SUMMARY

This bulletin provides new updates to the 2020 - 2021 Greenbook. These new requirements are effective upon publication of this document and supersede all existing requirements.

AFFECTED DOCUMENT

2020 - 2021 Electric & Gas Service Requirements (Greenbook)

TARGET AUDIENCE

PG&E employees that design, estimate, review and inspect to Greenbook requirements

Non-PG&E employees that design, build, and install equipment to Greenbook requirements.

WHAT YOU NEED TO KNOW

The following are updates to the applicable 2020 - 2021 Greenbook sections. To identify the updates the added or modified black text has been underlined. The corrected figure updates are encircled in red and the incorrect items have been marked with a red X.

1 This section has been updated with the following underlined text.

4.6. Attachment Structures (Periscopes)

An attachment structure is a support that connects the service drop to the structure while maintaining the clearances required for the service drop. Applicants must ensure that the service drop maintains the required clearance at its point of attachment to the periscope, mast, or other attachment structure. These clearances are mandated by the CPUC’s G.O. 95.

PG&E will connect service drops to attachment structures in either one of two ways.

A. Connect by using either spools or insulators that are installed on a building.

B. Connect by using a single mast constructed of one of the following galvanized rigid pipe or conduit materials.

- Steel
- Intermediate metal
- Aluminum

Applicants using method B must only install a single (one) mast, periscope, and weatherhead from the electric service termination and metering equipment to the service drop location. Installing more than one attachment structure is prohibited.
To provide structural support for periscopes, applicants should use a heavy-duty, 2-hole pipe strap every 3 feet, secured by 3/8-inch x 3-inch lag screws (minimum size). Structural support is required at the location shown in Figure 4-39, “Unbraced Periscope Structure (Residential and Nonresidential),” on Page 4-23.

When applicants must install attachment structures to maintain the required clearances, they must contact PG&E for approval before constructing the structures. PG&E must ensure that attachment structures meet all of the applicable legal requirements.

Applicants must install and maintain these attachment structures at their expense.

The attachment structures must be strong enough to support the service drop wires and service attachments. Applicants may use a single (one) service-entrance conduit as the attachment structure. In this case, the periscope must be a minimum 1-1/4-inch GRS conduit or IMC, or 2-inch IPS rigid aluminum conduit. Applicants may not use plastic conduit as an attachment structure. Subsection 4.5.3., “Special Service Attachment Requirements: Areas Subject to Heavy Snow Loading,” on Page 4-19, provides applicants with additional requirements when using attachment structures in snow-loading areas.

This section has been updated with the following underlined text.

### 4.8. Service-Entrance Conductors

Applicants must furnish, install, and maintain the service-entrance wiring and service equipment beyond the point where it attaches to PG&E’s overhead service drop.

The type and size of service-entrance wires must conform to applicable legal requirements and must be approved service-entrance cable. If applicants use an approved service-entrance cable, they must ensure that the service-entrance wires are enclosed either in a single (one), continuous metallic tubing or in rigid conduit of a type and size to conform to applicable requirements, but preferably 1-1/4 inches or more.

**NOTE:** On periscope-type installations, use a minimum 1-1/4-inch GRS or IMC, or 2-inch IPS, rigid aluminum conduit. Installing more than one conduit (mast), periscope, and weatherhead for service-entrance cable is prohibited.

If applicants use SE-type service-entrance cables between the service weatherhead and meters, they must ensure that the SE-type cables are not concealed. Also, applicants must ensure that service entrances are rain tight by using approved fittings.
3 The following corrections to Figure 5-3 are shown below in red.

5.4.3. Meter Set Clearance Requirements

![Figure 5-3](image)

**Figure 5-3**
Electric and Gas Meter Set Separation Dimensions and Clearances

4 The following corrections to Figure 5-6, Detail B are shown below in red.

5.4.4. Working Space

![Detail B](image)
5 This section has been updated with the following underlined text.

5.4.5. Barricades

B. Within an area that has, in PG&E’s judgement, an unusually high risk of vehicular damage, the applicant must install a system of barrier posts that meet PG&E’s specifications.

A suitable barricade for vehicular traffic is steel pipes (bollards), either 2 inches, 3 inches, or 4 inches in diameter, securely set in an adequate concrete footing for support. The minimum pipe diameter required is dependent on what type of equipment is being protected. Also suitable for some conditions is a sleeve-mounted vehicle barricade where the sleeves are set in concrete. This type of sleeve with removable barrier posts must also be installed outside of the working space. Bolt-down type steel pipes (bollards) are not acceptable for use.

See Figure 5-7, “Meter Panel Clearance and Protection From Residential Vehicle Driveway or Parking Space,” on Page 5-19, and Figure 5-8, “Nonresidential or Multifamily Metering and Service Equipment Clearance and Protection From Nonresidential or Multifamily Vehicle Areas,” on Page 5-20.

For information on ordering and installing bollards, see Numbered Document 051122, “Clearances and Location Requirements for Enclosures, Pads, and Underground Equipment,” Page 25 through Page 27. This document is included in Appendix C, “Electric and Gas Engineering Documents.”

Contact your local PG&E inspector and project coordinator to determine if a barricade is required.

6 This section has been updated with the following underlined text.

5.7.2. Main Service Disconnect Switch Rated for Amperes Interrupting Capacity (AIC)

State and local codes require the service equipment’s main disconnect switch and fuse, or the circuit breaker, to be rated at the available short-circuit current value.

PG&E typically designs its facilities so that the short-circuit duty at the service termination will not exceed 10,000-amps symmetrical for new, single-family, residential applicants that are supplied by an individual service drop or lateral that is rated at 225 amps or less. This service includes mobile homes and duplexes.

For short length service drops or laterals to service termination equipment that are rated at 225 amps or less it is not feasible for PG&E to design its facilities to limit the short-circuit duty to 10,000 amps. For these installations and for all service termination equipment rated greater than 225 amps, PG&E will provide, upon request by the applicant, the maximum available short-circuit current, based on the service equipment’s capacity. If the applicant increases the service equipment’s capacity, the maximum-available short-circuit current may be higher.
This section has been updated with the following underlined text and paragraphs.

5.10. Connecting Non-Utility Power Sources to Utility Services

By enacting California Health and Safety Code, Division 104, “Environmental Health,” Part 15, “Miscellaneous Requirements,” Chapter 5, “Electrical Hazards,” Sections 119075 through 119090, the legislature of the state of California intended to prevent electricity generated by permanent or portable electric generators from backfeeding into a utility’s electrical distribution system. In addition, California Code of Regulations (CCR) Title 8, Section 2320.9, “Backfeeding or Interconnection,” says that electrical power sources, both permanent and temporary, can not be connected to a premises’ wiring system, or parts of such a system, unless positive means are used to prevent electricity from being transmitted beyond the premises’ wiring system, or beyond any intentionally segregated parts of such a system.

EXCEPTION: The service utility can authorize an interconnection.

A positive means is defined in this CCR subpart as a device that, when used or operated, interrupts or prevents the flow of current to or from the electrical system. Also, a positive means provides the device operator or user with a visual or definite indication of the existing condition or state of the electrical system.

Before installing an applicant-owned and operated, generation system that operates in parallel and backfeeds energy into the PG&E’s system, or has an energy storage capabilities, or is a make before break closed transition backup generator transfer scheme, the applicant must contact PG&E’s Electric Generation Interconnection (EGI) department at Rule21gen@pge.com.

If the applicant-owned and operated generator will not backfeed energy and operate in parallel with PG&E’s system, or is fueled by natural gas connected to PG&E’s gas meter, the applicant must contact the PG&E Business Customer and Renovation Center at 877-743-7782 for the interconnection requirements specific to the location where it will be used.

Customers installing applicant-owned and operated generators that, will not backfeed energy and run in parallel with PG&E’s system, do not have an energy storage system, and is not fueled by natural gas connected to a PG&E gas meter must call the PG&E Customer Service Line at 800-743-5000 to have their generator noted on the service point at their premise.

This section has been updated with the following underlined text and Figure notes.

5.10.1. Specific Interconnection Requirements for Services Up to 600 Volts

D. Requirements for Generators That Are Connected Either Permanently or Periodically to an Electrical Service and Used on a Planned, Routine, or Scheduled Basis, but Do Not Operate in Parallel with the PG&E System.

Generators falling under this category do not have to have a disconnect switch installed if a break efore make open transfer scheme is utilized.
These generators must be connected as described in PG&E’s Electric Rule 2, “Description of Service,” Item E.6, and in the California Health and Safety Code, Division 104, Part 15, Chapter 5, Section 119075(c). These rules state that any electrical generator that can be permanently connected to an applicant’s electrical system must be connected only by means of a double throw switch (see Figure 5-23 on Page 5-41). This switch isolates the applicant’s electrical system from that of the electrical corporation or state or local agency.

**Figure 5-24 - SLD Transfer Switch**

1. Ensure that automatic or manual transfer (safety) switch is a double-pole, double-throw switch certified to U.L. 1008.

2. Do not reroute line side cables or modify any part of the PG&E-sealed sections.

3. The disconnect switch may be exempt if, the blades in the automatic or manual transfer switch have a visible air gap of separation and automatic transfer switch has a break before make open transfer scheme.
This section has been updated with the following underlined text.

6.4.2. Single Meter: Overhead Service

C. Services, 201 Amps Through 400 Amps, Single Phase or Three Phase, with a Current Transformer

Applicants should consult with a PG&E project coordinator before installing single-phase services that exceed 400 amps. Applicants may need to install three-phase service to conform to PG&E’s Electric Rule 2 requirements.

Figure 6-8, “Overhead-Fed Combination Meter and Current-Transformer Cabinet, (201 Amps–400 Amps, 1Ø or 3Ø),” on Page 6-11, illustrates a single-metered, overhead, residential meter panel.

Figure 6-9, “Overhead-Fed, Separate-Bused, Current-Transformer Cabinet and Meter Box (201 Amps–400 Amps, 1Ø or 3Ø),” also on Page 6-12, illustrates a single, overhead, residential, single-phase or three-phase service and meter panel with current transformers.
This section has been updated with the following underlined text and Figure text.

7.2.7. Services, Over 200 Amps, Single Applicant, Overhead

A. Services, 201 Amps Through 400 Amps, Single Phase or Three Phase, with a Current Transformer
1. When installing a single, overhead, single-phase or three-phase service, applicants must furnish, install, own, and maintain combination meter and current-transformer cabinets, as illustrated in Figure 7-8, “Overhead-Fed Combination Meter and Current-Transformer Cabinet, (201 Amps−400 Amps, 1Ø or 3Ø),” shown on Page 7-11. See Section 9 for details about internal components.

![Figure 7-8](image)

Overhead-Fed Combination Meter and Current-Transformer Cabinet, (201 Amps−400 Amps, 1Ø or 3Ø)
B. Services, 201 Amps Through 400 Amps, Single or Three Phase, and Current-Transformer Metering

1. When installing a single, overhead, single-phase or three-phase service using current transformers, applicants must furnish, install, and maintain separate current-transformer cabinets and meter boxes, as illustrated in Figure 7-9, “Overhead-Fed, Separate-Bused, Current-Transformer Cabinet and Safety-Socket Meter Box (201 Amps−400 Amps, 1Ø or 3Ø),” on Page 7-12. Also required are service-entrance conductors, conduit, and weatherhead to the point of attachment to PG&E’s overhead service.

Figure 7-9
Overhead Overhead-Fed, Separate-Bused, Current-Transformer Cabinet and Safety-Socket Meter Box, (201 Amps−400 Amps, 1Ø or 3Ø)
The following corrections to the Greenbook figure are shown below in red. This correction also affects Figure 10 on page 9 of 11 in engineering document 058817.

9.10. Underground Service Cable-Termination Compartments or Sections

Figure 9-14
Typical Underground Service Termination Section and Pull Box, Wall-Mounted or Pad-Mounted (Floor-Standing)
APPLICATION CRITERIA

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<th>Action</th>
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</tr>
<tr>
<td>Re-Construction Work</td>
<td>These requirements apply for like for like and relocation work.</td>
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<td>Maintenance</td>
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<tr>
<td>Emergency</td>
<td>These requirements apply for new construction, like for like, and relocation work.</td>
</tr>
</tbody>
</table>

DOCUMENT APPROVER

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INCLUSION PLAN

The information and requirements in this bulletin will be included in the next version of PG&E’s Electric & Gas Service Requirements Manual (Greenbook).

REVISION NOTES

The information and requirements in this bulletin will be included in the next version of PG&E’s Electric & Gas Service Requirements Manual (Greenbook).

1. Added list number 1., 4.6. Attachment Structures (Periscopes) on page 1.
3. Updated list number 5., 5.4.5. Barricades on page 4.
5. Added list number 10., 7.2.7. Services, Over 200 Amps, Single Applicant, Overhead, Item A and Figure 7-8 on page 8.
6. Added list number 10., 7.2.7. Services, Over 200 Amps, Single Applicant, Overhead, Item B and Figure 7-9 on page 9.