

Electric Rule 20 Guidebook

Local overhead-to-underground conversion of electric facilities through current CPUC programs

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RULE 20 GUIDEBOOK

1. Introduction

In response to local government interest in enhancing the aesthetics of their communities, the California Public Utilities Commission (CPUC) in 1967 established Electric Tariff Rule 20 (Rule 20 or the Tariff) for Pacific Gas and Electric (PG&E), Southern California Edison (SCE) and San Diego Gas & Electric (SDG&E). For all three investor-owned utilities (IOUs), Rule 20 contains three programs that assist local governments in the undergrounding of existing overhead utility lines; SDG&E includes a fourth program (collectively, “the Rule 20 Programs”).

The language in the Tariff may be unfamiliar to those outside the utility industry. To assist local governments that may be considering or are converting existing overhead electric facilities to underground, the State’s IOUs have prepared this Rule 20 Guidebook (“Guidebook”).

This Guidebook explains how Rule 20 undergrounding projects are funded, pursuant to each of the Rule 20 Programs. It also identifies and illustrates models for planning a conversion program, and suggests how utilities, local governments, developers, residents and businesses can work together to implement undergrounding projects.

We hope this Guidebook will help cities and counties understand the language and procedures of Rule 20, as well as the operational complexities of implementation. This Guidebook is not intended to serve as legal advice. Local governments should rely upon their own counsel and can consult with the CPUC’s Energy Division. Most of the language in the Tariff is identical for utilities with Rule 20 Programs under CPUC jurisdiction. However, each utility may have differing implementation practices, project management practices and construction standards.

The CPUC oversees the amount each utility spends on ratepayer-funded Rule 20 underground conversions to balance public interest in Rule 20 against the expenditures that may become an undue burden on utility customers. Many Rule 20 undergrounding projects are partially or entirely funded by general ratepayers. To provide local governments with flexibility and avoid placing undue burden on utility customers, the CPUC has included provisions in the Tariff for communities to accelerate or expand their conversion programs with other funding sources. Many of those sources are identified in this Guidebook.

1.1. Undergrounding of Non-Electrical Utilities

Telecommunications providers under CPUC jurisdiction have industry-specific tariff rules governing underground conversions.¹ The telecommunications providers’ tariff rules for underground conversions generally use the same criteria as the electric utilities’ Rule 20. In practice, telecommunications providers install their facilities after the installation of the underground electric system in the same trench. Cable television providers are not subject to CPUC regulation. Participation of cable television providers is needed for all overhead utilities to be converted and poles to

¹ For AT&T, it is Rule 32; for Verizon, it is Rule 40.

be removed. Generally, cable companies are obligated to participate and pay their share of undergrounding costs under the franchise agreements they have with the cities and counties where they provide service.

Rule 20 Programs

Under Rule 20, there are three programs that apply to all utilities and a fourth program specific to SDG&E’s Tariff. The common Rule 20 Programs are Rule 20A, Rule 20B and Rule 20C. SDG&E’s Rule 20 also includes the Rule 20D Program. Each Rule 20 Program provides different funding mechanisms and eligibility criteria.

As of February 2021, the CPUC is considering broad changes to the entire Rule 20 Program through the open Rulemaking (R) proceeding (R.17-05-010).

Rule 20 Program	Description of Funding
Rule 20A	Conversion projects under this section of the Tariff are funded by all ratepayers in SDG&E’s service area. To qualify as Rule 20A, projects must demonstrate they are in the general public interest by satisfying at least one qualifying criterion (SDG&E Rule 20, Section A.1.a.1–5).
Rule 20B	Conversion projects under this section of the Tariff are funded partially by general ratepayers and partially by the property owners served by the overhead facilities to be removed. The Rule 20B Program provides limited ratepayer funding for underground conversions that do not qualify under Rule 20A, or in cases where the city or county does not have sufficient Rule 20A funding for the project. Developer driven Rule 20B projects do not receive funding from ratepayers.
Rule 20C	The Rule 20C Program allows property owners to pay for undergrounding projects that do not qualify under Rule 20A or Rule 20B. Conversion projects under this section of the Tariff are typically funded by those requesting the underground conversion. 20C projects receive a ratepayer- funded credit for salvage and depreciation.
Rule 20D (Exclusive to SDG&E)	Conversion projects under this section of the Tariff are funded by all ratepayers in SDG&E’s service area. To qualify under Rule 20D, projects must satisfy eligibility criteria related to fire safety (SDG&E Rule 20, Section D.1.a.1–2).

2. Rule 20A

This section of the Guidebook outlines the underground conversion process under the Rule 20A Program and highlights many of the issues cities and counties should consider when embarking on an underground conversion project.

- **Work Credits:** Each year, SDG&E establishes a total budget of “work credits,” which are allocated among cities and counties based on formulas in the Tariff and other obligations of the utility. Municipalities are notified by letter each year of the work credits they are allocated for that year, as well as their cumulative work credit balance. Work credits are discussed in detail in Section 2.2 of this Guidebook.
- **Conversion Master Plan (Master Plan) (optional):** This is an approach cities and counties may use to determine conversion priorities, identify potential conversion projects and build consensus among city or county leaders.
- **SDG&E Conversion Plan (Conversion Plan) (optional):** A city or county’s plan for specific conversion projects, including rough budgets and timelines.
- **Using Work Credits:** SDG&E determines the city or county’s available work credits and estimates the cost of potential Rule 20A undergrounding projects.
- **Ordinance/Resolution:** Legislation passed by the city or county for a specific conversion project. The ordinance/resolution describes the project boundaries.
- **Planning, Design and Engineering:** Can include, among other activities, acquisition of needed rights-of-way, which the city or county works to obtain. The utility budgets the project and completes all associated planning, design and engineering.
- **Construction:** Includes, but is not limited to, trenching, backfill, trench restoration, pulling cable, service conversions, energizing underground system and pole removal.
- **Project Close:** After construction is complete, the utility calculates the final project costs and annually reports to the city or county and the CPUC.

Undergrounding through Rule 20 is primarily for aesthetic reasons. Rule 20 projects represent only a fraction of SDG&E's capital improvement projects. Underground project costs are significantly higher than costs for a comparable overhead project. To remain within the fixed budget for all capital improvement projects, SDG&E must give priority to new service connections, system reliability projects and other work needed to ensure system stability.

If underground conversion is a priority for a local government, it is critical they work with SDG&E and other utility companies early in the planning process. For SDG&E to schedule the project as part of their capital improvement plan, the following criteria must be met:

1. Confirm it has the necessary resources (e.g., labor, materials) to complete the project, and
2. The city or county has accumulated sufficient 20A work credits to fund the conversion

2.1. Qualifying Criteria

Rule 20A underground conversion projects are funded by all of the utility's ratepayers, not just those in the affected area. These projects are intended to underground existing distribution voltage lines (below 50 kilovolts) in areas that benefit the "public interest" as defined in criteria set by the CPUC.

To underground utility lines under Rule 20A, the governing body of the city or county in which the lines are located has:²

- a. Determined, after consultation with the utility company and after holding public hearings on the subject, that such undergrounding is in the general public interest for one or more of the following reasons:
 1. Such undergrounding will avoid or eliminate an unusually heavy concentration of overhead lines;³
 2. The street, road or right-of-way is extensively used by the general public and carries a heavy volume of pedestrian or vehicular traffic;
 3. Wheelchair access is limited or impeded;
 4. The street, road or right-of-way adjoins or passes through a civic area or public recreation area or an area of unusual scenic interest to the general public;
 5. The street, road or right-of-way is considered an arterial street or major collector as defined in the Governor's Office of Planning and Research General Plan Guidelines.⁴
- b. Adopted an ordinance and/or resolution creating an underground district in the area where the existing and new facilities are and will be located. The new district must require, among other things:
 1. All existing overhead communication and electric distribution facilities in such district shall be removed
 2. Each property served from such electric overhead facilities in the underground district shall have installed, in accordance with SDG&E's rules for underground service, all electrical facility changes on the premises necessary to receive service from the underground facilities as soon as it is available
 3. Authorizing SDG&E to discontinue its overhead service

² SDG&E Rule 20 Tariff, Section A.1.a.1-5

³ This is generally interpreted to mean two or more primary-voltage circuits on the same pole line.

⁴ Some utilities do not have criterion "5" as part of their Rule 20A tariff.

Additionally, to qualify as a Rule 20A project, the undergrounding must extend a minimum distance of one block or 600 feet, whichever is less.⁵

2.2. Rule 20A Work Credits

The Tariff requires utilities to annually budget an amount for the Rule 20A Program.⁶ SDG&E reports its Rule 20A budget to the CPUC each year in December.⁷ The CPUC determines the reasonableness of SDG&E's Rule 20 spending through its General Rate Case (GRC) proceedings. Also, through the GRC, the CPUC approves SDG&E's forecast capital budget, which includes Rule 20. Rule 20 expenditures are recovered from customers through electric rates.

Each year, SDG&E allocates Rule 20A work credits to the cities and counties in its service area where it has overhead facilities. SDG&E determines the amount of work credits to be allocated to each city and county using the formula provided in the Tariff.⁸ Work credit allocations are generally based on the ratio of electric meters in a particular jurisdiction to the total number of meters in SDG&E's system. This results in greater annual allocations for larger jurisdictions with a significant ratio of overhead meters, than for smaller jurisdictions with a low number of overhead meters.

Although the Tariff describes Rule 20A work credits as "funds," the work credits are not actual dollars collected by SDG&E in advance, and they do not earn interest. In essence, work credits represent a city or county's reservation of a portion of SDG&E's budget for the purpose of Rule 20 conversions. To fund construction of Rule 20A projects, SDG&E provides upfront funding. Once the project is complete, the actual conversion cost is added to SDG&E's rate base. Then, it's paid back by ratepayers through electric rates over the lifetime of the investment, which is typically 30 years. Project costs are not collected from utility customers prior to completion of the project.

Cities and counties with active undergrounding programs can "carry over" unused work credits for a reasonable amount of time.⁹ This practice allows local governments to accrue work credits over several years until sufficient funding is available for a particular project.

2.3. Advanced Borrowing of Rule 20A Work Credits

In addition to the option to accumulate work credits before moving forward with an undergrounding project, cities and counties are also able to exceed their existing work credit balance by an amount equivalent to up to five years of future work credits.¹⁰ This practice is referred to as "advanced borrowing" or "mortgaging" of

⁵ SDG&E Rule 20 Tariff, Section A.3

⁶ SDG&E Rule 20 Tariff, Section A.2.a–d

⁷ In accordance with CPUC Decision 73078 at Ordering Paragraph 6.

⁸ SDG&E Rule 20 Tariff, Section A.2.a–d

⁹ SDG&E Rule 20 Tariff, Section. A.2.e

¹⁰ *Id.*

Rule 20A work credits. Work credit mortgaging allows local governments to fund projects more quickly. The CPUC has strictly capped advanced borrowing at an amount equal to five years future work credits, based on then-current levels.¹¹

If a local government wants to move forward with a conversion project before accumulating sufficient work credits or having enough work credits through mortgaging to fund the project, the city or county can seek joint sponsorship of the project with another local government. Joint sponsorships are typically arranged by the city or county where the undergrounding project is located. SDG&E does not arrange joint sponsorships of Rule 20 projects but will facilitate the transfer of work credits when such an agreement is reached. Joint sponsorship is typically provided for a fixed amount or for a set percentage of total project cost.

2.4. Work Credit Reallocation

Local governments should maintain an active undergrounding program to avoid reallocation of Rule 20A work credits. To qualify as a community with an active undergrounding program, the governing body must have adopted ordinance(s) creating undergrounding district(s).

Work credits that have been allocated to a city or county and are not earmarked for a specific future Rule 20 project can be reallocated to cities and counties with active undergrounding programs.¹² SDG&E will notify the city or county with uncommitted work credits and seek CPUC approval prior to reallocation of work credits.

2.5. Other Funding Sources

Cities and counties can use Rule 20A work credits with funding from non-utility sources too, such as municipal funds or assessment districts. Additionally, depending on the size and scope of the proposed Rule 20A project, the project could potentially be divided into separate Rule 20A, Rule 20B and/or Rule 20C projects. Eligibility criteria of the Tariff would apply to each segment of the divided project.¹³

A city or county can generate local funding for Rule 20B or Rule 20C projects using many of the same tools used to fund other local improvement projects, including:

- Assessment districts
- Developer contributions
- Development fees

By ordinance, a city or county can require individual property owners to pay certain costs of converting utility lines on private property.

¹¹ See CPUC Resolutions E-3968, E-4001 and E-4146.

¹² SDG&E Rule 20 Tariff, Section A.2.e

¹³ SDG&E Rule 20 Tariff, Sections A.1.a–b, B.1–3, C

2.6. Using Rule 20A Work Credits

Once a city or county has determined the boundaries of the conversion project, they should work with SDG&E to verify the project qualifies as a Rule 20A project under the Tariff and confirm the local government has work credit allocations to cover the projected cost of the conversion.

2.7. General Enabling Ordinance

The first step for a city or county to formalize an underground conversion program is to establish a general enabling ordinance which gives the local government authority to:

- Hold public hearings to determine undergrounding is in the general public interest
- Designate individual Underground Utility Districts (UUD)
- Make it unlawful for utility companies to maintain overhead facilities in the UUD
- Require property owners in the UUD to perform the work necessary on their private property to receive underground service, including providing utility personnel access to perform modifications to the electric service panels and to install underground connections to the property

2.8. Creating Underground Utility Districts

Once a city or county has adopted a general enabling ordinance, it can proceed with the creation of individual UUDs by adopting a resolution to create the UUD. This process generally consists of the following steps:

1. Work with SDG&E to develop the project boundaries and proposed timeline
2. Clearly define the area to be converted on a boundary map
3. Verify the availability of Rule 20A work credits with SDG&E
4. Distribute notices to affected property owners
5. Hold public hearings on the issue
6. Inform affected property owners of their responsibilities, including financial obligations

The resolution creating the UUD will set the date that property owners must be ready to receive underground service and specify whether individual property owners will bear financial responsibility for the portion of work on their property (e.g., installation of service laterals from the utility line to the service panel, electric panel conversions) or if all project costs will be funded by Rule 20A work credits.

Prior to adoption of the resolution to create the UUD, the city or county should work with participating utilities to develop realistic project timelines. To ensure participating utilities have sufficient resources (e.g., budget, materials, staff, time) to complete the project, the local government should adopt the resolution 2–5 years prior to the desired project start date.

2.9. Assessment Districts

Pursuant to the Improvement Act of 1911,¹⁴ assessment districts may be approved to pay for city or county costs, such as the installation of a municipality-owned street lighting system completed in conjunction with a Rule 20A project.

3. Rule 20A Project Management & Construction

3.1. Notification to Participating Utility Companies

Following initial consultation with SDG&E, completion of the public hearing process and formal project approval by the local government, the city or county must notify participating utility companies of the project approval and provide a copy of the enabling ordinance or resolution, the project boundary map and any other documents as specified by SDG&E. Once SDG&E has received all required documentation, the project will be added to SDG&E's queue for Rule 20A projects.

3.2. Project Lead

Cities or counties considering establishing an undergrounding program should understand Rule 20 projects are municipal projects. Even if a city or county plans to pursue projects only under the ratepayer-funded Rule 20A Program, participation will require support from public works and other municipal staff to manage projects.

One of the project participants will serve as the "Project Lead." The Project Lead is responsible for trench design, including composite drawings and delineation of costs for each trench participant. The Project Lead may also be responsible for construction of the project. However, Project Lead responsibilities can be split, with one agency responsible for design and a second responsible for construction.

The local government and the utilities must agree on the Project Lead. The electric utility is typically the Project Lead. In some cases, the Project Lead may be one of the other project participants (e.g., telecommunications provider or the local government). Several factors are considered in determination of the Project Lead, including:

- Extent and nature of other municipal street improvement projects, such as street-widening or storm drain upgrades
- Amount of conversion work required by private developer(s)
- Experiential knowledge and resources available to the other project participants

The Project Lead is responsible for oversight of activities performed by the other project participants. This oversight is necessary to ensure the safety of the general public and to provide each participant with the opportunity to complete its portion of work with minimal disruption.

¹⁴ California Streets and Highways Code § 5000–6794

Each project participant is responsible for design and installation of its own underground system, including cables, wires and pad-mounted fixtures.

Each project participant will complete the engineering work necessary to prepare a composite drawing. This process typically begins with SDG&E. Once SDG&E has completed its portion of work, the design drawings are provided to the telecommunications provider(s). In total, the composite drawing process can take up to two years to complete.

3.3. Project Phases

Conversion projects consist of four phases. The phases are listed below with a brief description of the activities that occur during each:

1. **Planning:** The project boundary is identified, the city or county consults with the participating utilities (including telecommunications), enabling legislation (resolution or ordinance) to be established and other aspects of the job (e.g., accumulation of sufficient 20A work credits, availability of SDG&E necessary resources) are prepared, in readiness for the next phase.
2. **Engineering and Design:** The Project Lead completes trench designs, prepares the composite drawings and submits any necessary documentation. Each project participant designs its own underground system. Ideally, during this phase, service panel conversions and trenching for service laterals on private property is completed to prepare for installation of the new underground system.
3. **Construction:** Trench excavation, installation of substructures and equipment, cable pulling and splicing, energization of the new underground system and removal of overhead facilities.
4. **Closing:** Utility administrative activities, such as mapping the new underground system and reconciling final project costs.

3.4. Service Laterals

Service laterals extend from the connection point on SDG&E's distribution system to the service delivery point on the customer's premises. Underground conversions of overhead service laterals are completed in accordance with the provisions of the electric utilities' and telecommunications providers' tariffs.

The Rule 20 Tariff allows municipalities to pay for the installation of up to 100-feet of underground service laterals on customer's private property using Rule 20A work credits.¹⁵ If the local government elects to fund service laterals using Rule 20A work credit, it must be included in the ordinance or resolution associated with the project. If service laterals extend beyond 100-feet, the city or county is charged for the overage. The local government can collect excess costs from the responsible property owners, should it so choose.

¹⁵ SDG&E Rule 20 Tariff, Section A.3.a

If the city or county chooses not to pay for service laterals with Rule 20A work credits, each affected property owner is responsible for trench excavation and installation of the service conduit from their service panel to the property line.

3.5. Panel Conversions

Under Rule 20A, the municipality can fund up to \$1,500 for service panel conversions for each affected property. The city or county is responsible for submitting service panel conversion costs to SDG&E following completion of the work and for managing reimbursement to property owners. To receive reimbursement from Rule 20A work credits, the city or county must submit invoices/receipts to SDG&E for each property and a spreadsheet itemizing the costs of the panel conversions for each property. Once SDG&E receives the required documentation, it will reimburse the city or county for the total service panel conversion costs, up to \$1,500 per property. The municipality is solely responsible for distributing reimbursed funds to the property owners.

3.6. Project Participant Responsibilities

There are cases in which the city or county elects to not use any Rule 20A work credits to fund service panel conversions or service lateral installations. Under these circumstances, individual property owners are responsible for management and funding of this work. If property owners are expected to manage these activities, the city or county should provide notice of these responsibilities well in advance of the project construction phase.

If any violations of applicable rules, codes or ordinances are found, required modifications to clear the violation(s) are the responsibility of the property owner. This may include wiring upgrades (e.g., 2-wire to 3-wire) or service panel relocations (e.g., for safety, access), among other items.

Approximately six months before the project enters the engineering and design phase, the city or county should provide notice, generally by letter, to affected property owners setting forth their obligations, the date by which they must complete work needed to receive underground service and details of any necessary permits, if applicable.

Pursuant to the Tariff, permit fees cannot be paid using Rule 20A work credits.¹⁶ Rule 20A work credits can only be used for actual and direct panel conversion costs. As such, any required permit fees must be paid by either the property owner or the municipality. Rule 20A work credits cannot be used to provide reimbursement to property owners for administrative costs, time spent or indirect costs for panel conversion.

Also, approximately six months before the project enters the engineering and design phase, the electric utility and each participating telecommunications provider should provide a letter to the city or county identifying utility-specific requirements, such as acceptable service lateral locations and specifications for

¹⁶ SDG&E Rule 20 Tariff, Section A.3.b

trenches, conduit and service equipment modifications. This letter should be sent by the municipality to property owners affected by the conversion project. Some cities and counties provide a single letter to property owners that includes the municipality's requirements, as well as those of the involved utility and telecommunications providers.

If panel conversions are not managed by SDG&E, the city or county can coordinate inspection of each property by the municipality's electric inspector and one or more SDG&E representatives to ensure the service conversion requirements are clearly understood by all parties. This can also help property owners anticipate their cost responsibilities.

For projects that involve several service panel conversions, such as residential areas, the city or county can assist property owners by coordinating a single contractor to perform all service conversion work. Using a single contractor is often more efficient and cost-effective. Alternatively, this process can be managed by a Project Coordinating Committee, which is a core group representing individual project participants. See Appendix B for more information related to Project Coordinating Committees.

To ensure that property owners participate in the project, the city or county can enact zoning ordinance provisions that require either the installation of underground conduits for future underground service installation, or the conversion of existing overhead facilities to underground in conjunction with new construction, property rehabilitation or building expansion. The city or county's enabling legislation can include a lien procedure permitting the municipality to recover costs it incurs should property owners fail to prepare their property to receive underground service.

Alternatively, the city or county can choose to use local public funds to pay for project costs not paid using Rule 20A work credits, particularly in cases where the costs associated with the conversion project will significantly impact disadvantaged property owners.

The ultimate success of a conversion project depends on cooperation between the city or county, property owners, SDG&E and impacted telecommunications providers. If any participant fails to uphold their responsibilities, the entire project can experience lengthy delays and increased costs.

3.7. Permits and Rights-of-Way

Rule 20A projects are initiated by local governments, not SDG&E. While a city or county can require SDG&E to obtain excavation permits or restore streets following the conversion, a city or county cannot charge SDG&E any fees for these activities. Additionally, the city or county cannot use Rule 20A work credits to pay administrative costs (e.g., inspections) associated with the conversion project.

The city or county is responsible for obtaining land rights (e.g., easements, encroachment permits, etc.) that are satisfactory to SDG&E for Rule 20A conversion projects, without a fee to SDG&E. The city or county must also lift

street cut moratoriums¹⁷ and waive paving restoration obligations that would require SDG&E to complete street repairs beyond the level of trench restoration. Rule 20A work credits cannot be used to subsidize public street improvements, such as pavement restoration, beyond the project trench. These costs are not paid by SDG&E using Rule 20A work credits or otherwise, to avoid shifting an undue portion of costs for a municipality-initiated project onto SDG&E's general ratepayers.

If SDG&E's underground facilities will be installed in areas outside the public right-of-way, easements must be obtained. The local government or SDG&E should make initial contact and gain preliminary verbal approval from the property owner for the required rights. Necessary legal documentation, including plans and legal descriptions, will be prepared by SDG&E.

SDG&E cannot compensate property owners for the easements necessary to complete the project. However, if a property owner has legitimate concerns related to granting the needed rights, SDG&E may be able to slightly modify construction to alleviate said concerns. Most commonly, these modifications include items such as retaining walls surrounding equipment or the use of alternate standard equipment.

Rule 20A projects are initiated by the city or county, not SDG&E. SDG&E cannot exercise its right of eminent domain to obtain easements on private property to facilitate the municipality's Rule 20A project.

3.8. Pavement and Trench Restoration Standards

As noted above, Rule 20A work credits cannot be used to fund post-conversion street restoration beyond repairing and repaving the underground trench. This includes whole-lane or curb-to-curb repaving, as well as resurfacing techniques, such as grind and overlay or slurry seal. It is not appropriate to pay for added street repairs using Rule 20A work credits because the Rule 20A program is funded by all ratepayers in SDG&E's service area. Also, it is not intended to supplement a city or county's public works projects.

Should a city or county desire street repairs beyond trench restoration, they should hold regular utility coordination meetings with SDG&E and participating telecommunications providers. Through regular utility coordination meetings, SDG&E can provide information on all planned work in a specified area to the city and county, not just Rule 20 conversion projects. This coordination will enable the city or county to plan their repaving project with consideration of other work that may impact larger street repair or improvement projects.

3.9. Transformer Installations

A pad-mount (above ground) transformer is SDG&E's design standard in California for both residential and non-residential applications. A pad-mount transformer serving multiple customers is typically located in the public right-of-way or within a

¹⁷ Or the project can be delayed until the expiration of such moratoriums.

utility easement. If a separate transformer is required to serve an individual customer, the customer is obligated to provide space on their property at no cost to the project or SDG&E, including all necessary land rights.

If a property owner or other applicant requests a subsurface (below ground) transformer to be installed where installation of a pad-mount transformer is feasible, the additional installation costs for the subsurface transformer (a special facility), as well as a one-time cost-of-ownership charge, must be paid by the party requesting the special facility.

If it is not feasible to install a pad-mounted transformer due to space limitations, engineering constraints or other reasons, Rule 20A work credits can be used for installation of a subsurface transformer.

3.10. Soil Contamination

Soil contamination (or simply “contamination”) is most likely to be found in older commercial and industrial areas, redevelopment areas or along major urban thoroughfares. While contamination is more likely in these types of settings, soil contamination can exist in any location. There are various types of soil contaminants, with the most prevalent being hydrocarbons.

For underground conversion projects, there are two types of soil contamination—known and unknown. While both types are problematic, known contamination is far easier to contend. It is possible for known contamination to be addressed during the project planning phase with no overall delay or additional costs during construction.

Addressing soil contamination during the planning phase maximizes the options available and increases the potential for completing the project without undue delay. Some examples of options that would allow the project to continue, include:

- Establish proper precautions to ensure worker and public safety, and use the contaminated soil as the trench backfill material¹⁸
- Redesign the project to avoid the area of contamination
- Remediate the contamination prior to project construction¹⁹

If soil contamination is discovered during construction, work on the project may need to be suspended and the work site closed to ensure worker and public safety and to complete testing to determine the nature of the contamination. The delays from contamination discovered during construction, even if relatively benign, will increase project costs. Also, construction equipment and trench barricades may remain in place during delays, which could disrupt traffic and access to local businesses near the project area.

By identifying the nature and location of soil contamination in advance of construction, a city or county can appropriately plan for worker and public safety and

¹⁸ If this method is used, there are no additional remediation costs or substantial project delays.

¹⁹ Remediation is the responsibility of the local government.

identify options for resolving the contamination without delay to the conversion project. Improvement projects for public lands or infrastructure—such as soil contamination remediation—cannot be funded through Rule 20 or any other CPUC-regulated tariff. Pursuant to the Tariff, Rule 20A work credits can be used only for the conversion of overhead facilities and for costs to design a project to avoid an area of contamination.

It is especially important to consider the possibility of soil contamination when planning projects under the Rule 20B Program. Like a Rule 20A project, discovery of soil contamination during the construction phase of a Rule 20B project can result in significant cost increases. However, these cost fluctuations can be substantially more impactful to Rule 20B projects financed with local assessment district bonds, as it may be necessary to secure additional financing.

3.11. Environmental Concerns

As with soil contamination issues, environmental issues (e.g. the presence of protected and endangered species within the project boundaries, should be identified as early as possible during project planning. It is the responsibility of the city or county to identify environmental concerns and work with SDG&E to plan the project to mitigate environmental consequences. Depending on the environmental issues associated with the project, it may be determined underground conversion is not suitable in the area.

3.12. Cultural Resources

It is the responsibility of the city or county to manage the process and pay any costs associated with cultural resources found in connection with the conversion project. Rule 20A work credits cannot be used to pay for the excavation, recovery, removal or relocation of cultural, archeological or paleontological resources.

3.13. Project Completion

Following completion of a Rule 20A project, SDG&E will provide the city or county with a final accounting of total project costs, including Rule 20A work credit expenditures for the project and the municipality's remaining Rule 20A work credit balance. When all work orders associated with the project have been closed, SDG&E will include the project in its Annual Report of Rule 20 Conversions filed with the CPUC in March of each year.

4. Rule 20B

This section of the Guidebook outlines the underground conversion process under the Rule 20B Program.

4.1. Qualifying Criteria

Under Rule 20B, SDG&E will replace its existing overhead electric facilities with underground facilities along public streets and roads or other locations mutually agreed upon when requested by an applicant(s). To qualify as a Rule 20B project,

all the following conditions must be met:²⁰

- a. All property owners served from the overhead facilities to be removed, first agree in writing to have the wiring changes made on their premises so that service may be furnished from the underground distribution system in accordance with SDG&E's rules, and that SDG&E may discontinue its overhead service upon completion of the underground facilities; or
- b. Suitable legislation is in effect requiring such necessary wiring changes to be made and authorizing SDG&E to discontinue its overhead service.

The applicant has:

- c. Furnished and installed the pads and vaults for transformers and associated equipment, conduits, ducts, boxes, pole bases and performed other work related to structures and substructures including breaking of pavement, trenching, backfilling and repaving required in connection with the installation of the underground system, all in accordance with SDG&E's specifications, or, in lieu thereof, paid SDG&E to do so;
- d. Transferred ownership of such facilities, in good condition, to SDG&E; and
- e. Paid a nonrefundable sum equal to the excess, if any, of the estimated costs, including transformers, meters and services, of completing the underground system, less the estimated cost to build a new equivalent overhead system; and
- f. The area to be undergrounded includes both sides of the street for at least one block or 600 feet, whichever is the lesser, and all existing overhead communication and electric distribution facilities within the area will be removed.

4.2. Funding of Rule 20B Projects

Conversion projects carried out under Rule 20B can be funded by:

- A combination of general utility ratepayers and affected property owners
- A combination of general utility ratepayers and the city or county where the project is located
- The project developer

For projects that are not developer-driven, the Rule 20B Program provides two credits or subsidies paid by SDG&E's general ratepayers. The ratepayer-funded credits are for (1) the estimated cost of a new equivalent overhead system, and (2) the cost to remove the existing overhead system. The value of the ratepayer-funded Rule 20B credits vary from project-to-project, but typically represent 20–40% of total project costs. Ratepayer-funded credits are not provided for developer-driven Rule 20B projects.

Prior to construction of a Rule 20B project, the applicant(s) must pay in advance for the cost of the conversion. This payment to SDG&E is nonrefundable and, if applicable, includes a tax component called the Federal Income Tax Component of

²⁰ SDG&E Rule 20 Tariff, Section B.1–3

Contribution (ITCC).

4.3. Projects Initiated and Managed by a City or County

Local governments typically collect Rule 20B funding from the municipality's general fund or through the formation of a local assessment district. Additionally, certain cities or counties may have programs to collect Rule 20B funding from developers that construct improvements adjacent to the conversion project or within the jurisdiction.²¹

The Rule 20B Program can also be used to complete conversion projects that qualify as eligible under Rule 20A when the city or county does not have adequate work credits to fund the project under Rule 20A. Local governments can also utilize Rule 20B to complete undergrounding projects in neighborhoods that do not qualify for ratepayer funding under the Rule 20A Program.

4.4. Projects Initiated and Managed by Property Owners

Property owners can initiate Rule 20B projects within their neighborhoods. Rule 20B projects initiated by property owners must meet the same eligibility criteria as conversion projects managed by municipalities.

Property owners served by the overhead facilities to be converted can either form an assessment district or enter into agreements with the involved utilities to fund the Rule 20B project.

4.5. Assessment Districts

Most underground utility assessment districts are formed at the request of local property owners. Assessment districts can be used to fund Rule 20B conversion projects. California law provides for the use of assessment districts to convert existing overhead electric and communication facilities to underground.²²

Formation of an assessment district adds to the costs for affected property owners but may be necessary if there is no unanimous agreement for the project among affected property owners.

4.6. Conversions Required by Public Agencies

Governmental/public agencies can require undergrounding as a condition of granting permits, such as building or development permits. Some local governments require underground construction of new facilities or the installation of conduit to ultimately install underground facilities from SDG&E's distribution

²¹ E.g., the City of San Jose In-Lieu Fee Program. See Chapter 15.26 of the San Jose Municipal Code:

https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT15PUUT_C15.26UTUNFE

²² California Streets and Highways Code § 5896.1 - 5896.17

system to the customer's service delivery point.

4.7. Developer Fees and Contributions

Most California cities and counties require private developers to pay fees to contribute to related municipal street improvement projects.²³

Some cities and counties have adopted underground conversion fees that apply to new developments. A fee-supported conversion plan should include:

- The way conversion fees are to be collected; and
- The purpose for which fees may be used by the city or county.

Cities and counties may create a revolving account (also known as a revolving fund) to deposit collected conversion fees. A revolving account allows local governments to finance projects without fiscal year limitations and is continually replenished by subsequent conversion fees. Revolving accounts are an integral part of conversion fee programs, as they provide a source for local governments to deposit conversion fees and withdraw conversion costs.

The adoption of a conversion fee program can raise sensitive issues that can only be addressed at the local level. For example, the municipality will need to decide if conversion fees will be collected for new construction projects only, or if the fee applies more broadly to include the rehabilitation or expansion of existing property.

In cities and counties where underground conversion is a priority, the municipality may require, as a condition of approving development projects, that developers contribute substantially to conversion costs. Developer contributions can be required for conversion of existing overhead facilities near to, but outside the development boundaries. In these cases, there is no ratepayer-funded credit for the cost of building an equivalent overhead system.

5. Rule 20C

This section of the Guidebook outlines the underground conversion process under the Rule 20C Program.

5.1. Qualifying Criteria

Projects completed under the Rule 20C Program are almost entirely funded by the applicant(s) requesting the underground conversion. Rule 20C enables property owners to complete underground conversion projects that do not qualify under Rule 20A or Rule 20B.

Under Rule 20C, the applicant(s) provides advance, nonrefundable payment for the estimated cost of the conversion project, minus a ratepayer-funded credit for the estimated salvage value and depreciation of the overhead facilities to be replaced. Underground services will be installed and maintained as provided in

²³ California Government Code § 66484

SDG&E's applicable rules.²⁴

6. Rule 20D

6.1. Qualifying Criteria

Specific to SDG&E, the Rule 20D Program provides for ratepayer-funded underground conversion of high voltage electric distribution facilities in areas with increased fire risk. Rule 20D funding is restricted to projects that are not eligible under Rule 20A or Rule 20B.

Under Rule 20D, SDG&E will replace its existing overhead electric facilities with underground electric facilities along public streets and roads, and on public lands and private property across which rights-of-ways (satisfactory to SDG&E) have been obtained by SDG&E, provided that: |

1. The governing body of the city or county in which such electric facilities are and will be located has:
 - a. Determined, after consultation with SDG&E and the local fire agency and after holding public hearings on the subject, that such undergrounding is in the general public interest because such undergrounding will:
 - i. Occur in the SDG&E Fire Threat Zone as developed in accordance with California Public Utilities Commission Decision (D.) 09-08-029; and
 - ii. Occur in an area where SDG&E has determined that undergrounding is a preferred method to reduce fire risk and enhance the reliability of the facilities to be undergrounded.
 - b. Adopted an ordinance creating an underground district in the area in which both the existing and new electric facilities are and will be located, requiring, among other things, (1) that, where practical and economically feasible, all existing overhead electric high voltage distribution facilities in such district shall be removed, (2) that, where practical and economically feasible, each property served from such overhead electric high voltage distribution facilities shall have installed, in accordance with SDG&E's rules for underground service, all electrical facility changes on the premises necessary to receive service from the underground facilities of SDG&E as soon as it is available and (3) authorizing SDG&E to discontinue its high voltage overhead service.²⁵

6.2. Funding of Rule 20D Projects

The Tariff requires SDG&E annually budget an amount for the Rule 20D

²⁴ SDG&E Rule 20 Tariff, Section C

²⁵ SDG&E Rule 20 Tariff, Section D.1.a.1-2

Program.²⁶ SDG&E reports its Rule 20D budget to the CPUC each year in December.²⁷ Similar to Rule 20A, the Rule 20D Program is funded by general ratepayers.

Rule 20D work credits are allocated only to municipalities with overhead high voltage electric facilities in areas identified as high fire risk. Work credits are allocated to eligible municipalities based on the number of miles of overhead electric high voltage facilities within the municipality, compared to the total number of overhead electric high voltage miles in high fire-threat areas across SDG&E's system.²⁸

Rule 20D is intended for fire hardening purposes, not aesthetics. The Tariff strictly limits the use of Rule 20D work credits for the conversion of high voltage facilities. Some poles may remain in place to carry low voltage secondary and service electric facilities or telecommunications facilities.

6.3. Potential Rule 20D Program Changes

As of February 2021, the CPUC is considering broad changes to the entire Rule 20 Program through the open Rulemaking (R) proceeding (R.17-05-010), including potential termination of the Rule 20D Program.²⁹

In February 2020, the CPUC Energy Division issued its Staff Proposal for Rule 20 Program Reform and Enhancements, in which it recommended elimination of the Rule 20D Program, as SDG&E and other electric utilities have established Wildfire Mitigation Programs and related fire hardening initiatives to broadly implement undergrounding and other methods of fire hardening, where underground conversion is not possible or cost-effective.³⁰

7. Appendix A: Planning Tips for Cities and Counties

This Appendix provides helpful information for a city or county to plan underground conversion projects, including information on Conversion Planning Committees, Conversion Master Plans and Utility Conversion Plans.

7.1. Conversion Planning Committee

To ensure the city or county is aware of all options that could improve project efficiency, a city or county can establish a Conversion Planning Committee. The Conversion Planning Committee is comprised of representatives from the city or county, SDG&E and involved telecommunications providers. The primary function of the Conversion Planning Committee is to identify and prioritize projects to be

²⁶ SDG&E Rule 20 Tariff, Section D.2

²⁷ *Id.*

²⁸ *Id.*

²⁹ Administrative Law Judge's Ruling (1) Issuing and Entering into the Record an Energy Division Staff Proposal for Improving the Electric Tariff Rule 20 Undergrounding Program; (2) Requesting Comments on the Pacific Gas and Electric Company's Rule 20A Audit Report; and (3) Setting a Schedule for Comment, Attachment A: Energy Division's Staff Proposal for Rule 20 Program Reform and Enhancements, Section 4.5

³⁰ *Id.*

included in SDG&E's Conversion Plan, which will be discussed in a subsequent section of this Appendix. The Conversion Planning Committee also plays an important role in identifying projects that qualify for funding under Rule 20.

The Conversion Planning Committee's first task after formation is to develop the Conversion Master Plan, which identifies and prioritizes potential projects for underground conversion. The proposed conversion projects are included in a municipality program that considers the availability of Rule 20 work credits and ratepayer-funded credits, as well as SDG&E's resources available to perform the work. A conversion planning committee should include:

- Local government staff (e.g., representatives from planning, engineering, finance, economic development);
- Elected and/or appointed officials (e.g., councilmembers, planning commissioners, design review representatives); and
- Representatives from the electric utility, telephone companies and cable providers.

Utility representatives can play an important role on the Conversion Planning Committee by helping to identify projects that qualify for Rule 20 funding and providing information on the status of available Rule 20 work credits. SDG&E representatives can provide timely information on revisions to labor and material costs, and guidance on the local government's Conversion Master Plan, which will be discussed in the next section of this Appendix.

SDG&E's participation on the Conversion Planning Committee could help reduce overall conversion costs to the city or county. For example, SDG&E may be able to adjust the project schedule, so the conversion project is done in conjunction with other municipal infrastructure projects.

7.2. Conversion Master Plan

Converting all overhead electric facilities to underground in a city or county takes many years to complete. A city or county can adopt a Conversion Master Plan to outline how the city or county plans to execute conversion projects. The Conversion Master Plan allows the local government to share with its residents the long-term objectives of the underground conversion program and to build consensus among city or county leaders, business owners and citizens.

Often, a city or county utilizes a developer fee program to fund underground conversion programs.³¹ A Conversion Master Plan is typically required before adoption of a developer fee program. The Conversion Master Plan should include:

- A statement of objectives
- The way priorities are to be set for conversion projects
- A map of all proposed conversion projects, which should be updated

³¹ California Government Code § 66484

regularly

- A priority ranking of proposed projects

The Conversion Master Plan should also include basic information about each proposed project, including:

- The goal of the project
- A statement verifying the project meets qualifying criteria, as agreed upon by the Conversion Planning Committee, in accordance with the Tariff
- The length of the project
- Estimated project costs, which should be based on periodically updated unit costs for a similar, recently completed project
- Identification of intersecting streets included in the project

Regular communication and coordination with SDG&E and telecommunications providers throughout the process is key to efficient implementation of a local government's underground conversion plans. Sharing basic project information with SDG&E and telecommunications companies facilitates the exchange of critical planning information between all involved parties.

The Conversion Master Plan should not define precise timelines for each conversion project. This information should be included in SDG&E's Conversion Plan, which will be detailed in the next section of this Appendix.

7.3. Utility Conversion Plan

A city or county is encouraged to develop a Utility Conversion Plan to establish a Rule 20 conversion program. SDG&E's Conversion Plan should provide program objectives for a period of at least 5-years.

SDG&E's Conversion Plan provides short-term guidance for determining conversion priorities, estimating costs and setting desired project schedules based on the municipality's planning assumptions.

The Conversion Planning Committee is typically responsible for directing the city or county's Utility Conversion Plan and recommending flexible project timelines. An experienced Conversion Planning Committee will play a central role in monitoring project progress, minimizing project delays and maximizing use of Rule 20 work credits and other conversion funding.

A Utility Conversion Plan should include:

- Set objectives
- Project priorities
- Rough cost estimates for each project, which should be flexible and based on sound planning assumptions

A Utility Conversion Plan can help a city or county to accurately budget total costs of an improvement project, such as street widening or storm drain replacement, that incorporates underground conversion. A Utility Conversion Plan is best developed through collaborative efforts of a Conversion Planning Committee.

8. Appendix B: Project Prioritization and Coordination

This Appendix describes the management and coordination of individual conversion projects, including information related to:

- Project coordinating committees
- Project walk-throughs
- Communications with property owners
- Neighborhood information meetings
- Civil construction work responsibilities

8.1. Project Coordinating Committee

A local conversion program can benefit from the guidance and oversight of a Project Coordinating Committee. The Committee represents the project participants responsible for planning and managing aspects of a specific conversion project. At minimum, the committee should include:

- Representatives from the electric utility and each participating telecommunications provider
- Local government staff representing engineering, planning and inspection departments
- Engineering and contractor representatives from each developer responsible for project-related improvements

Some Project Coordinating Committee members may also be members of the Conversion Planning Committee described in Appendix A of this Guidebook. The Conversion Planning Committee plays a role within the broader conversion program than the Project Coordinating Committee, which focuses on individual conversion projects.

Generally, a city or county designates a member from its planning department to serve as secretary of the Project Coordinating Committee. The Project Planning Committee's secretary will mobilize the committee, as necessary, and assure it is appropriately staffed. Projects benefit from input provided by all members of the Project Coordinating Committee.

8.2. Project Walk-Through

Once the Project Coordinating Committee has agreed on the areas for conversion, a detailed project walk-through should be conducted. The walk-through serves a few purposes, including:

- Ensuring the project qualifies for Rule 20 funding pursuant to the Tariff

- Establishing boundaries for the proposed Underground Utility District
- Identifying suitable locations for the new underground systems (electric and telecommunications) to connect to the associated overhead systems
- Identifying proposed and existing public improvement projects and discussing the impacts of those projects
- Exploring alternative trench alignments
- Identifying right-of-way requirements
- Considering the use of Rule 20A work credits for the installation of service laterals and electric service panel conversions
- Identifying alternative project funding sources; and
- Ensuring city/county compliance with Americans with Disabilities Act (ADA) regulations

8.3. Communications with Property Owners

It is critical for the city or county to communicate with impacted property owners and residents early in the planning process. Both the Project Coordinating Committee and the city or county should anticipate some resistance from property owners. Based on experience, some common reasons for opposition to conversion projects include:

- Costs (e.g., service panel conversion, service lateral installation);
- Disturbances to private property (e.g., landscaping) necessary to install the underground systems
- Inconvenience during project construction (e.g., utility service disruption, traffic impacts)
- Provision of rights-of-way or the presence of utility equipment (e.g., pad-mounted transformers) on private property

To mitigate opposition to conversion projects, the city or county can include provisions in its General Plan related to the underground conversion of overhead facilities. It is also important for the project to be identified in the local government's Utility Conversion Plan and the Conversion Master Plan, if one exists.

As noted earlier, the Conversion Planning Committee should include elected and appointed representatives. Involvement of these representatives will help ensure the local government understands the conversion policy, the proposed project and any objections to the project.

8.4. Neighborhood Meetings

Members of the Project Coordinating Committee will hold a neighborhood information meeting to provide project information to property owners and address concerns. These meetings should be held in advance of the formal creation of SDG&E's Underground District, as part of the California Environmental Quality Act (CEQA) process.

Utility representatives, involved telecommunications companies and the local government should attend neighborhood information meetings. During these meetings, the project participants provide information related to:

- The proposed scope and anticipated benefits of the proposed project
- The anticipated construction schedule
- Roles and responsibilities of all project participants, including SDG&E, telecommunications providers, the local government and property owners
- Potential impacts to property owners, including estimated costs
- The city or county's policies and regulations related to conversion projects

Neighborhood information meetings should be held at a convenient time and accessible location. Impacted residents should be provided sufficient notice prior to the neighborhood information meeting to encourage attendance. In some cases, it may be beneficial to consider holding multiple neighborhood information meetings.

Prior to holding the neighborhood meeting, the Project Coordinating Committee should determine the extent the city or county proposes to use Rule 20A work credits for installation of service laterals and service panel conversions. The committee should also be prepared to share this information with affected property owners.

8.5. Civil Construction Work Responsibilities

Well managed conversion projects reflect a high degree of interaction and involvement among the key participants. Since project delays are costly, participants should quickly address issues as they arise.