



Secondary Networks

Customers planning on interconnecting generators in **San Francisco or Oakland**, contact PG&E's Electric Generation Interconnection (EGI) Department while in the planning stage of your project before purchasing equipment and beginning installation. If the planned generator site is in an area served by a **secondary network**, the customer will not be able to export power to the grid. A non-export option may be available. **Please contact EGI at Rule21Gen@pge.com about the specifics of your plans before you make any purchases, and we will discuss your options with you.**

Which zip codes are affected?

Contact Rule21Gen@pge.com for projects in the following zip codes: 94102, 94103, 94104, 94105, 94107, 94108, 94109, 94111, 94133, 94607 and 94612. PG&E recommends contacting EGI for any project in the San Francisco or Oakland downtown areas.

What are my options if my generator is located in a Secondary Network Area?

PG&E's [Electric Rule 21](#) section G(1)(a) provides that special considerations must be given to proposed generating facilities to be installed on networked secondary distribution systems, because of the design and operational aspects of network protectors. We may be able to interconnect your generator if it does not export to the grid. **Please contact EGI while in the planning stages of your project so that we can submit your plans for an engineering review. After reviewing your specific plans, we can go over your options with you.**

Please note: If you are requesting Self-Generation Incentive Program (SGIP) funds from PG&E for a project located in downtown Sacramento in the Sacramento Municipal Utility District's (SMUD) service territory, which is also served by a secondary network, you will need to contact SMUD for its policy regarding the interconnection of generators to secondary networks.

What is a Secondary Network?

Secondary network areas provide heightened levels of reliability in densely populated areas, such as in certain locations within San Francisco and Oakland, which may affect a customer's eligibility to participate in Net Energy Metering (NEM).

PG&E generally has two types of electrical distribution systems: secondary network and radial network. In PG&E's territory, only the downtown areas of San Francisco and Oakland are served by secondary network systems. Secondary networks are designed to meet the higher reliability needs and limited space commonly encountered in urban areas. The criteria that PG&E uses to install secondary networks depend on the density of the load, economics and a number of other related factors. (See [Electric Rule 2](#) for a complete description of PG&E's distribution system; there is also a [glossary](#) (PDF, 119 KB) of technical terms in PG&E's *Interconnection Handbook*.)

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In a secondary network, electricity is delivered through a complex and integrated system of multiple transformers and underground cables that are connected and operate in parallel. Power can flow in either direction on the lower-voltage service delivery lines, commonly called “secondary distribution lines.” The loss of a single line or transformer in a secondary network does not cause an interruption of power, unlike radial systems where there is only one line and one path for power to flow, starting at the distribution substation and terminating at the customer’s service entrance or meter. If a radial line experiences an outage, service is interrupted to customers until repairs are completed; this is less likely to be the case in a secondary network distribution system.

In secondary networks, devices called “network protectors” are used to prevent power from “back-feeding” from one transformer through another. Network protectors are designed to open (that is, break the circuit) quickly when they detect back-feeding. Any power exported by a generator into this system is detected as back-feeding by the network protectors. Also, as discussed in the Institute of Electrical and Electronics Engineers’ “[IEEE Guide for the Protection of Network Transformers](#)” (search IEEE Standard C37.108-2002), most network protectors in service have not been designed or tested to operate as switching or isolation devices for operating electric generators. These concerns currently prevent PG&E from allowing installation of net energy generators within areas served by secondary networks.



Contact us

Please email the Electric Generation Interconnection (EGI) Department at Rule21Gen@pge.com