volt - 1 PH** Typically used for street lighting or similar purposes, rarely requested.

**120/240 Volt - 3 PH Open Delta** Standard when customers have concurrent large single phase and small three phase loads in one service, for example a condominium building consisting of single phase residential units and a 3 phase elevator. As with single phase, this arrangement's growth capability is limited, as is its ability to deliver adequate power to start large motors.

Three phase service is provided where it is typically required to serve the load or where, in the opinion of FPL, the use of single phase is impractical. Motors of seven and one-half (7 ½) horsepower and larger are not generally available in single phase; therefore, our standard service for these motors is typically three phase.

**Note:** When requested to provide three phase service where single phase is typically provided, the customer is required to pay the total differential cost between three phase and single phase as a contribution in aid of construction (CIAC).

When motor sizes exceed 20 hp or the 3PH demand load exceeds 75 KVA, or if the total demand load exceeds 150 KVA, open delta oftentimes cannot be used. Consult with Engineering if these conditions exist.



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**Service Planner Operations**

SUBJECT

**Standard Service Voltages**

SECTION

**Negotiations****120/240 Volt - 3 PH  
Closed Delta**

This type of installation is only provided for a new customer under very special circumstances (the customer's equipment is **ONLY** available in 120/240V, the load exceeds the capacity of open delta, **AND** the area planning engineer approves the installation). The addition of the third transformer to an open delta arrangement makes it a closed delta, and this is done usually to increase the capacity of the transformer bank or to increase the ability to start large motors. The addition of the third transformer to an open delta bank usually occurs when an established customer increases motor sizes or power requirements. Closed delta banks are usually limited to a maximum demand of 300 KVA.

**120/208 Volt - 3 PH  
Wye**

This arrangement is preferred for balanced loads from 150 KVA demand to 1000 KVA demand where there is a combination of single and 3 phase loads. The customer must provide balance in the single phase load for this type service. Normal 120 Volt appliances will perform well on this type of circuit but we should be careful to advise the customer to check his equipment for proper operation on 208 Volts.

**277/480 Volt - 3 PH  
Wye**

This arrangement is preferred for large 3 phase demand loads from 150 KVA to 3000 KVA or more. This voltage and the equipment associated with it is usually essential for starting large motors and for delivering large amounts of power.

**Customer  
Contributions**

Generally, a Contribution In Aid of Construction (CIAC) is required when any voltage other than the standard voltage is requested and subsequently provided (**SPO 21454**).



SUBJECT <b>Point of Delivery / Location of Facilities</b>	SECTION <b>Negotiations</b>
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**Scope** Guidelines for determining service and meter socket locations in compliance with company policy, codes, standards and other constraints such as engineering feasibility, access, clearances, etc.

Refer to **FPL's Electric Service Standards** for additional information.

**Point of Delivery** Point of delivery is defined as the location where FPL-owned facilities connect to customer-owned facilities. Typical points of delivery include weatherheads, meter cans, service junction boxes, handholes, padmounted transformers & vaults.

**Residential** Generally, residential points of delivery (service connection and meter) are to be located within 10 feet of the corner of the side of the building nearest FPL distribution facilities. They are to be located on a clear area of building wall, away from windows and doors, and, in the case of overhead services, at a point on the building that provides adequate clearance and structural support. Service drop wires should not cross over buildings, swimming pools, or adjacent property not owned by the customer.

Overhead or underground service locations requested on the rear or opposite side of the building from our secondary facilities **are to be avoided** whenever possible. A customer's request for a remote meter location may be negotiated if principles of good engineering are not violated (**SPO 21462**), but the customer must pay the additional cost. The per foot cost for UG residential services is shown in **SPO 21462.4**.

**Multiple Occupancy** For customers requesting UG service to new residential multiple occupancy buildings (5 or more dwelling units), FPL will provide an underground point of delivery (padmounted transformer, handhole or junction box) at or near the building at no cost to the customer provided all other CIAC requirements are met (**SPO 21462.1**). The point of delivery for overhead service will be the customer's weatherhead located at or near the portion of the building closest to FPL's available source.

Should the customer request a remote point of delivery which is acceptable to FPL, all additional costs associated with the remote point will be paid for by the customer.

**Commercial / Industrial** Point of delivery for non-residential overhead services is the customer's weatherhead. If the customer requests, or is required to have underground service, the point of delivery is typically a padmounted transformer, secondary junction cabinet, handhole, or vault. The location is designated by FPL.

Customer requests for points of delivery located beyond FPL's designated point of delivery should be discouraged. However, should FPL approve the request, all additional costs to reach the remote point are to be paid by the customer.



SUBJECT	SECTION
<b>Point of Delivery / Location of Facilities</b>	<b>Negotiations</b>

**Small Non-Residential UG Service from OH**

Non-residential customers requesting an underground service from an overhead source may receive an FPL underground service from that overhead source directly to the meter can provided that:

- the requested service is single phase
- the customer's main line switch is rated at no more than 125 amps for 3 wire 120/240v or 60 amps for 2 wire 120v service
- the customer pays the CIAC (difference between OH and UG svc) stated in **SPO 21456.1**
- the customer digs the trench, provides and installs the 2" PVC conduit
- the meter can is located at least 5', but no more than 100' from the pole

Otherwise, the customer must install his service cable to a handhole or secondary junction cabinet at the base of the pole (CIAC still applies).

**Meter Location Accessibility**

The engineer/technical specialist is responsible for specifying a meter location that will be readily accessible (for the life of the service) for reading, connecting/disconnecting, testing, repairing, and replacing of the meter(s), with or without the tenant/owner's presence. Exercise care when approving locations that may involve future service relocation caused by porches, patios, swimming pools, etc. Negotiate locations where such future construction is not likely to occur.

**Meter Location Codes & Clearances**

Service and meter locations and installations may be affected by requirements of local building codes, National Electrical Code (NEC), and National Electrical Safety Code (NESC) to provide required clearances over roofs, heights, clearance from swimming pools, windows, doors, balconies, etc. Section B of the Distribution Construction Standards (DCS) summarizes most of these minimum clearances.

**Location of Facilities / Landscaping**

Careful negotiation with the customer on the location of FPL facilities (padmounted transformers, poles, etc.) will reduce customer complaints, forced relocations of FPL facilities, operations and maintenance costs, and improve service reliability. Consider the following when negotiating locations for FPL distribution facilities:

- Try to accommodate customer "aesthetic" concerns (advise customer of suggested landscaping in vicinity of facilities, e.g. trees under/near FPL overhead lines and clearances to padmounted equipment).
- Equipment and personnel access for construction and future maintenance.
- Exposure to unsafe conditions (i.e. vehicular traffic, clearances, etc.).
- Conflicts with other utilities.



SUBJECT <b>Basic Electrical Formulae Transformer and Service Sizing</b>	SECTION <b>Negotiations</b>
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**Scope** Basic electrical equations to size transformers and services.

**Transformer Sizing Formulae**

**120/240 Volt 1 phase** - Large enough to take all 1 phase load

**120/240 Volt 3 phase** - Closed Delta

$T_1 \& T_3 = 1/3 (KVA\ 3\phi + KVA\ 1\phi)$  Power transformers

$T_2 = 1/3 (KVA\ 3\phi + 2KVA\ 1\phi)$  Lighting transformers

**120/240 Volt 3 phase** - Open Delta

$T_1 = .577 KVA\ 3\phi + KVA\ 1\phi$  Lighting transformer

$T_2 = .577 KVA\ 3\phi$  Power transformer

**120/208 and 277/480 Volt 3 phase** - Wye

$T_1 = T_2 = T_3 = 1/3 (KVA\ 3\phi + KVA\ 1\phi)$  (Formula is valid for all WYE voltages)

**Watt**

$$W = V \times A \times PF$$

$$KW = KVA \times PF$$

$$KW = \frac{HP \times .746}{EFF}$$

$$KW\ 1\phi = \frac{V \times A \times PF}{1000}$$

$$KW\ 3\phi = \frac{\sqrt{3} \times V \times A \times PF}{1000}$$

$$LOAD\ IN\ KVA = \frac{LOAD\ IN\ KW}{POWER\ FACTOR}$$

**Kilovolt - Ampere**

$$KVA = \frac{KW}{PF}$$

$$KVA = \frac{HP \times .746}{EFF \times PF}$$

$$KVA\ 1\phi = \frac{V \times A}{1000}$$

$$KVA\ 3\phi = \frac{\sqrt{3} \times V \times A}{1000}$$



SUBJECT

Basic Electrical Formulae  
Transformer and Service Sizing

SECTION

Negotiations

Horsepower

$$HP = \frac{KW \times EFF}{.746}$$

$$HP \ 1\phi = \frac{V \times A \times EFF \times PF}{746}$$

$$HP \ 3\phi = \frac{\sqrt{3} \times V \times A \times EFF \times PF}{746}$$

Ampere

$$\begin{aligned} A1\phi &= \frac{KW \times 1000}{V \times PF} \\ &= \frac{KVA \times 1000}{V} \\ &= \frac{HP \times .746}{V \times EFF \times PF} \end{aligned}$$

$$\begin{aligned} A3\phi &= \frac{KW \times 1000}{\sqrt{3} \times V \times PF} \\ &= \frac{KVA \times 1000}{\sqrt{3} \times V} \\ &= \frac{HP \times .746}{\sqrt{3} \times V \times EFF \times PF} \end{aligned}$$

Line Current

$$1\phi - 120/240 \text{ Volts} = \frac{\text{Load (KVA)} \times 1000}{240} = 4.17 \times \text{KVA}$$

$$3\phi - 120/208 \text{ Volts} = \frac{\text{Load (KVA)} \times 1000}{\sqrt{3} \times 208} = 2.78 \times \text{KVA}$$

$$3\phi - 277/480 \text{ Volts} = \frac{\text{Load (KVA)} \times 1000}{\sqrt{3} \times 480} = 1.20 \times \text{KVA}$$

$$3\phi - 120/240 \text{ Volts}$$

$$\begin{aligned} \text{Power Leg } (I_p) &= \frac{3\phi \text{ Load (KVA)} \times 1000}{\sqrt{3} \times 240} \\ &= 2.41 \times \text{KVA } 3\phi \end{aligned}$$

$$\begin{aligned} \text{Lighting Legs} &= \frac{1\phi \text{ Load (KVA)} \times 1000}{240} + I_p \\ &= 4.17 \times \text{KVA } 1\phi + 2.41 \times \text{KVA } 3\phi \end{aligned}$$



SUBJECT	SECTION
<b>Basic Electrical Formulae Transformer and Service Sizing</b>	<b>Negotiations</b>

**Efficiency** Value expressed as a percentage, i.e. 50%, but is used as a decimal in formulae, i.e. 0.50.

**Horsepower,  
Efficiency,  
KW Relationship**

HP	EFF.	KW		HP	EF.	KW
1/6	50%	0.25		15	89%	12.57
1/4	50%	0.37		20	89%	16.58
1/3	50%	0.45		25	89%	20.96
1/2	70%	0.53		30	90%	24.86
3/4	72%	0.67		40	90%	33.10
1	84%	1.04		50	90%	41.50
1.5	85%	1.32		60	92%	49.00
2	87%	1.76		75	92%	60.90
3	87%	2.57		100	92%	81.10
5	87%	4.29		125	92%	101.50
7.5	88%	6.36		150	92%	122.00
10	88%	8.47		200	92%	162.00

**Air Conditioning**

A/C Tonnage	BTU/HR	*Avg. KW	**Typical PF	Avg. KVA
1	12,000	1.5	0.9	1.67
1.5	18,000	2.3	0.9	2.56
2	24,000	3.0	0.9	3.33
2.5	30,000	3.8	0.9	4.22
3	36,000	4.5	0.9	5.00
3.5	42,000	5.3	0.9	5.89
4	48,000	6.0	0.9	6.67
5	60,000	7.5	0.9	8.33

\* Based on EER of 8.0

\*\* When manufacturers' data supplies the Power Factor (PF), use the information supplied; do not use 0.9.



SUBJECT	SECTION
<b>Service &amp; Meter Requirements / Vault &amp; Pad Specifications / Request for Fault Current</b>	<b>Negotiations</b>

**Scope** Method of providing technical information and specifications to customer and others.

**Welcome Kit** The “Welcome Kit” is a neat, professional method to provide information to your customers. The kit consists of a folder (form MCS-98), a four-fold brochure (form MSC-90), and various inserts that lead the customer step-by-step through working as a partner with FPL to complete their project. Information inserts (forms MSC-100 to MSC-110) include :

- On The Job with FPL – outlines steps for project success
- Notification of New Construction – residential and commercial
- Temporary / Construction Service Options – standard, TUGS, etc.
- Rights of Way and Easements – information on easements
- Brighten Up With FPL’s Street Lighting Program
- Decorative Street Lighting
- Helping You Dig Safely – Sunshine State One Call Information
- At FPL Your Safety is Our Top Priority – general safety information relating to construction activities
- Trenching and Tunneling Near Trees – protecting trees near excavation
- Replacing Poles and Overhead Wires with Underground Wires

The folder is customized to each project by including only those inserts that are applicable to the project. Other forms and agreements (e.g. – street lighting agreement, Underground Distribution Facilities Installation Agreement, Vault Specs, etc.) and the engineer/technical specialist’s business card are added and the folder is provided to the customer at the pre-design meeting.

**Before You Build form 2309, 2309T** Form 2309 is a means of advising customers to contact FPL before commencing construction. Specifications for temporary service and the phone number and location of the local service planning office are included on the form. Specify your local mailing and delivery address when ordering the forms, so it can be preprinted.

**Form 2309T** is the same form as form 2309, but includes a string to facilitate attachment to a building site structure in the event no one is present.

**Form 2309** has no string and is particularly useful when the local building authority agrees to distribute it as builders or customers apply for permits.

Both are intended to facilitate early communication between FPL and new customers.



SUBJECT

Service & Meter Requirements / Vault & Pad Specifications / Request for Fault Current

SECTION

Negotiations

Service & Meter Socket Requirements form 1453

FPL Electric Service and Meter Socket Requirements, form 1453, is a two sided form consolidating most, if not all, of the information needed by the customer before electric service can be provided by FPL. It includes:

- service voltage
- whether the service is to be overhead or underground
- payments required before service can be provided
  - temporary/construction charge
  - security deposit for temporary and permanent service
  - underground/overhead differential charge
  - line extension contribution in aid of construction (CIAC)
- plans that are required: site plan, electrical
- easements and inspections
- location sketch showing point of delivery and service route
- meter enclosure configuration
- service entrance, clearance specifications
- schematic (on reverse) of socket configurations
- checklist (on reverse) of customer requirements

Form 1453 is **strongly** recommended to prevent future misunderstandings.

After completing the form, attach your business card to the lower right corner of the form. Deliver part 1 and 2 to the customer for customer signature, and request the return of signed part 1. Part 3 can be retained in job file as needed.

**Note:** Stamp all FPL underground drawings provided to the customer or others with, "This drawing is not to be used for locating buried underground facilities. To have FPL underground facilities located call 1-800-432-4770".

Vault & Pad Mounted Transformer Specifications

When the customer owns and installs the service to FPL's point of delivery at a Vault or Pad Mount Transformer, specifications are usually required. These specifications effectively communicate the customer's and FPL's responsibilities, as well as specifying clearances, equipment type and location (i.e. Vault Doors, Bus Duct, Vent Openings, Sumps, etc.). **DERM 5.8** contains sample specifications. Editable Word documents for Pad, Vault, and Stacked Vault specifications can be found in the Design ShareNet Library.



SUBJECT

Service & Meter Requirements / Vault & Pad Specifications / Request for Fault Current

SECTION

Negotiations

Other Specifications/ Requirements

Provide the following, as appropriate:

- FPL URD Road Crossing Specifications (**SPO 21462.3**)
- Underground Conduit Installation Specifications (**SPO 21610.4a**)
- Duct and Manhole Installation Specifications (**DERM 5.7.3**)
- CT Metering Enclosure Specifications (**SPO 21301**)

Request for Fault Current Information

1. When a customer or customer's engineer requests available fault current information, secure a set of dated electrical plans. The customer's request for the information must be made in writing and FPL's response must be in writing. Verbal requests and responses are not acceptable.
2. Determine the service voltage, estimate the kilowatt demand, and determine the proposed transformer size.

**Note:** Include anticipated future electrical load in the load calculations (i.e. – the transformer size is normally increased to the next larger size to perform the calculation).

3. Calculate maximum available fault current as outlined in **DERM 2.1.4** and send the standard disclosure letter (as found in Designer Aid) to the requesting party.

Distribution Planning will provide assistance if requested. Be prepared to provide the information in step 2 above when asking for their help.



**Service Planner Operations**

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SUBJECT	SECTION
<b>Field Survey Checklist</b>	<b>Negotiations</b>

- Poles**
- Ownership of pole
  - Size and class
  - Test for rot at ground. Look for cracks, rot, woodpecker holes above ground. Check adjacent poles, also.
  - Secondary and Primary risers. Service riser – FPL or customer owned?
  - Clear zone – location of pole to curve / intersection?
  - Sidewalk – will location allow 32” minimum sidewalk width per ADA?
- Conductors**
- Primary and Secondary
  - Kind and size
  - Voltage
  - Number of phases
  - How attached to pole (PTP, crossarm, side post, fork, etc.)
  - Insulators
  - Span lengths
  - Disconnect switches
  - Lateral fuses
  - Secondary breakers
- Transformers**
- Size and voltage
  - Dual voltage switch present?
  - On 13 KV, T.O.L. or 100 A Fuse Switch
  - How mounted on pole (quartered, below secondary, etc.)
  - Which phase if more than single phase
  - Transformer location number (TLM)
- Guys and Anchors**
- Guy size, kind and number (Copperweld or galvanized)
  - Anchor size, kind and number
  - Anchor lead length
  - How and where attached to pole
  - Guard (metal guard or plastic marker)
  - Span guy attachments
- Services**
- Size and kind. If 3#6 CWP, 2#8 CWP or old copper concentric must be handled, replace with cable (TPX, QPX).
  - Direction from pole
  - Length, if to be replaced
- Streetlight Circuits**
- Location of photocell and relay
  - Grid Coordinate number tag
  - Luminaire size, type, bracket length
  - Attachment height
- Clearances**
- 18 feet minimum over road (varies by voltage). If service is low, install service pole or raise attachment on pole and/or house if possible.
  - If service pole required, FPL or telephone company to set?
  - Refer to Distribution Construction Standards for additional clearances.



**Service Planner Operations**

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SUBJECT

**Field Survey Checklist**

SECTION

**Negotiations**

**Buried Foreign Utilities**

- Gas, sewer, water, drains, water meters, fire hydrants, telephone, CATV, etc.
- Collect information required to request cable locates

**Joint Use**

- Owner of attachment (Telephone Company, Cable TV, Fire Alarm, etc.)
- Type of attachment (cable, drop wire, U.G. riser, etc.)
- Can proposed work be done and still maintain proper clearance?
- NESC violations (clearances, guying, etc.)

**Meter Socket**

- Approved for use in FPL's service area.
- Installed according to FPL's Electric Service Standards.
- Compatible with the type of service and meter to be installed.

**Landmarks**

- Canals, ditches, swamps
- Driveways
- Lot lines (iron pipes, concrete markers, etc.)
- Trees
- Buildings – record address numbers, business names
- Street names and cross streets

**Miscellaneous**

- Report aircraft landing areas not on primary map to TRS.
- Note anything unusual in the area. Take one last look. Too many field notes won't hurt and may save an extra field trip.
- Take digital photos if possible
- Salt spray / contaminated area?
- Accessible?
- Easements required?

**Line Clearing**

- Note size and kind of tree (on new construction projects, customer or developer is responsible for obtaining permits and clearing necessary trees).
- Should trees be cut at ground or trimmed?
- If removals, secure signature on TWA

**Unusual Loads**

- Heat pumps. Check nameplates for size (full load amps & locked rotor amps).
- Stripheat, get KW rating
- Get house number and meter numbers to determine full and partial services.
- Look for gas tanks, both above ground and buried.
- Look for gas water heater stacks on house roof.
- In commercial areas get meter number. Also street number and name.

**Permits**

- Permits required? (Water management district, railroad, FDOT, FAA, DEP, COE, city, county, etc.) – If FDOT permit required take 2 to 6 digital photos of work area for permit application.
- MOT required? (working within 15 feet of pavement or along State Road)



SUBJECT

**Field Survey Checklist**

SECTION

**Negotiations**

**Uniform Color Codes for Marking Buried Utilities**

The following uniform color codes which are used to mark the location of buried facilities are in accordance with the guidelines provided by the American Public Works Association & Utility Location and Coordination Council.

**RED** - Electrical power lines, cables, conduit and lighting cables

The following color codes are provided for reference only:

- YELLOW** - Gas, oil, steam, petroleum or gaseous materials
- ORANGE** - Communication, alarm or signal lines, cables or conduit.
- BLUE** - Water, irrigation and slurry lines.
- GREEN** - Sewers and drain lines.
- PINK** - Survey markings
- WHITE** - Proposed excavation routes