

Application of SAN DIEGO GAS & ELECTRIC
COMPANY (U 902 E) For Authority To
Update Marginal Costs, Cost Allocation,
And Electric Rate Design.

Application 11-10-002
Exhibit No.: (SDG&E-108)

**REVISED PREPARED DIRECT TESTIMONY OF
RICK GARDNER
CHAPTER 8
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

FEBRUARY 2012



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PREPARED DIRECT TESTIMONY OF
RICK GARDNER
(CHAPTER 8)

I. PURPOSE

This testimony is offered to support a change to SDG&E’s Electric Tariff Rule 20, which governs the conversion of overhead distribution facilities to underground. The proposed new tariff Section D (Rule 20D) would facilitate conversions that are specifically intended to mitigate the risks of wildfires. SDG&E’s current Rule 20, Section D - a definition of undergrounding- would be re-sequenced as Section E. The proposed Rule 20D is presented as Attachment A to my testimony.

II. CONVERSIONS CAN ENHANCE PUBLIC SAFETY IN SDG&E’S SERVICE TERRITORY

SDG&E proposes the new Section D to help mitigate the risks of wildfires that arise in the more fire-prone sections of SDG&E’s service territory. The rural areas of SDG&E’s service territory are characterized by inland valleys and mountainous areas with smaller communities, lower density development and significant wildland areas. This area is predominantly served by an overhead electric distribution system, unlike the more densely developed coastal areas where the system is primarily underground. In addition to the safety and operational challenges of winter rain and snow storms, SDG&E’s rural service area is subject to extreme Santa Ana conditions. These conditions are characterized by warm temperatures, high winds and low humidity. This creates increased fire ignition risk, increased potential for the spread of fire, and reduced ability to combat fire. CALFIRE¹ has identified more than 55% of SDG&E’s service territory as falling within “very high” and “extreme” fire threat zones. These zones lie mostly within rural areas. Over 3,400 miles of electric distribution line lies within these zones. In response to the Commission’s direction in D.09-08-029, SDG&E developed a Fire Threat Zone map which closely matches the CALFIRE map “so it may be overlaid with maps of utility systems.”² This is the map SDG&E proposes to use in identifying areas for application of

¹ California Department of Forestry and Fire Protection.

² D.09-08-029, mimeo, at 22.

1 proposed Section D, and it is the map SDG&E uses in determining where to put the most
2 emphasis on fire risk mitigation measures related to construction, operations, inspection and
3 maintenance of the electric transmission and distribution systems.

4 The firestorms of 2003 and 2007, which devastated San Diego County and severely
5 damaged SDG&E's rural electric distribution system, were driven by Santa Ana conditions. The
6 trend of development in and along SDG&E's Fire Threat Zone increases the risk of wildfire
7 damage.

8 SDG&E uses a portfolio of engineering options to protect the overhead electric
9 distribution system in high fire threat areas and reduce the possibility that our overhead lines
10 could be involved in an ignition. Such system hardening measures include insulated tree wire,
11 steel poles, and increased conductor spacing. Another option that can be very effective in
12 reducing fire risk is to underground existing overhead electric distribution facilities. SDG&E
13 seeks Commission approval of proposed Section D to help reduce wildfire risk in those cases
14 where undergrounding is preferable to other system hardening measures. As shown below, the
15 proposed rule would assist in implementing projects that have the potential to further mitigate
16 wildfire risks.

17 The proposed rule does not address transmission lines (*i.e.*, 69 kV and above) for two
18 principal reasons. First, capital investment in system transmission facilities is recovered in rates
19 subject to the jurisdiction of the Federal Energy Regulatory Commission. Second, transmission
20 facilities are not addressed in SDG&E's Electric Rules. Any undergrounding of transmission for
21 fire safety reasons are best addressed on a project-specific basis in the context of SDG&E's
22 capital planning and budget process (this process is discussed further below).

23 **III. HOW THE PROPOSED RULE FITS INTO SDG&E'S ELECTRIC RULE 20**

24 Electric Rule 20, which governs the conversion of overhead distribution lines from
25 overhead to underground ("conversions"), is currently divided into four separate sections:

- 26 • **Section A** governs conversions funded by the utility at ratepayer expense and selected
27 in cooperation with local governments. SDG&E partners with municipalities (*i.e.*,
28 cities and counties) in determining which projects to construct. A qualifying project
29 site is selected by the governing municipality based on criteria contained in the rule
30 and with community input. SDG&E confirms that the project qualifies under the

1 provisions of the rule and works with the municipality to determine the official
2 project boundary that will be included in the required municipal resolution. Rule 20,
3 Section A has been in place since 1976. It replaced Rule 31, Section A, which was
4 similar in effect and was in place for many years before that.

- 5 • **Section B** governs conversions done at the request of an applicant, and requires the
6 applicant to pay a portion of the costs as set forth in the rule. If the conversion meets
7 all of the rule’s qualifications, the applicant is entitled to two credits against the cost
8 of the conversion, which are paid for by the utility at ratepayer expense: (1) removal
9 of the existing overhead line; and (2) a credit equivalent to the cost of a hypothetical
10 overhead system applied to the proposed underground system.
- 11 • **Section C** governs conversions done at the request of an applicant who does not meet
12 all the qualifications as set forth in Rule 20, Section B. The applicant is responsible
13 for paying for the costs of the conversion.
- 14 • **Section D** in its current form is a definition of “underground electric system.” The
15 proposal associated with this Application would re-sequence this section as Rule 20E.

16 SDG&E recognizes that it can currently engage in undergrounding projects without a
17 change to Rule 20 through the process normally used for capital construction. This process is
18 used for SDG&E’s other needs such as resolving capacity or safety issues, or replacing obsolete
19 or unreliable equipment. SDG&E can prioritize such projects through its capital budget planning
20 process, in which each project is evaluated and prioritized based on criteria including cost,
21 benefits, customer impacts, and alignment with company goals. Community participation is also
22 a criterion. Projects of significant size or complexity are evaluated by the appropriate Reliability
23 Assessment Team and/or Technical Review Committee prior to approval by the Capital
24 Committee. The costs of such capital construction projects are reviewed and approved by the
25 Commission through the rate making and cost recovery process associated with a General Rate
26 Case (GRC).

27 However, as an alternative to SDG&E unilaterally developing such projects through its
28 normal capital construction process, undertaking conversions to reduce fire risk under the
29 proposed rule can achieve several benefits not available in its standard capital project planning
30 process:

- 1 1. Improved dialog and input from the public, municipalities, and local fire agencies in
2 prioritizing projects;
- 3 2. Annual reporting on project status and costs;
- 4 3. Commission-authorized equitable apportionment of projects among impacted
5 municipalities;
- 6 4. Improved coordination with municipal infrastructure projects;
- 7 5. Higher priority for project funding due to public schedule visibility and community
8 participation;
- 9 6. Understandable criteria for conversions for fire safety that do not require re-litigation
10 in each GRC; and
- 11 7. The ability to underground customer services in appropriate circumstances as
12 described in Section V. below.

13 The proposed rule is modeled substantially after the current Rule 20A framework for
14 public dialog between municipalities planning and prioritizing projects, the local community,
15 and the utility. Local government demand for conversions exceeds available utility capital.
16 Substantial experience under Rule 20A shows that such public processes allow communities to
17 prioritize and coordinate these projects with other civic activities.

18 Rule 20A projects typically have public input in the form of a community planning
19 group, which makes recommendations to the municipality. The municipality considers these
20 recommendations, along with other civic goals such as revitalization and public improvements,
21 in developing an overall priority list for Rule 20A projects. After consulting with the utility on
22 the availability of capital, the municipality and the utility propose a boundary for the conversion.
23 The municipality's governing body then passes a Notice of Intent which allows for a public
24 comment period on the proposed project. Changes to the proposed project may be made during
25 this period, or the project may be deferred or cancelled based on information and comments
26 obtained from the public and interested parties. Once the governing body is satisfied with the
27 project as proposed and all local ordinances have been met, the project is finalized at a public
28 meeting.

29 Proposed Rule 20D embodies the same public prioritization process for projects as that
30 found in current Rule 20A, and incorporates input from the local fire agency as well. In addition,
31 the proposed rule employs the same budgeting and reporting mechanisms found in Rule 20A

1 without competing for the same capital. Under Rule 20A, on an annual basis, SDG&E allocates
2 work credits (known as “allocations”) among the 28 municipalities in its service territory.
3 SDG&E apportions the allocations among the 28 municipalities according to the provisions of
4 Rule 20A (unless an existing Franchise Agreement requires a different amount). The report on
5 the allocations being granted for any given year is filed by SDG&E on December 10th of the
6 prior year. Budgeting and spending for such allocations are done in the context of the GRC
7 process described above.

8 SDG&E proposes a very similar mechanism for proposed Rule 20D projects. Allocations
9 would be apportioned among municipalities as set forth in the proposed rule, and a report on
10 allocations for the year would be filed annually on December 10th of the prior year concurrently
11 with the Rule 20A allocations report. SDG&E does not propose allowing Rule 20A allocations
12 to be applied to Rule 20D projects or vice versa.

13 SDG&E also reports annually on projects completed under Rule 20A. On March 31st of
14 each year, SDG&E files a report detailing all projects completed under Rule 20 (Sections A, B,
15 and C) during the previous calendar year. Total costs are reported, as well as the amount paid by
16 applicants for Rule 20B and Rule 20C projects. This report also contains a full accounting of the
17 program status for Rule 20A, including total allocations and the cost of projects completed since
18 the inception of the rule. Also included in the report are the projected costs for projects currently
19 in construction and for projects which have municipal approval and are awaiting construction.
20 SDG&E proposes that the same format be used for reporting on Rule 20D projects and that the
21 reports for Rule 20A and Rule 20D activities be submitted concurrently. This would provide the
22 same accountability and transparency for the budgeting and completion of Rule 20D projects that
23 has stood the test of time for the rest of Rule 20.

24 Rule 20A conversions are treated as capital construction projects by SDG&E. They
25 receive high priority in SDG&E’s internal budget process, and the cost of this capital
26 construction is reviewed and approved through the rate making and cost recovery process of a
27 GRC. Based on Rule 20A methodology, SDG&E has proposed in its current GRC Phase 1
28 recovery of capital costs incurred for Rule 20D projects.³ Rule 20D would provide a separate,
29 incremental budgeting mechanism allowing SDG&E to focus on areas of high fire risk. SDG&E

³ Recovery of capital costs are addressed in the Revised Prepared Direct Testimony of Alan Marcher, SDG&E Application (A.)10-12-005 Exhibit SDGE-06-R, p. 248, Project 10263.

1 believes that separating fire risk mitigation from conversion based on aesthetic and other
2 considerations permits focus on the very different public safety concerns pertaining to wildfires.
3 Given the public interest implications of conversions to assist wildfire safety, the proposed rule
4 offers an improved process option rather than trying to modify Rule 20A or using only
5 SDG&E's typical capital project process for such conversions.

6 **IV. PROJECT SELECTION CRITERIA**

7 Within the SDG&E Fire Threat Zone, SDG&E will select the portions of the primary
8 electric distribution system to be undergrounded based on criteria described in this Section.
9 SDG&E will not select any areas for Rule 20D projects where Rule 20A projects are taking place
10 or proposed. Project selection criteria within the Fire Threat Zone will include: criticality of
11 electric infrastructure, remaining useful life, condition of and integrity of existing electrical
12 infrastructure, exposure to vegetation or tree contact, density and proximity of fuel, criticality of
13 surrounding non-electric assets including structures and environmentally sensitive areas, service
14 to public agencies (*e.g.* fire, water, police), and the ability of firefighters to access the area. As
15 mentioned above, undergrounding is only one of a number of fire safety mitigation measures
16 available; such conversions should be utilized in areas where feasible and preferable to other
17 fire-hardening alternatives. Once these criteria are applied, and the areas where undergrounding
18 is preferred are identified, SDG&E will partner with municipalities, fire agencies, and
19 communities to prioritize project sites. SDG&E believes these steps will help focus fire risk
20 undergrounding efforts on circuits, or segments thereof, which would provide the most fire
21 safety benefits from undergrounding and are most desirable to the local community.

22 **V. ELECTRIC SERVICES – CUSTOMER CONNECTIONS**

23 While all overhead primary distribution facilities in the conversion area will be placed
24 underground, proposed Rule 20D provides similar discretion in converting electric services (*i.e.*,
25 lines intended to feed only one customer in accordance with Rule 16) as that contained in Rule
26 20A – that is, the municipality may authorize conversion of services from funding allocated by
27 the rule. There is a difference proposed in Rule 20D: the rule limits undergrounding of services
28 to high voltage (*i.e.*, 600V and above) service lines. Upon request of the governing body, the
29 Utility will pay from the 20D allocation of that entity for the undergrounding of a customer's

1 high voltage service line occasioned by the undergrounding. This distinction is intended to limit
2 conversions to those portions of service lines which have a high fire risk where practical and
3 economically feasible.

4 This difference between Rule 20A and proposed Rule 20D is necessary because services
5 in the SDG&E Fire Threat Zone are often much longer and involve higher voltages than those in
6 more developed areas. Both of these distinctions add can add substantially to the cost of
7 conversions. The proposed rule is designed to address fire risk and not aesthetics, and money
8 spent on undergrounding low voltage services under the proposed rule might otherwise be spent
9 undergrounding primary distribution lines that pose more of a fire safety issue. For service
10 facilities not converted as part of a project, customers would still have the option of
11 undergrounding their services at their own expense.

12 **VI. COMMUNICATIONS FACILITIES**

13 Unlike Rule 20A (where the conversions are motivated largely by aesthetics), the
14 proposed Rule 20D does not require the undergrounding of communications facilities within the
15 underground boundary.

16 For some Rule 20D projects, it may be desirable to only underground the electric
17 infrastructure leaving any co-located communication infrastructure in place. The overhead
18 electric infrastructure would be removed, and the tops of the poles removed, allowing the
19 communication equipment to remain in place on the existing pole line. In other cases,
20 communication infrastructure could be undergrounded along with the electric facilities using the
21 well established joint trench processes and procedures followed for Rule 20A conversion
22 projects.

23 As mentioned above, Rule 20D is intended to provide a public input and reporting
24 framework for fire safety conversions, which SDG&E could otherwise undertake without the
25 benefit of the proposed rule. The proposed rule would not alter SDG&E's ability to remove its
26 electric facilities from existing poles.

27 SDG&E is committed to continued cooperation with Communications Infrastructure
28 Providers (CIPs) to ensure any conversion work is completed efficiently, taking into account
29 communications infrastructure. For situations where SDG&E has assignable land rights that are
30 desired by the CIPs, SDG&E is willing to assign these to the CIPs. For projects where the

1 communication infrastructure will not be undergrounded, SDG&E will convey the poles via
2 quitclaim or other appropriate method to a third party so that existing communications
3 infrastructure can remain in place.

4 As noted above, with or without the proposed rule, SDG&E has the ability to perform
5 undergrounding projects. Therefore the Commission's consideration of the proposed rule should
6 not be driven by whether the CIPs consider themselves inconvenienced by such conversions.

7 In sum, the Commission's consideration of the proposed rule should be driven by its fire
8 safety benefits. The CIPs will not be inconvenienced or hindered by this proposal. They will still
9 maintain the ability to provide reliable service to their customers.

10 This concluded my revised prepared direct testimony.

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1 **VII. WITNESS QUALIFICATIONS**

2 My name is Rick Gardner. I am employed by San Diego Gas & Electric Company
3 (SDG&E) as a Project Management Manager in the Electric Operations Division. My business
4 address is 8315 Century Park Court, San Diego, California 92123.

5 My current responsibilities include municipal permitting, as well as gas and electric
6 franchise work. I am also responsible for the administration of SDG&E's undergrounding
7 programs such as Rule 20A and the City of San Diego Surcharge. These responsibilities also
8 include all associated regulatory reporting as well as responding to inquiries by parties such as
9 the Commission, municipalities, other utilities, and the public at large.

10 In 1985, I earned a Bachelor of Arts Degree in Physics from Pomona College. Between
11 1985 and 1992, I worked at SDG&E as a Project Planner and Systems Analyst. Between 1992
12 and 2000 I held various software engineering jobs, including consulting for electric utilities
13 throughout the United States. I joined SDG&E again in 2000 as a Project Planner and have
14 worked in several areas of increased responsibility over the years with over 8 of those years in
15 leadership capacities. These areas include Project Management, OpEx 20/20, and SDG&E's
16 Microgrid project. In 2009, I joined the Project Management Department in my current position.

ATTACHMENT A

PROPOSED NEW SDG&E TARIFF RULE 20, Section D

- D. In circumstances other than those covered by A or B above, the Utility will, at its expense, 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-way satisfactory to the Utility have been obtained by the Utility, 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 the Utility 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:
 - (1) Occur in the SDG&E Fire Threat Zone as developed in accordance with California Public Utilities Commission Decision (D.) 09-08-029; and
 - (2) Occur in an area where the Utility 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 the Utility's rules for underground service, all electrical facility changes on the premises necessary to receive service from the underground facilities of the Utility as soon as it is available, and (3) authorizing the Utility to discontinue its high voltage overhead service.
 2. The Utility's total annual budgeted amount for Rule 20.D undergrounding shall be determined on an annual basis with notice provided to the CPUC coincident with Rule 20.A. The amount allocated to any city or the unincorporated area of any county shall be as follows:

The amount allocated to each city and county annually shall be in the same ratio that the number of miles of overhead electric high voltage distribution lines located in the SDG&E Fire Threat Zone in such city or unincorporated portion of a county bears to the total miles of SDG&E overhead electric high voltage distribution lines located in the SDG&E Fire Threat Zone.

3. Upon request of the governing body, the Utility will pay from the 20D allocation of that entity for the undergrounding of a customer's high voltage service line occasioned by the undergrounding.

The Utility or the governing body may limit the amount of money to be expended on a single customer's high voltage service line, or the total amount to be expended on all high voltage service lines in a particular project.

4. The Rule 20.D program shall be administered by the Utility consistent with existing reporting, engineering, accounting and management practices for Rule 20.A.
5. Upon request by a city or county, the amounts allocated may be exceeded for each city or county by an amount up to a maximum of five years' allocation at then-current levels where (the Utility) establishes that participation on a project is warranted and resources are available. Such allocated amounts may be carried over for a reasonable period of time in communities with active undergrounding programs. In order to qualify as a community with an active undergrounding program the governing body must have adopted an ordinance or ordinances creating an underground district and/or districts as set forth in Section D.1.b. of this Rule. Where there is a carry-over or additional requested participation, as discussed above, the Utility has the right to set, as determined by its capability, reasonable limits on the rate of performance of the work to be financed by the funds carried over. When amounts are not expended or carried over for the community to which they are initially allocated, they shall be assigned when additional participation on a project is warranted or be reallocated to communities with active undergrounding programs.