

**CUSTOMER GENERATION**

Directory . . . . . 800.1

Distributed Generation . . . . . 800.8–800.15

Accessibility . . . . . 800.14

Billing and Purchase of Energy Metering . . . . . 800.8, 800.15

Data Required for Design . . . . . 800.8

Disconnection Devices . . . . . 800.14

Interconnection Agreement . . . . . 800.8

Net Generator Output Metering . . . . . 800.1, 800.9–800.13

Telemetry . . . . . 800.14

Transformer Requirements . . . . . 800.14

General . . . . . 800.1

Inspection Requirements . . . . . 800.2, 800.12, 800.14

Net Generator Output Metering . . . . . 800.1, 800.9–800.13

Regulations for Connection of Customer–Owned Sources . . . . . 800.1

Standby Generators . . . . . 800.1–800.7

Transfer Systems . . . . . 800.3–800.7

Violations . . . . . 800.2

Warning Statements and Labels . . . . . 800.2

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

	<input checked="" type="checkbox"/> Indicates Latest Revision	<input type="checkbox"/> Completely Revised	<input type="checkbox"/> New Page	<input type="checkbox"/> Information Removed
REVISION	SDG&E SERVICE STANDARDS & GUIDE			INDEX 800 SECTION
DATE 6-22-06	CUSTOMER GENERATION			
APPD <i>SM</i> BRB				

## SELF GENERATION

### General

All installations of Customer's power production equipment (or other electric sources) require adherence to fundamental rules for safeguarding of personnel and SDG&E's (Utility) and customer-owned equipment. The Utility shall be consulted before any power producing equipment is connected to any circuit which is, or can be supplied from the Utility's distribution system. This is to assure against any unanticipated backfeed of electricity into the Utility's system and provide compliance with the Utility's tariffs. This standard does not apply to portable generators used without connection to customer's cord and plug connected appliances directly to the generator's receptacles.

### Directory

A permanent plaque or directory, denoting all electrical power sources on or in the premises, shall be installed at each service equipment location (service point) and at the locations of all electric power production sources capable of being interconnected (parallel generator(s) locations). Installations with large numbers of power production sources shall be permitted to be designated by groups.

### Net Generator Output Metering

For other than emergency or standby generators, acceptable to the Utility, for sole use during utility outages and not operating in parallel with the Utility, all generating sources shall be metered at the generator(s) output per Utility's filed Rule 21, except where such metering is not required per Utility tariffs. See Section B for additional generator output metering requirements.

### Connection of Customer-Owned Power Producing Sources to Utility Services

The legislature of the State of California intended by enactment of Health and Safety Code, Chapter 415, to prevent electricity generated by permanent or portable electric generators from backfeeding into a utility electrical distribution system. In addition, California Code of Regulations, Title 8, Section 2320.9, states, "No electrical power source, permanent or temporary, shall be connected to a premises wiring system, or parts of such a system, unless positive means are used to prevent the transmission of electricity beyond the premises wiring system, or beyond any intentionally segregated parts of such a system. Exception: When an interconnection has been authorized by the servicing utility".

A "positive means" is interpreted as: A device which, by its use or operation, interrupts or prevents the flow of current to or from the electrical system and which provides the device operator or user a visual or other definite indication of the existing condition or state of the electrical system.

The following is information about, specific laws pertaining to, or actions which persons must take when interconnecting with an SDG&E provided electric service:

#### A. PERMANENTLY OR TEMPORARILY CONNECTED STANDBY GENERATORS

##### General Information

When a generator is permanently or temporarily connected to a customer's electric system, it energizes the building's wiring. This type of installation requires a device that prevents the generator from being connected to the Utility's power lines. Refer to Section A.3. for "Transfer Systems" requirements.

- \* The standby generator should be 60-Hertz alternating current. If a direct current generator is used, the installation must be arranged so that all motors, radios, and other equipment that will not operate on direct current are disconnected from circuits before the circuits are energized from the standby generator.

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

	<input checked="" type="checkbox"/> Indicates Latest Revision	<input type="checkbox"/> Completely Revised	<input type="checkbox"/> New Page	<input type="checkbox"/> Information Removed
REVISION	SDG&E SERVICE STANDARDS & GUIDE			800.1
DATE 6-22-06 APPD <i>SM</i> BRB	CUSTOMER GENERATION			

- \* Only a qualified professional, such as a licensed electrical contractor, should install a permanently or temporarily connected standby generator.
- \* A permit and inspection by the governmental authority having jurisdiction (AHJ) is required for all installations.
- \* When installation is complete, call SDG&E at 1-800-411-7343 and provide the address of the standby generator location.

Warning Statements and Labels:

California Health and Safety Code, Section 119080 (a), requires:

"Every manufacturer of a portable or permanent electrical generator that is capable of being connected either permanently or temporarily to a commercial, industrial or residential structure's electrical system, shall include a warning statement in the generators instruction manual and a legible warning label on the generator which states the requirement of Section 119075 and explains the electrical hazards of backfeed into a utility's distribution system. The same warning information shall be included in all advertisements offering portable electrical generators." California Health and Safety Code, Section 119080 (b) requires:

"No person or public agency shall sell or rent to another person or public agency, or offer for sale or rent to another person or public agency, a portable electrical generator unless the legible warning label is on a visible surface of the generator."

Violation:

California Health and Safety Code, Section 119090, provides that violation of the requirements of Sections 119075 to 119085 inclusive, Electrical Hazards, is a misdemeanor offense, subject to a fine of not more than five hundred dollars (\$500) or not more than six (6) months imprisonment.

A.1. Generators NOT Permanently Connected (Temporary Connections).

Any portable electric generator shall be connected in accordance with California Health & Safety Code, Section 119075. Section 119075 (b), which states:

"Any portable electric generator that is capable of being connected temporarily to a customer's electrical system, that is normally supplied by an electrical corporation or state or local public agency, shall be connected only after opening the customer's electrical system from that of the electrical corporation or state or local agency". Article 702-6 of the National Electrical Code requires transfer equipment suitable for the intended use and so designed and installed as to prevent the inadvertent interconnection of normal and alternate sources of supply in any operation of the transfer equipment. A main breaker or fuse, which is not listed as suitable for use as transfer equipment, can not be used as the transfer device between temporarily connected portable generators and the Utility's service. This applies to any generator connected as a temporary (non-routine, nonscheduled) or emergency source of power. Any portable electric generator used as a temporary source of power shall be connected as described in Section A.3. "Transfer Systems".

A.2. Generators Connected Permanently but NOT Operating in Parallel with SDG&E's System.

All generators in this category are to be connected in accordance with SDG&E's filed rules and California Health and Safety Code 119075(c), which states:

"Any electrical generator, other than a generator designed to run in parallel with the system of the servicing utility and approved by that utility, that is capable of being permanently connected to a customer's electrical system shall be connected only by means of a double throw switch so as to isolate the customer's electrical system from that of the electrical corporation or state or local agency." Refer to section A.3. for "Transfer Systems" requirements.

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

<input checked="" type="checkbox"/>	Indicates Latest Revision	<input type="checkbox"/>	Completely Revised	<input type="checkbox"/>	New Page	<input type="checkbox"/>	Information Removed
800.2	SDG&E SERVICE STANDARDS & GUIDE					REVISION	
	CUSTOMER GENERATION					DATE 6-22-06 APPD <i>SM</i> / BRB	

### A.3. Transfer Systems

#### A.3.1 Service Equipment Rated Transfer

Transfer switches listed and labeled "suitable for use as service equipment" are permitted for use as main service equipment upon prior approval by the Utility. All other transfer switches shall be connected on the load side of the main service equipment.

#### A.3.2 Open-Transition Switching

A double throw switch with a mechanically driven "break-before-make" sequence shall normally be provided to transfer all ungrounded conductors of an emergency lighting or power load to either the standby generator (or other electric source) or the normal supply. (See Figures 1 through 4 for typical connections.) Manual transfer switch installations do not require review and approval by the Utility prior to installation. Exception: Service Equipment Rated Transfer switches as noted in A.3.1 above. All requirements listed in Section A. General Information shall be met.

#### A.3.3 Closed-Transition Switching & Auto Transfer

Requests for closed-transition switching (make-before-break) and automatic transfer systems, with a solid state or programmable logic controller, require specification submittal and must be approved by the Utility. The customer's submittal shall include 3 sets of drawings and include the following: system description, one-line relay functional diagram, logic controller program and bill of materials. Submittals should be sent to:

SDG&E Company  
Service Standards & Self Generation  
8316 Century Park Court, CP52F  
San Diego, CA 92123-1545

The customer will receive an approval, or request for changes, from the Utility after review by all internal departments.

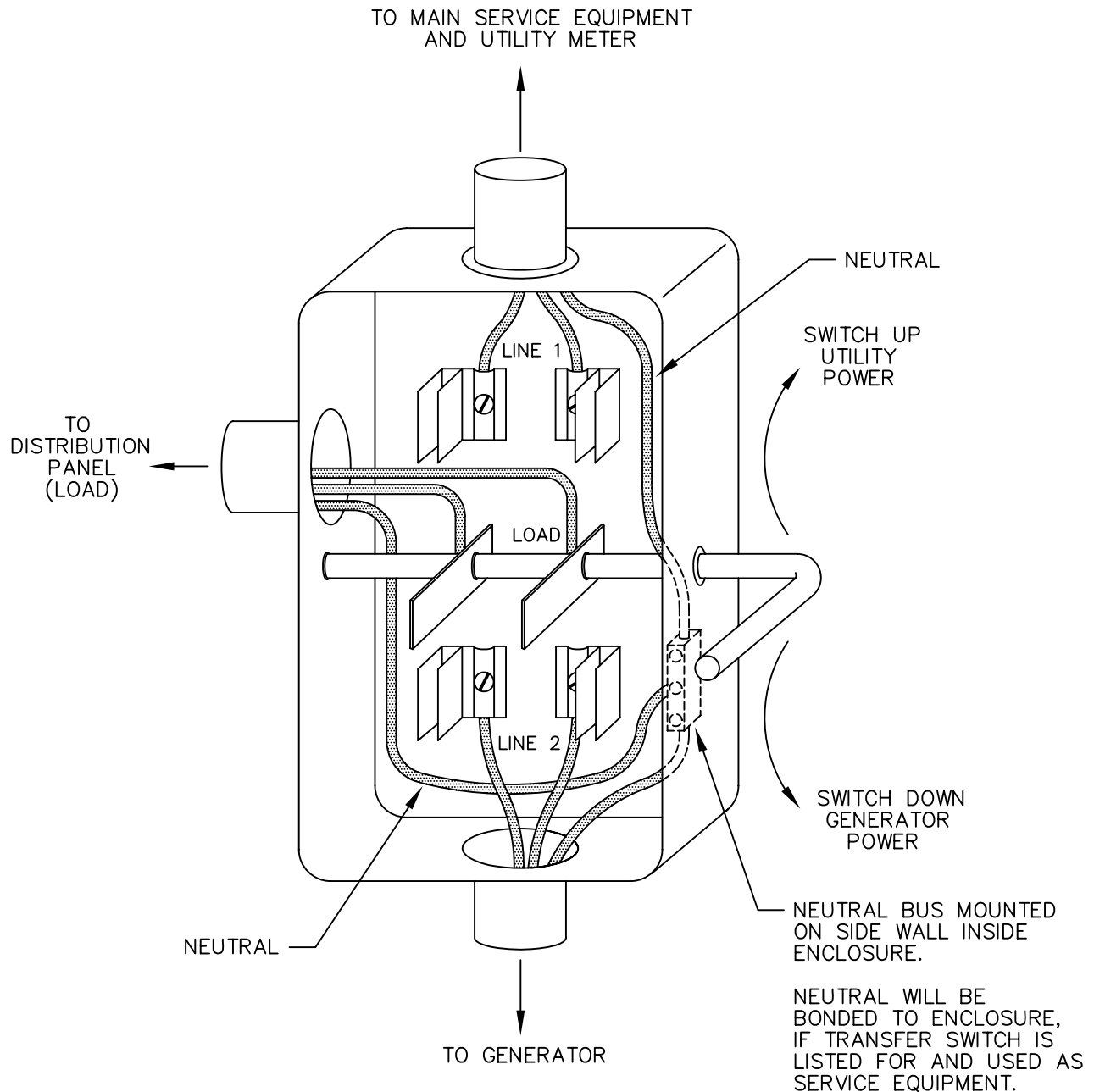
Closed-transition switching is limited to 1 second (60 cycles) and requires a written agreement with the Utility and a net generator output meter, unless specifically allowed by the customer's Utility tariff.

#### A.3.4. Separately Derived Systems

When an AC generator is installed as a separately derived system, grounding of the neutral conductor shall be in accordance with the National Electrical Code. Separately derived systems require a switched neutral conductor at the transfer switch. Figures 1 through 4 do not show this system configuration.

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

	<input checked="" type="checkbox"/> Indicates Latest Revision	<input type="checkbox"/> Completely Revised	<input type="checkbox"/> New Page	<input type="checkbox"/> Information Removed
REVISION	SDG&E SERVICE STANDARDS & GUIDE			800.3
DATE 6-22-06 APPD <i>SM</i> / BRB	CUSTOMER GENERATION			



STAND-BY ELECTRIC GENERATOR  
SAFETY TRANSFER SWITCH  
TYPICAL LAYOUT

NOTE: EQUIPMENT  
GROUNDING CONDUCTOR  
FOR BONDING PURPOSES  
NOT SHOWN.

FIGURE 1

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

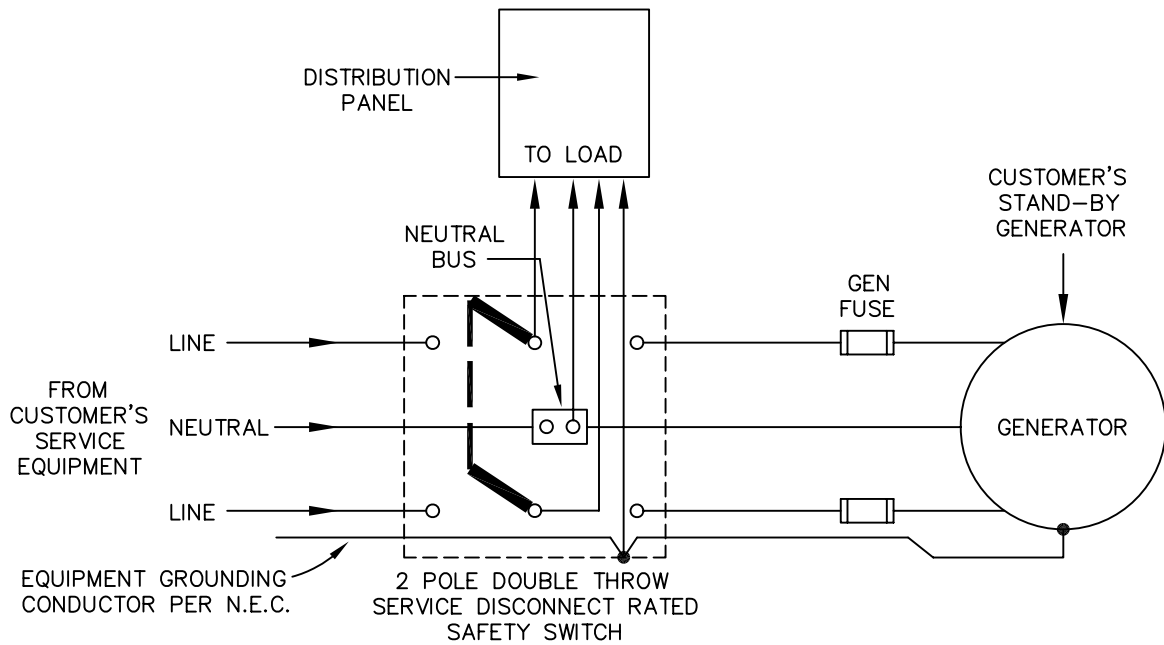
Indicates Latest Revision	Completely Revised	New Page	Information Removed
---------------------------	--------------------	----------	---------------------

SDG&E SERVICE STANDARDS & GUIDE

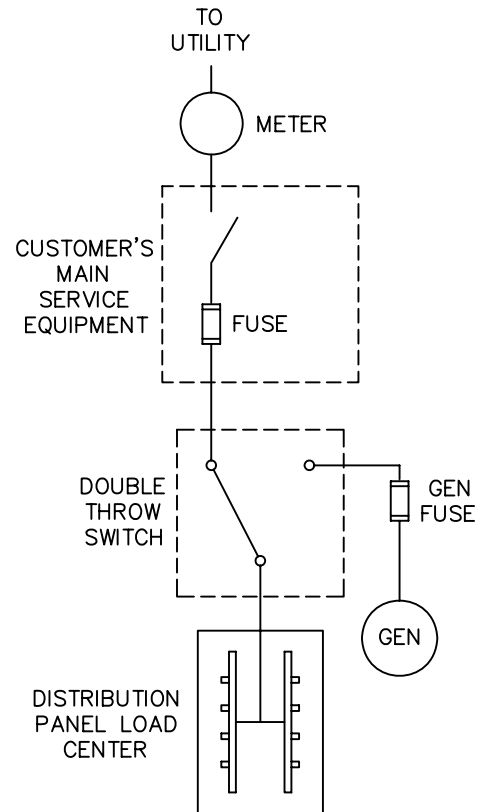
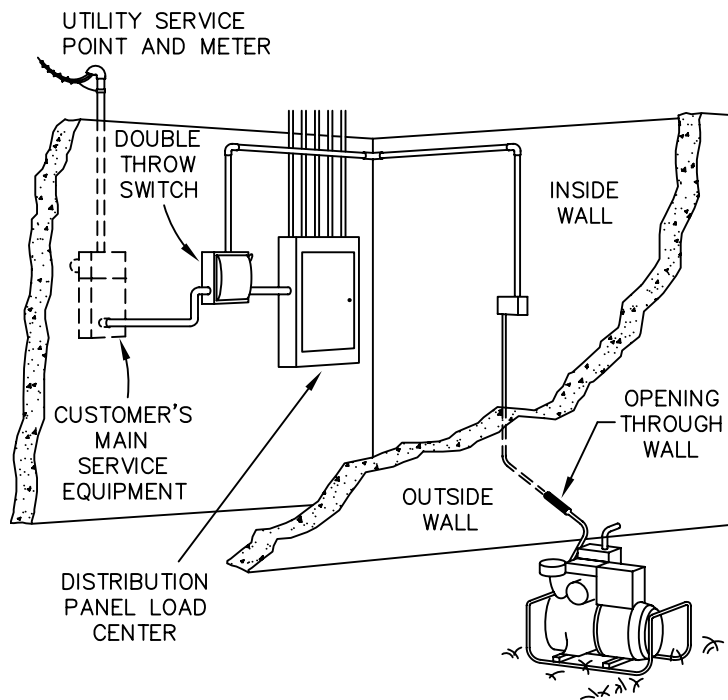
800.4

STAND-BY GENERATOR  
SAFETY TRANSFER SWITCH

REVISION  
DATE 12-12-02  
APPD *SM* / BRB



CONNECTION OF STAND-BY GENERATOR SUPPLYING CUSTOMER'S ENTIRE LOAD

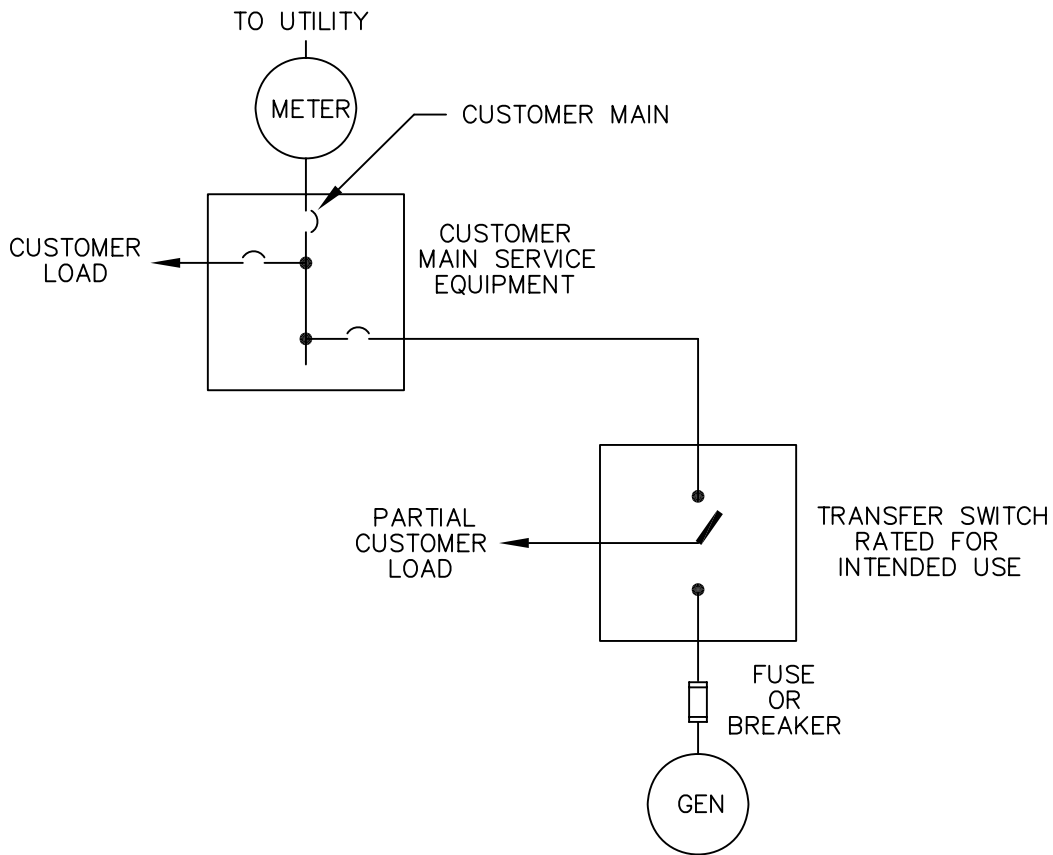
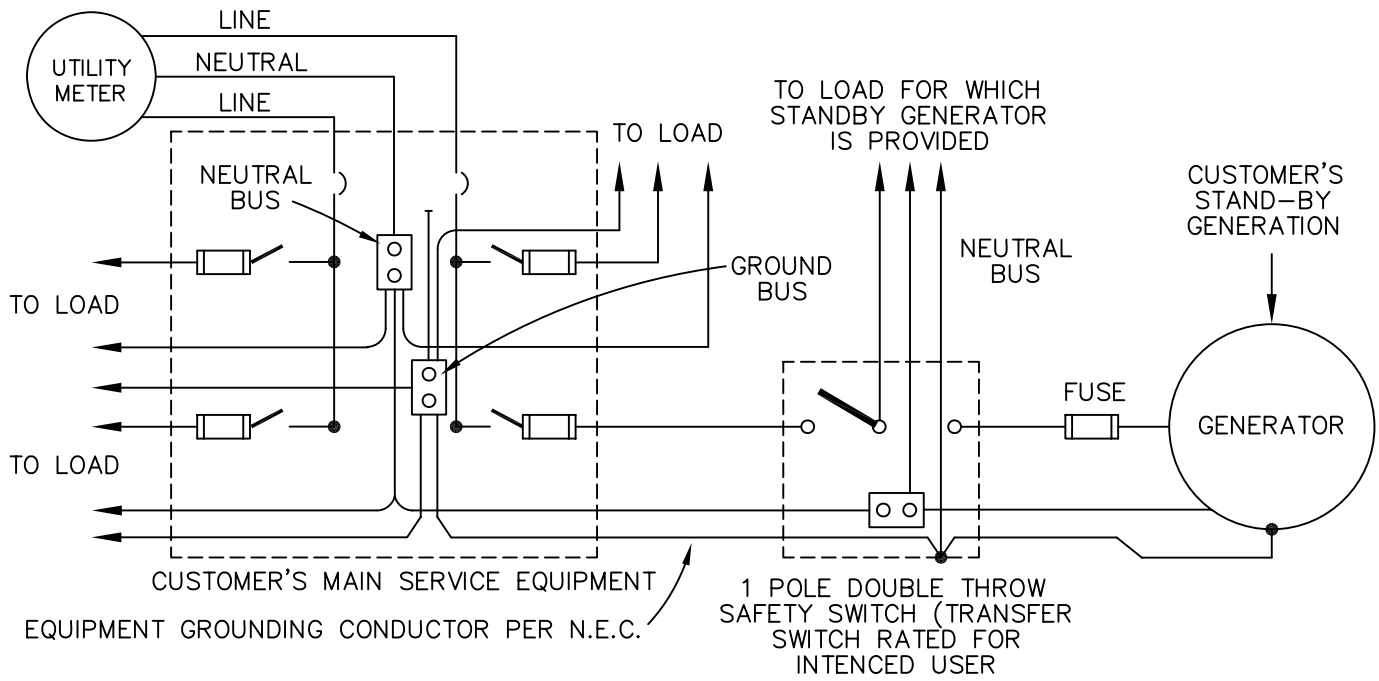


STAND-BY GENERATOR NON-PARALLEL OPERATION WITH UTILITY

FIGURE 2

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

	Indicates Latest Revision	Completely Revised	New Page	Information Removed
REVISION	SDG&E SERVICE STANDARDS & GUIDE			
DATE 12-12-02	STAND-BY GENERATOR			800.5
APPD <i>SM</i> BRB				

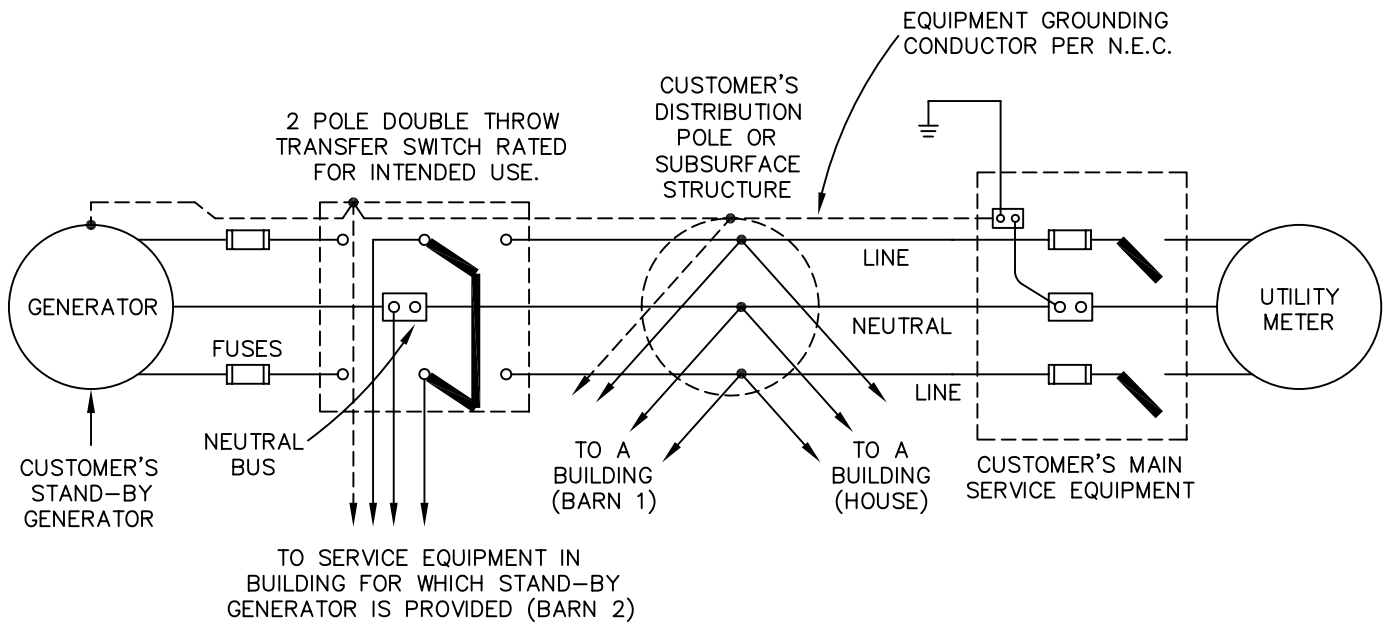
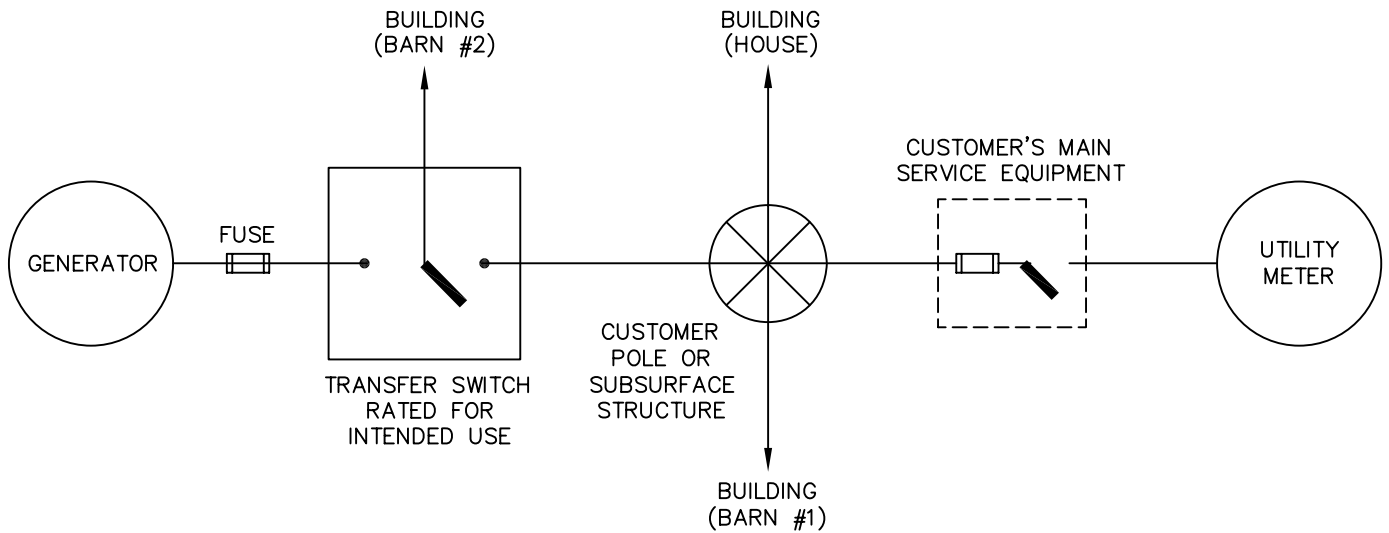


CONNECTION OF STAND-BY GENERATOR  
SUPPLYING ONE 120 VOLT CIRCUIT

FIGURE 3

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

	Indicates Latest Revision	Completely Revised	New Page	Information Removed
800.6	SDG&E SERVICE STANDARDS & GUIDE			REVISION
	STAND-BY GENERATOR			DATE 12-12-02 APPD <i>LSM</i> / BRB



**NOTE:**

CONNECTIONS SHOWN ARE FOR COMPANY'S SERVICE BEING SINGLE-PHASE, 3-WIRE, 120/240-VOLTS.

CONNECTION OF STAND-BY GENERATOR TO A PORTION OF CUSTOMER LOAD SERVED FROM SINGLE UTILITY SERVICE. EXAMPLE SHOWN IS MULTIPLE BUILDINGS IN RURAL AREAS.

FIGURE 4

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

	Indicates Latest Revision	Completely Revised	New Page	Information Removed
REVISION	SDG&E SERVICE STANDARDS & GUIDE			
DATE 12-12-02	STAND-BY GENERATOR			800.7
APPD <i>SM</i> / BRB				

B. DISTRIBUTED GENERATION – OPERATING IN PARALLEL WITH SDG&E’s SYSTEM

DATA REQUIRED FOR DESIGN

SDG&E requires the customer to provide an application fee and detailed information, specifying the operational parameters of the distributed generation and interconnection equipment, before firm interconnection requirements can be provided. The information required includes, but is not limited to:

1. ONE LINE DIAGRAM – Proposed one line representation of the interconnection system noting existing and proposed equipment.
2. ENERGY SOURCE INFORMATION
  - A. A complete set of specifications listing the following:
    - (1) Maximum kW rating.
    - (2) Nominal output voltage.
    - (3) All necessary relays.
    - (4) Power factor.
    - (5) Maximum fault current contribution.

B.1 INTERCONNECTION AGREEMENT

The customer shall be required to complete a Generating Facility Interconnection Application and an Interconnection Agreement with SDG&E before the generating facility may be connected to SDG&E’s electric system. These agreements may be found at SDG&E’s website [http://sdge.com/self\\_generation.html](http://sdge.com/self_generation.html).

OPERATING REQUIREMENTS

The customer shall operate the generating facility, whether permanent or temporary, in accordance with the Interconnection Agreement, SDG&E’s Electric Service Requirements, Rules, Rate Schedules, and all applicable codes and ordinances.

The customer shall not be permitted to energize an unenergized SDG&E line or transformer.

B.2 METERING

B.2.1 BILLING AND PURCHASE OF ENERGY METERING

SDG&E will provide and install metering, at a location acceptable to SDG&E, to comply with applicable Distributed Generation gas and electric rate schedules, power purchase contracts, and SDG&E requirements. The installation, operation, and maintenance costs of these metering facilities shall be borne by the customer per SDG&E’s filed Rule 21 and 2. Refer to examples of typical billing and purchase metering on page 800.15.

The customer will provide and maintain all service equipment and switchboards per SDG&E requirements.

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

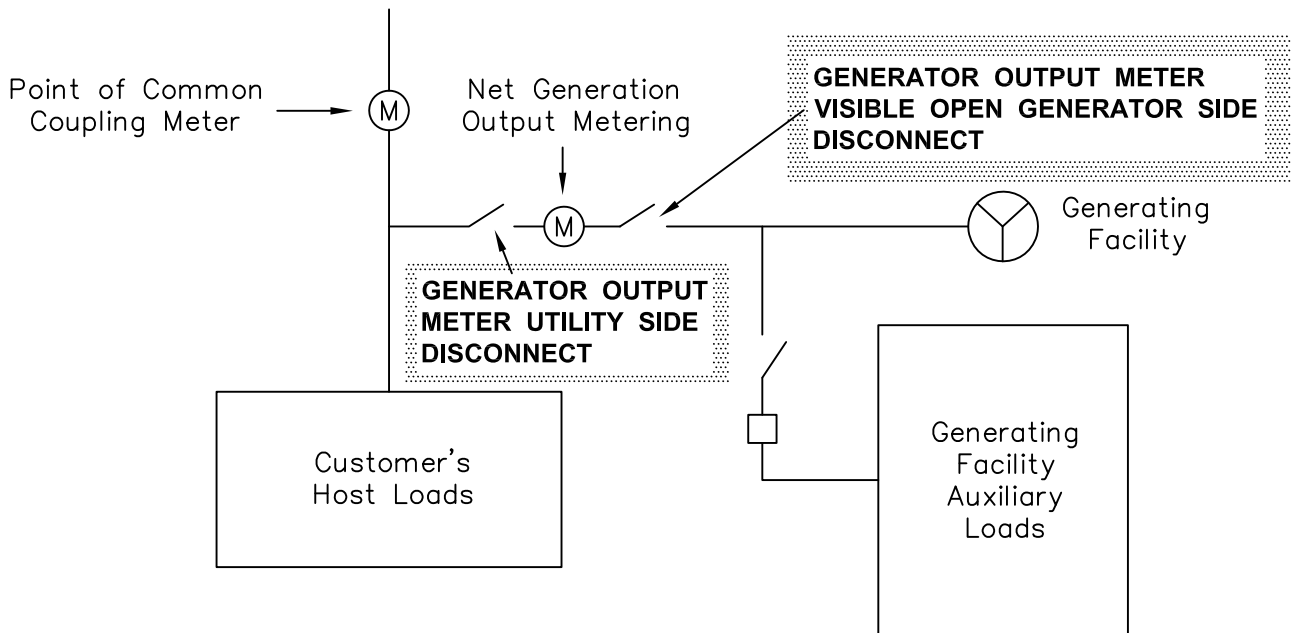
	<input checked="" type="checkbox"/> Indicates Latest Revision	<input type="checkbox"/> Completely Revised	<input type="checkbox"/> New Page	<input type="checkbox"/> Information Removed
800.8	SDG&E SERVICE STANDARDS & GUIDE			REVISION
	CUSTOMER GENERATION – DISTRIBUTED GENERATION			DATE 6-22-06 APPD <i>SM</i> / BRB

B.2.2. NET GENERATOR OUTPUT METERING

**Overview**

SDG&E typically requires the net energy output (measured in kilowatt–hours) of a Generating Facility interconnected pursuant to Rule 21 to be metered using meters supplied by SDG&E at the expense of the Customer (or other party) installing the Generating Facility. SDG&E’s Rule 21, “Generating Facility Interconnections,” defines this “Net Generation Metering” as “Metering of the net electrical energy output in kW or energy in kWh, respectively, from a given Generating Facility. This may also be the measurement of the difference between the total electrical energy produced by a Generator and the electrical energy consumed by the auxiliary equipment necessary to operate the Generator. For a Generator with no Host Load and/or Public Utilities Code Section 218 Load (Section 218 Load), Metering that is located at the Point of Common Coupling. For a Generator with Host Load and/or Section 218 Load, Metering that is located at the Generator but after the point of auxiliary load(s) and prior to serving Host Load and/or Section 218 Load.” (Note that initially capitalized terms in this document are also defined in SDG&E’s Rule 21.) This document is intended to elaborate on the requirements that are more generally stated in Rule 21. It is not intended to change such requirements. In order to avoid confusion between the term “Net Energy Metering,” which is used to describe a metering technique that allows a customer to receive credits for energy delivered to SDG&E’s distribution system and the subject matter of this standard, “Net Generation Metering,” we will refer to the metering measuring the net output of a customer’s generator(s) as “Net Generation Output Metering” or “NGOM.” NGOM is always installed in the electrical circuitry used to interconnect a Customer’s Generating Facility with a Customer’s loads. More specifically, it is located in the circuitry at a location after any connections used to serve the “auxiliary loads” used to operate the Generating Facility, but before any connection to the Customer’s “Host Loads.” See figure below.

**SDG&E's Distribution System**



© 1998 - 2011 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

	<input checked="" type="checkbox"/> Indicates Latest Revision	<input type="checkbox"/> Completely Revised	<input type="checkbox"/> New Page	<input type="checkbox"/> Information Removed
REVISION	SDG&E SERVICE STANDARDS & GUIDE			
DATE 1-13-2011 APPD BRB /MJC	CUSTOMER GENERATION – DISTRIBUTED GENERATION			800.9

## 2. Purpose and Use of Net Generation Output Metering

When a Customer installs a Generating Facility to supplement the electric service received from SDG&E, SDG&E and the Customer typically need to know when and how much energy is produced by the Generator(s). In each case, the data provided by the metering installation must be readily compatible with the data acquisition and management systems used to process the data provided by the metering and convert it to useful and timely information for the user. Four common requirements for Net Generation Output Metering are:

- a. **Tariff Administration** – Some tariffs, such as SDG&E’s “E-DEPART” – Departing Load – Nonbypassable Charge tariff, are based on the net kWh production of a Generator. Billing accuracy metering is the preferred way to acquire this information. SDG&E’s Schedule “S” – Standby tariff will also use NGOM in determining standby charges that may be applicable to a Customer using Generation. When SDG&E’s billing is based on metered quantities, the accuracy and quality of the metering used is subject to regulation by the California Public Utilities Commission.
- b. **Distribution System Planning** – A Customer’s Generator may be operated in such a manner that it reduces the loading on SDG&E’s distribution circuits. NGOM can be used by SDG&E to integrate Customer Generating Facility operational and energy production information with distribution circuit loading information to better plan for the loading of SDG&E’s distribution circuits.
- c. **Distribution System Operation** – SDG&E’s Distribution circuit operation and switching decisions can be improved with “timely” (“real time” or “near-real time”) information regarding the amount of generation operating at any point in time on a particular section of a distribution circuit. NGOM can be integrated with a communication circuit and data management program to provide a very current “snap-shot” of the nature of a circuits load, thereby allowing for more finely tuned operations of SDG&E’s distribution system.
- d. **Customer Generation Operation and Monitoring** – Generation operation, energy production, and sales need to be measured by the Customer and, in many cases, third parties who are either selling the energy produced by the Generator(s) to the Customer or who have provided financial incentives tied to certain performance criteria based on the energy produced. NGOM output “pulses” can be used with various data management programs to provide both real time and cumulative data that can be used for these purposes.

## 3. SDG&E’s Requirements for Net Generation Output Metering

SDG&E’s Rule 21 allows SDG&E to require the installation of NGOM. The specific language of the Rule is as follows: “For purposes of monitoring Generating Facility operation for determination of standby charges and applicable non-bypassable charges as defined in SDG&E’s Tariffs, and for Distribution System planning and operations, consistent with Section B.4 of this Rule, SDG&E shall have the right to specify the type, and require the installation of, Net Generation Metering equipment.

Continued on next page

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

	<input checked="" type="checkbox"/> Indicates Latest Revision	<input type="checkbox"/> Completely Revised	<input type="checkbox"/> New Page	<input type="checkbox"/> Information Removed
800.10	SDG&E SERVICE STANDARDS & GUIDE			REVISION
	CUSTOMER GENERATION – DISTRIBUTED GENERATION			DATE 6-22-06 APPD <i>SM</i> / BRB

SDG&E shall only require Net Generation Metering to the extent that less intrusive and/or more cost effective options for providing the necessary Generating Facility output data are not available...” SDG&E has learned through failed attempts of other utilities, it is essential to require NGOM on all Distributed Generation projects with few exceptions. The problems in estimating generator energy production as well as acquiring and integrating the various formats of data available from Customer installed metering equipment is insurmountable for utilities. SDG&E has determined it necessary to require the installation of standardized, SDG&E supplied, NGOM devices for most Customer Generation installations where the Generator is installed and intended to operate in parallel with SDG&E’s Distribution System for extended periods of time.

**3.1 Exceptions to SDG&E's NGOM Requirements**

- a. NGOM is not normally required for small (<10 kW) Generating Facilities that are eligible for service under SDG&E’s Net Energy Metering (NEM) Tariff. Should SDG&E determine it necessary to require NGOM Metering at NEM-eligible locations, such metering will, by tariff design, be installed at SDG&E’s expense.
- b. NGOM is not required for Generators that are installed only for emergency or back-up service and are unlikely to be operated in parallel for extended periods due to other factors such as the type of fuel used (diesel) or the nature of the paralleling device (an isolating or momentary transfer switch). SDG&E will screen Generating Facility interconnection applications and indicate the exceptions to its NGOM requirements on a case-by-case basis.

**3.2 Typical Metering Devices Required and installed by SDG&E**

The following table lists the type of meters and related monitoring equipment SDG&E may require to measure the net energy output of a Customer’s Generating Facility and, in some cases, to monitor the status of the Customer’s equipment used to interconnect the Generating Facility. Unless otherwise agreed between SDG&E and the Customer, the Customer will supply the metering panel and related hardware and SDG&E will provide the actual meters or monitoring equipment at the Customer’s expense. (Note that SDG&E’s charges for such devices are regulated by the CPUC.):

Total Rated kW of Generating Facility	Typical Metering Devices Installed by SDG&E
< 200	Non-Time of use (TOU) revenue grade meters measuring net generation output. Interval Data Recording (IDR) meters may be required to determine compliance under various incentive programs.
200 ≤ X < 1000	Revenue grade IDR meters measuring net generator output and customer load. No telemetry required.

Continued on next page

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

<input checked="" type="checkbox"/>	Indicates Latest Revision	<input type="checkbox"/>	Completely Revised	<input type="checkbox"/>	New Page	<input type="checkbox"/>	Information Removed
REVISION		SDG&E SERVICE STANDARDS & GUIDE					
DATE 6-22-06 APPD <i>SM</i> BRB	CUSTOMER GENERATION – DISTRIBUTED GENERATION						800.11

Continued

Total Rated kW of Generating Facility	Typical Metering Devices Installed by SDG&E
1,000 ≤ X < 10,000	Revenue grade Real Time Energy Metering (RTEM) meters capable of near real time telemetry measuring net generation output and customer load, watts, vars, watthour, varhour, amps and volts.
Wind Projects ≥ 1,000	Revenue grade IDR meters measuring net generator output and customer load, plus real time (SCADA) telemetry required to measure/monitor total watts, vars, CB status, and voltage of Generating Facility. Real time telemetering requirements for wind projects less than 10 MW will be evaluated on a case-by-case basis.
≥ 10,000	Revenue grade IDR meters measuring net generator output and customer load, plus real time (SCADA) telemetry required to measure at least two of the following three parameters: 1) total gross generation, 2) customer load, or 3) net flow to/from utility interface. SCADA telemetry also required to monitor watts, vars, amps, volts (generator bus), and interface CB status. Actual points will vary depending on customer configuration.
Generating Facilities where any single Generator ≥ 10,000	Revenue grade IDR meters measuring net generator output and customer load, plus real time (SCADA) telemetry will be required to measure/monitor each individual unit watts, vars, amps, volts (generator bus), and unit CB status.

Where Generation is connected directly to SDG&E through a Customer or "SDG&E Switchyard" Interface at 69 kV and above, SDG&E also requires real time (SCADA) telemetry for switchyard CB status, bus volts, and line watts and vars.

**3.3 Meters and Metering Equipment must be Inspected and Installed per California Electrical Code**

All NGOM installations shall comply with:

- a. All Service Standards of SDG&E
- b. Any rules and regulations of electrical inspection authorities having jurisdiction over the Customer's Facilities and with all applicable laws and ordinances.

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

	X Indicates Latest Revision	Completely Revised	New Page	Information Removed
800.12	SDG&E SERVICE STANDARDS & GUIDE CUSTOMER GENERATION – DISTRIBUTED GENERATION			REVISION DATE 6-22-06 APPD <i>SM</i> /BRB

**3.4 Metering Panel Location, Access, and Requirements**

NGOM panels and devices are normally required to be grouped with the revenue metering at the Service Point (which is also referred to as the Point of Common Coupling). This is the revenue metering that is used to measure energy delivered to a Customer from SDG&E's Distribution System. NGOM panels shall be accessible to SDG&E on a continuous (24 hr.) basis, or as otherwise agreed to between the Customer and SDG&E.

NGOM panels and devices shall be installed in accordance with all of SDG&E's applicable service standard clearances and specifications and be inspected and approved by any local authority having jurisdiction over the Customer's Facilities prior to the installation of SDG&E's meter.

In no case shall any of the Customer's "Host Loads" (e.g., loads not used directly to operate the generating facility) be connected to the Generator side of a NGOM panel.

NGOM panels shall be permanently labeled in a manner acceptable to SDG&E indicating that the panel is used for Net Generation Output Metering.

**3.5 Prohibited Meter Panel Locations**

NGOM panels devices shall not be located in the prohibited meter locations found in SDG&E's Service Standards & Guide in Section 600.

**3.6 Panel, Switch and Disconnect Requirements**

When "self-contained" metering is used for NGOM purposes, the metering panel shall be a "safety socket can" with factory installed test-bypass facilities.

For low voltage (less than 600 volts) NGOM switchboards and high voltage (above 600 volts) switchgear, the service sections must be designed so that the metering section can be isolated by either a lockable open or rackable circuit breaker and a visibly open and lockable disconnect switch, or two lockable open or rackable circuit breakers. (The lockable open devices need to be located on each "side" of the metering section.) The metering section shall be installed in accordance with SDG&E's Service Standards & Guide requirements found in Section 600. Terminating sections utilized for delivery of SDG&E service lateral cables shall meet applicable Service Standards found in Section 700. Customer-owned and maintained conductors must meet requirements of the local inspection agency or authority having jurisdiction over the Customer's facilities. Generation Output Metering switchboards and switchgear shall not exceed standard ampacities listed in SDG&E's Service Standards & Guide.

**3.7 Voltage Standards**

If a Customer installs a Generator utilizing a voltage not listed in SDG&E's Service Standards & Guide, then the Customer will be required to install, own, and maintain a transformer to match SDG&E's service voltage. NGOM panels or switchgear must be located on the "utility side" of this voltage-matching transformer.

© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

	<input checked="" type="checkbox"/> Indicates Latest Revision	<input type="checkbox"/> Completely Revised	<input type="checkbox"/> New Page	<input type="checkbox"/> Information Removed
REVISION	SDG&E SERVICE STANDARDS & GUIDE			
DATE 6-22-06 APPD <i>SM</i> BRB	CUSTOMER GENERATION – DISTRIBUTED GENERATION			800.13

B.3 INSPECTION

All conditions specified in these requirements must be met and verified by an authorized representative of SDG&E. In addition, approval from the appropriate inspection authority, for portions of the electric system under their jurisdiction, is required before interconnection is allowed.

B.4 DISCONNECTION OF ENERGY SOURCE

Whenever it is determined by SDG&E that the customer's energy source is adversely affecting its electric distribution system, SDG&E reserves the right to disconnect the facility from its system until the customer has corrected the problem.

Under emergency conditions, SDG&E reserves the right to disconnect the customer's energy source from their electric distribution system without notification.

B.5 DISCONNECTION DEVICES

The customer shall furnish and maintain lockable circuit opening and closing devices where required by SDG&E. The switch operation shall utilize an open air gap and shall provide visible verification. The switch shall be lockable in the open position. The switchpanel shall not be removable with the switch padlocked in the open position. The locking operation shall be accomplished with a single SDG&E lock.

B.6 ACCESSIBILITY

All devices used to disconnect the energy source shall be accessible under all conditions and at all times, 24 hours a day, to SDG&E personnel.




B.7 TRANSFORMER REQUIREMENTS

Where service is provided at or below 480 volts, the customer is to be served by a dedicated transformer (not required for generation under 10 kW, or for induction generation under 100 kW).

B.8 TELEMETERING

For generation installations rated two megawatts and above, SDG&E may install telemetering equipment at the source (at the customer's expense), to provide a continuous output indication at SDG&E's Energy Control Center. The customer shall provide a dedicated telephone service and 120 volt uninterruptable power source at each energy source installation when required by SDG&E.

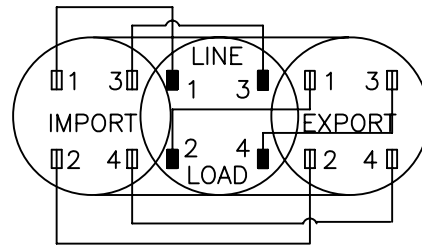
© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

	 Indicates Latest Revision	Completely Revised	New Page	Information Removed
800.14	SDG&E SERVICE STANDARDS & GUIDE			REVISION
	 CUSTOMER GENERATION – DISTRIBUTED GENERATION			DATE 6-22-06 APPD  / BRB

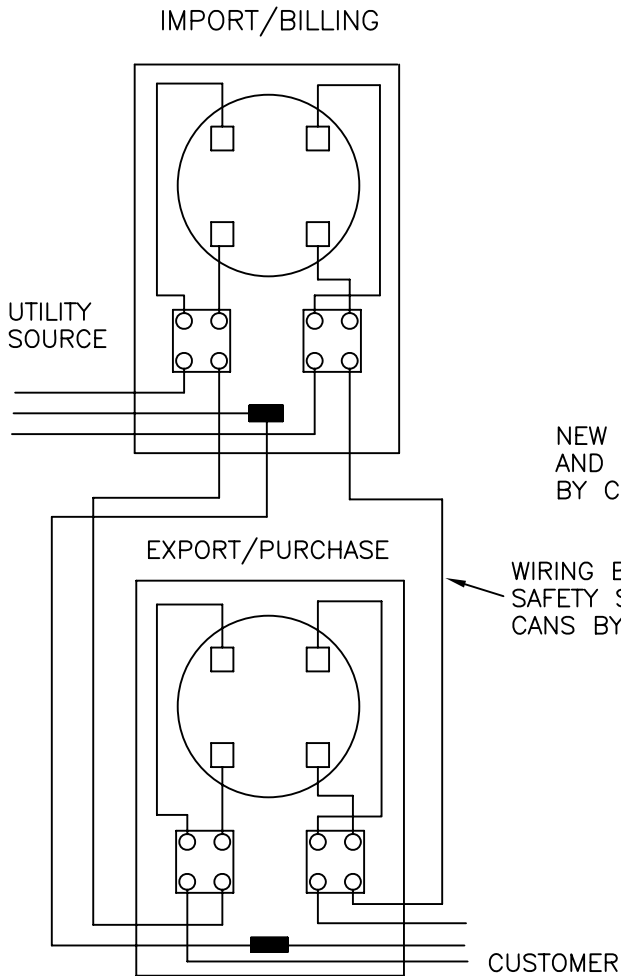
Below are typical metering examples for the billing and purchase of energy. Detented meters will be required on all installations.

- \* The horizontal series must have the utility billing meter in the left socket and the utility purchase meter in the right socket. 125 Amps maximum.
- \* The vertical series must have the utility billing meter in the top socket and the utility purchase meter in the bottom. 140 Amps maximum.

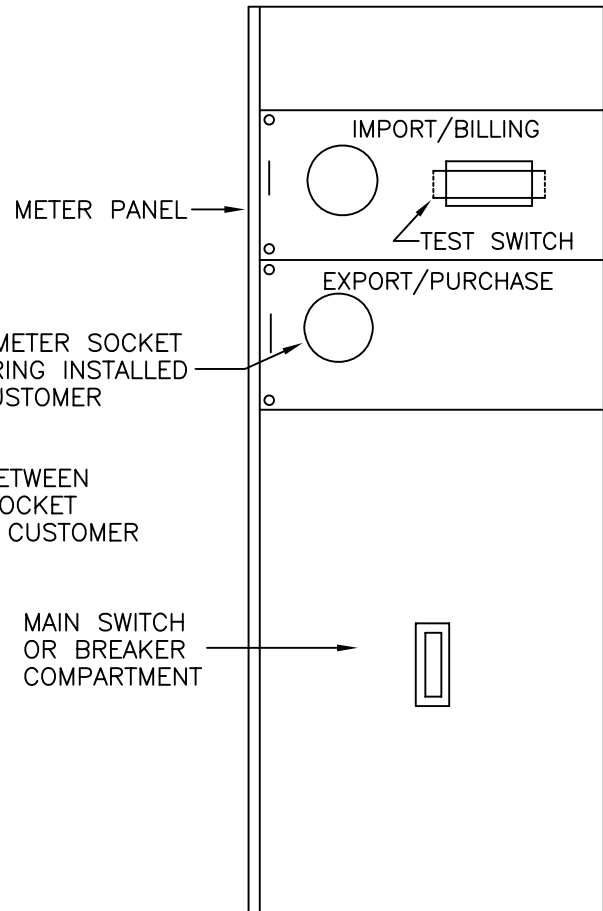
METERING ADAPTER (TYPICAL)



SAFETY SOCKET CAN (TYPICAL)



C.T. PANEL (TYPICAL)



© 1998 - 2007 San Diego Gas & Electric Company. All rights reserved. Removal of this copyright notice without permission is not permitted under law.

Indicates Latest Revision     Completely Revised     New Page     Information Removed

REVISION

SDG&E SERVICE STANDARDS & GUIDE

DATE 6-22-06

CUSTOMER GENERATION – DISTRIBUTED GENERATION

APPD *SM* BRB

800.15