



EW2/nd3 2/13/2020

FILED
02/13/20
09:51 AM

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Consider Revisions to Electric Rule 20 and Related Matters.

Rulemaking 17-05-010

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

Summary

The Administrative Law Judge's (ALJ) Ruling of March 6, 2019, stated the Commission's Energy Division shall develop a staff proposal on improvements to Rule 20A, which shall be presented to the parties for comment by a subsequent ruling.

This ruling serves to issue, and to enter into the record, the attached Energy Division's *Staff Proposal for Rule 20 Program Reform and Enhancements (Staff Proposal)*. This ruling also establishes a schedule for providing comments on the *Staff Proposal* and the October 2019 *Audit of PG&E Rule 20A Undergrounding Program (PG&E Audit Report)* prepared by AzP Consulting, LLC and previously made part of this record by ruling of December 20, 2019.

This proceeding will be submitted following the receipt of comments and a proposed decision will follow, unless the ALJ requires further evidence or argument.

ATTACHMENT A

CALIFORNIA PUBLIC UTILITIES COMMISSION

Energy Division's Staff Proposal for Rule 20 Program Reform and Enhancements

Undergrounding Proceeding (R.17-05-010) Staff Proposal for Rule 20 Program Reform and Enhancements

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February 2020



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Glossary of Terms

1. **Active Communities:** Refers to communities that meet either one or more of the following criteria that was established in Resolution E-4971:
 - A. Formally adopts an undergrounding district ordinance which expires at completion of work within the district boundaries; or
 - B. Has started or completed construction of an undergrounding conversion project within the last 8 years; or
 - C. Has received Rule 20A allocations from the utility for only 5 years or fewer due to recent incorporation.
2. **Assessment District:** A financing mechanism the California Streets and Highways Code, Division 10 and 12 which enables cities, counties to designate Districts to collect special assessments to finance the improvements constructed or funded by the District. In Rule 20B, an assessment district is formed based on a petition to the city council or county board of supervisors from 60 percent or more of the residents of the affected area.
3. **Borrow Forward:** Also known as the “five-year borrow”. Refers to the process allowed under the Rule 20A Tariff in which municipalities may borrow up to five years of additional Rule 20A work credit allocations against their future allocations from the utility to help fund a project.
4. **Communities:** In the Rule 20A program, this refers to cities and unincorporated county entities that are served by the investor-owned utilities.
5. **Cultural Resources:** Tangible remains of past human activity. These may include buildings; structures; prehistoric sites; historic or prehistoric objects or collection; rock inscriptions; earthworks, or canals.
6. **Disadvantaged Communities:** These areas represent the 25% highest scoring census tracts in State of California’s CalEnviroScreen 3.0 tool.
7. **Facilities:** Also referred to as “equipment”. Refers to wires, conductors, antennas, guy wires, cables, and/or any other equipment used to facilitate the transmission of communications or energy.
8. **Five Year Borrow:** See “borrow forward.”

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9. **General Conditions Agreement:** (Or General Terms and Conditions) A document that is utilized by the electric utilities and the municipalities that clarifies the specific responsibilities for both the communities and the utilities in the preparation for and construction of a Rule 20A undergrounding project. It is referred to as the General Conditions Agreement, Sample Form 79-1127 by PG&E; General Conditions policy by SCE; and the General Conditions Form 106-35140F by SDG&E.
10. **High Fire Threat District:** Refers to the high fire threat areas in the CPUC's Fire-Threat Map which was adopted by the Commission in Decision (D.) 17-12-024. The map consists of three fire-threat areas (Zone 1, Tier 2 and Tier 3) that have increasing levels of risk of wildfires associated with overhead utility power lines or overhead utility power-line facilities that also support communication facilities.
11. **Inactive Communities:** Refers to communities that fail to meet any of the criteria described in the definition of Active Communities described above.
12. **Joint Trench Participants:** Refers to all the electric, telecommunication, and local government entities that are involved with a given undergrounding project.
13. **Non-Ratepayer Costs:** Refers to project costs that are not covered by Rule 20A. These include street lighting, repaving, sidewalk repair, undergrounding communication facilities, removal or replacement of other signage, environmental assessment, hazardous material removal, , discovery of archeological materials, permit fees and community administrative costs.
14. **Overhead Infrastructure:** Also referred to as above ground infrastructure. Refers to the conductors (wires), insulators, transformers, switches, reclosers, and other related equipment that span wooden or metal poles.
15. **Overhead Meter:** Refers to a meter at a home or business that is served by an overhead service drop.
16. **SDG&E Fire Threat Zone:** These are areas with extreme and very high fire threat risk within San Diego Gas & Electric's service territory that were identified in the Commission in Decision (D.) 09-08-029 and are currently the only areas where Rule 20D is applicable.
17. **Subsurface Equipment:** Refers to equipment that is installed in an underground vault, such as an underground transformer.

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18. **Underground Meter:** Refers to a meter at a home or business that is served by an underground service line.
19. **Underground Utility District:** Also referred to as an underground or undergrounding district, or UUD. An area in the City within which poles, overhead wires, and associated overhead structures are to be converted underground. Underground utility districts are legislated by communities' city councils or by county board of supervisors.
20. **Viewshed:** The natural environment that is visible from one or more viewing points.
21. **Work Credit Trading:** Refers to any form of work credit exchange in which two or more cities or counties buy, sell, loan, trade, or donate Rule 20A work credits. The utilities sometimes refer to this as work credit transfers.

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1. Executive Summary

This Staff Proposal presents recommendations for improving the Electric Tariff Rule 20 applicant-driven undergrounding program and for resolving significant issues in the existing program which includes the Rule 20 A, B, C and D programs. While much of the focus and attention of the public has been on Rule 20A, this Staff Proposal looks holistically at the Rule 20 undergrounding program as a whole and proposes changes across all four of the component programs. This Staff Proposal does not propose changes to undergrounding requirements along State Scenic Highways in Public Utilities Code (PUC) § 320, or for distribution line or service line extensions under Electric Tariff Rules 15 and 16 respectively. Nothing in this Staff Proposal inhibits utility-led undergrounding efforts for technical or safety reasons nor any local government-driven undergrounding separate from Rule 20.

The program reforms presented in this document are intended to make the program objectives relevant to current undergrounding goals held by various stakeholders by including a focus on safety, reliability, equity, and the alignment of cost allocation with cost-causation. The proposed reforms will allow communities to use their limited funds towards undergrounding the areas that pose the greatest safety threats and/or subject to chronic outages. These reforms seek to reduce the barriers to entry for program participation for communities that have had limited opportunities or resources to initiate undergrounding projects in the past. Additionally, the reforms are intended to lessen the burden on the general ratepayer and incentivize local communities to apply more of their own funding towards undergrounding. Furthermore, this proposal offers a plan to enhance program operation and efficiency and maintain regulatory efficiency of the program.

The California Public Utilities Commission (“CPUC”) Energy Division Staff (“Staff”) developed this proposal in response to the March 6, 2019 Administrative Law Judge’s (ALJ) the Guidance Ruling Outlining Additional Activities (“Guidance Ruling”). Staff based its recommendations on Staff’s evaluation of the comments that parties submitted on January 11, 2019 in response to the November 9, 2018 Scoping Memo and Ruling. Staff also relied on the ideas that parties shared during the April 2019 workshop that was focused on near-term improvements to the Rule 20 undergrounding program. Staff is also informed by our many years overseeing the program, our own analysis and data gained through our data requests, as well as CPUC studies on the program including a recent audit of PG&E’s Rule 20A program.

Throughout this document, Staff provides information on the history of the Rule 20 Program, program rules, data related to recent experience in the program, issues with the program, and various options for mitigating these issues.

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A summary of Staff's primary recommendations are as follows:

- **Refine and Expand the Rule 20 Public Interest Criteria:**

This will consist of refinements to the existing criteria for Rule 20A and the addition of new criteria based on safety and reliability concerns, such as if the street serves as an egress, ingress, or is designated as an evacuation route, and if the overhead facilities cross through Tier 2 or Tier 3 areas of the State's High Fire Threat District (HFTD). These criteria would be applicable towards a Rule 20A sunset phase and a modified Rule 20B program should either come into fruition. (Section 4.1, pg.24-26)

- **Modify Rule 20B to Incorporate Tiered Ratepayer Contributions Commensurate with Public Benefits**

The CPUC should utilize a three-tiered Rule 20B program with higher portions of ratepayer contribution commensurate with greater public benefits and public policy objectives. The three tiers are:

- Tier 1 – 20% Ratepayer contribution – Meets existing Rule 20B criteria.
- Tier 2 – 30 % Ratepayer contribution – Meets Tier 1 criteria **and** one or more of the expanded public interest criteria of this staff proposal, including wildfire safety mitigation.
- Tier 3 – 50% Ratepayer contribution – Meets Tier 2 criteria **and** one or more equity criteria.

(Section 4.2, pg.31)

- **Sunset the Rule 20A and 20D Programs as Currently Designed:**

The existing allocation-based Rule 20A and Rule 20D programs should be sunsetted over a 10-year period and either be replaced with the modified Rule 20 B program, other new programs or be terminated. (Section 4.3, pg. 37-38)

- **Incentivize Municipal Utility Surcharge Undergrounding Programs:**

The CPUC encourages governmental bodies to pursue self-taxation programs in collaboration with their local utilities and Staff proposes for the utilities to provide municipalities matching funds of up to \$5 million per year per participating community. An example of such a program is the City of San Diego's utility surcharge program (see page 10) which has accelerated undergrounding in San Diego. The CPUC does not oversee this type of program but can authorize the utility to collect the franchise fee through rates that goes directly to funding the undergrounding. (Section 4.2, pg. 33)

- **Eliminate Work Credit Trading with Limited Exceptions:**

The CPUC should prohibit the trading of work credits and review all utility requests to apply additional Rule 20A work credits to a project that has insufficient funds. The limited exceptions are to allow intra-county non-monetary transfers from a county government to cities and towns within the county and to allow credit pooling amongst

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two or more adjoining municipalities for a project with community benefit. (Section 4.4, pg. 41)

- **Modify the Rule 20A Annual Completion and Allocation Reports:**

The utilities should provide more details to the CPUC, communities and the public regarding the projects that are underway, cost breakdowns for projects, project cost trends, performance metrics, and modify the summary statistics. Additionally, the utilities' allocation reports should include how the utilities derive the allocations from the general rate case and the allocation formula in the Rule 20A Tariff. (Section 5, pg. 47-49)

- **Adopt an Updated Rule 20 Guidebook:**

The utilities should meet and confer with the League of California Cities, the California State Association of Counties, AT&T and the CPUC Staff to draft an updated version of the Rule 20 Guidebook that would be subject to CPUC review prior to its formal adoption and circulation among the cities and counties. (Section 5, pg. 49-50)

- **Improve Communications with the Communities and Publish Relevant Rule 20 Program Information, Documents and Reports Online**

New utility program communication strategies should include annual meetings with interested cities and counties to discuss their ten-year plans for undergrounding. The utilities should coordinate more closely with the communities and the broader public to enhance transparency and allow them public to have a greater voice in the planning process for projects. Staff also recommends publishing the relevant Rule 20A program information and reports online on dedicated utility and CPUC undergrounding webpages to enhance the public's access to information about the Rule 20 program. (Section 5, pg. 50)

- **Implement Incentives to Reduce Project Completion Timelines and Costs:**

These new incentives would include requiring the communities to serve as the default project lead, establishing threshold timeframes for project milestones, and delineating all Task and Cost Responsibilities in updated guidance documents. (Section 6, pg. 56-58)

2. Background

2.1 Rule 20 Program Structure

The investor-owned utilities (IOUs) regulated by the CPUC have broad responsibilities to manage the electric utility distribution infrastructure. As part of their responsibilities, the IOUs build and maintain distribution facilities that service customers. Since the late 1960s, most new distribution facilities have been designed and installed underground. For communities developed prior to the late 1960s, most distribution infrastructure is overhead. Undergrounding is typically more expensive than overhead lines to build and maintain, so most existing overhead systems in California remain above ground.

Nevertheless, there are several ways that these historic overhead systems are converted to underground. Utility distribution planners may decide to convert an overhead system to underground, a process referred to as “undergrounding,” for safety, cost, reliability or maintenance reasons. To support non-utility driven overhead conversion, the CPUC adopted and oversees an Overhead Conversion Program known as Electric Tariff Rule 20. The program allows cities and unincorporated counties (collectively communities), and private applicants (such as residents and businesses) to identify areas for undergrounding. Depending on the project characteristics and eligibility under pre-established criteria, the utility may fund some, all, or none of the costs of an overhead conversion.

The Rule 20 undergrounding program directs the conversion of overhead electrical facilities to below ground for municipal or other applicant-identified projects. This program is focused primarily on aesthetic enhancement by removing overhead electric wires from an area’s viewshed. The Electric Rule 20 Tariff governs the undergrounding program which is divided into four subprograms – Rule 20A through Rule 20D – which provide diminishing levels of ratepayer contribution to projects.

Rule 20A projects are fully ratepayer-funded but must meet strict criteria to in order to demonstrate that they will be in the public interest (see Section 3.1 for more details on the criteria). The utilities annually allocate funds in the form of Rule 20A work credits (or “work credits”) to communities which they may accumulate indefinitely. According to Rule 20A Section 2, 50 percent of the allocation is based on the ratio of overhead meters in a community relative to the total utility overhead meters. The other 50 percent is based on the ratio of total meters (both overhead and underground-served meters) relative to the utility total system meters.

In addition to the annual allocations, the utilities also allow the communities to borrow forward the equivalent of an additional five years of allocations in order to more efficiently fund their projects. Once a community has accumulated and/or borrowed enough work credits, identified a project that is in the public interest, and passed a municipal resolution forming an

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undergrounding district, the community can then initiate the project with the utility. The Community must retire a sufficient quantity of work credits to cover the cost of the project.

Projects that do not meet the Rule 20A public interest criteria and are at a minimum of 600 feet may be completed as Rule 20B projects. Apart from the 600 feet minimum length, there are no other required criteria for 20B projects. For example, a 20B project could be carried out for wildfire safety reasons. The undergrounding is paid for by the applicant – typically a group of residents, commercial entities, or government entities – and funded in part by a ratepayer credit in the range of 20 to 40 percent. The credit is equal to the estimated cost of a new equivalent overhead system and the removal of the existing overhead system. Applicants may use Rule 20A work credits to “seed” their Rule 20B projects by initially covering the engineering and design costs and reimburse the utility later provided that the project goes forward.

In the case of projects that are unable to meet either the Rule 20A or 20B criteria, they may be completed under the Rule 20C program. In Rule 20C projects, the applicant – often an individual property owner – pays for the full cost of undergrounding, less the cost of the estimated salvage value and depreciation of the removed electrical facilities.

Rule 20D is currently only in SDG&E’s service territory and it applies specifically to undergrounding in SDG&E’s high fire threat areas where undergrounding is deemed by SDG&E to be a preferred method for wildfire mitigation in a given area. Rule 20D is structured similarly to the Rule 20A program and is similarly-community-driven. SDG&E annually allocates work credits to eligible communities and that they may borrow forward five years to obtain additional funds. Unlike Rule 20A, Rule 20D only allows communities to utilize work credits towards the conversion of primary distribution to underground. The program does not pay for undergrounding secondary lines or services, or for panel conversions for residences or businesses. Rule 20D has been in existence since 2014 and SDG&E has not started or completed a single project to date through this program.

Related to the Rule 20 program, the telecommunications entities such as AT&T have a Tariff Rule 32 that closely resembles the Rule 20 Tariff. Rule 32 is specific to the undergrounding of telecommunications facilities and it is virtually identical in structure as Rule 20. For instance, Rule 32 has the same public interest criteria in its Section A as are in Rule 20A.

The City of San Diego also has an undergrounding program in partnership with SDG&E that is not under CPUC oversight and is not subsidized by the general ratepayer. In December 2002, CPUC Resolution E-3788 authorized SDG&E to collect a 3.53% franchise fee surcharge within the City of San Diego for undergrounding work separate from Rule 20. By using this surcharge program to augment the Rule 20 program, the City of San Diego has managed to convert 429 miles of overhead electrical facilities to underground and 1,238 miles of overhead remain.¹ The

¹ Based on a July 17, 2019 email to Jonathan Frost from James Nabong, the City of San Diego’s Assistant Deputy Director for the Transportation and Storm Water Department.

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City of San Diego currently targets 15 miles of undergrounding per year through the surcharge program and seeks to underground all overhead facilities within its city limits.

2.2 Rule 20 Program History and Context: Undergrounding for Aesthetic Enhancement

The Rule 20 undergrounding program was initiated in 1967 by the CPUC in Decision D.73078 with the intent of enhancing the appearance of areas that had been “victimized by man’s handiwork” by the development of overhead electric infrastructure.² The Rule 20 program established a structured means of facilitating municipal-driven underground conversion projects in a consistent manner throughout the State with the costs covered by utility ratepayers. The program was developed around the same time as the State’s requirements to construct underground distribution lines and service line extension to new residential and commercial developments, as well as near State scenic highways took effect.³ Since the late 1960s, the Rule 20 undergrounding program has remained focused primarily on aesthetic enhancement and has seen limited changes to aspects of the program such as the Rule 20A work credit allocations (“work credits” or “allocations”) are determined, the public interest criteria for project eligibility, and the municipalities’ ability to borrow forward future work credit allocations.

Over the past 52 years, it is estimated that over 2,500 miles of overhead utility lines have been converted in California under the Rule 20A program.⁴ In recent years, the utilities have collectively completed on average 50 projects per year, equal to approximately 20-25 miles in length under Rule 20A at an average cost ranging from \$1.85 million to \$6.1 million per mile.⁵ The Rule 20B and 20C programs together see a total of 15 to 20 miles per year of lines converted to underground.⁶

Relative to the approximately 147,000 miles of overhead distribution infrastructure in California – enough wires to wrap around Earth six times – this is a modest rate of undergrounding. In fact, it would take nearly 3,300 years to underground the entire state at this rate. Figure 1 provides further context with a breakdown of the overhead and underground infrastructure for each of the utilities.

² Note that the Rule 20 program was initiated by the CPUC and is not grounded in statute.

³ See Electric [Tariff Rule 15](#) & [Tariff Rule 16](#), and [Public Utilities Code Section 320](#) for more information.

⁴ Kurtovich, Martin, “[Program Review – California Overhead Conversion Program, Rule 20A for Years 2011-2015 the Billion Dollar Risk!](#)” California Public Utilities Commission, January 2017.

⁵ This is based on the data provided by the utilities to Staff as part of their R.17-05-010 data request responses for the years 2005-2017.

⁶ Data from Staff June 2019 data request.

Figure 1. Overhead and Underground Line Miles by Transmission and Distribution

Overhead vs. Underground Miles – CPUC Regulated Utilities						
	Transmission (in miles)			Distribution (in miles)		
	Overhead	Underground	Total	Overhead	Underground	Total
PG&E	18,000	180	18,180	81,000	18,000	99,000
	99%	1%		82%	18%	
SCE	13,259	270	13,529	52,731	39,607	92,338
	98%	2%		57%	43%	
SDG&E	1,840	166	2,006	9,049	14,719	23,768
	92%	8%		38%	62%	
PacifiCorp	729	0	729	2,340	633	2,973
	100%	0%		79%	21%	
Liberty	99	<1	99	1405	538	1,942
	100%	0%		72%	28%	
Bear Valley	88	3	91	482	87	569
	97%	3%		85%	15%	
Total	34,015	619	34,634	147,007	73,583	220,590
	98%	2%		67%	33%	

(CPUC Data as of Dec. 2018)

2.3 “Winners and Losers” Under the Current Rule 20A Program Structure

Under the current Rule 20A program, the communities that benefitted the most are the largest cities and counties by population. These communities have received the highest levels of allocations and have seen the highest levels of expenditures over recent years. This is in part because the Rule 20A Tariff awards work credits to communities based on the number of meters that the IOUs serve relative to the total number of meters in their systems. The largest cities and counties have the highest proportion of meters and consequently receive the bulk of the work credit allocations. The larger communities likely are better able to dedicate greater internal staff and outside consulting services to help them plan for Rule 20A projects. Figure 2 below shows the top 10 communities in terms of expenditures in nominal dollars from 2005 to 2018. For

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more perspective, the utilities prepared maps in advance of the April 22-23, 2019 CPUC Rule 20 Workshop that provides a geospatial representation of the communities that have seen the highest level of benefits and those which have not. The maps suggest that the economic core coastal areas in California such as the San Francisco Bay Area and San Diego see the highest levels of undergrounding through the Rule 20A program. They also seem to indicate that rural areas may only see limited to no benefits from the program. See Appendix A for the utility maps.

As a caveat, it is worth noting that the maps are only reflective of undergrounding expenditure under Rule 20A. For instance, they do not reflect the benefits that communities have seen with new underground distribution and service line extensions in newer neighborhoods and commercial areas per Electric Tariff Rules 15 and 16.

Figure 2. Cities and Counties with the Highest Levels of Rule 20A Nominal Expenditures (2005-2018)

	Community	Total Work Credit Expenditures (2005-2018)
1	City and County of San Francisco	\$174,194,533
2	City of San Diego	\$123,959,969
3	Unincorporated Los Angeles County	\$80,199,098
4	Unincorporated San Diego County	\$66,219,539
5	City of Long Beach	\$66,113,635
6	City of Oakland	\$59,290,182
7	City of San Jose	\$54,445,341
8	Unincorporated San Bernardino County	\$38,824,162
9	City of Fresno	\$ 34,846,837
10	City of Chula Vista	\$30,601,828

(CPUC Data as of April 2019)

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While the communities shown above have completed projects worth hundreds of millions of dollars funded by general ratepayers' contributions, there are 82 communities across the State which have not completed a single project since 2005. Ratepayers in these communities have contributed to the cost of undergrounding projects outside of their communities without seeing any projects initiated or completed in their own communities. See Figure 3 below for the list of these communities.

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Figure 3. Communities that Did Not Complete Any Rule 20A Projects 2005-Present

Utility	Total Rule 20A Expenditures 1967-2018 (Million USD)	Total No. of Communities Served	Percent of Communities Which Have Not Completed Projects 2005-Present	Communities which have not completed projects 2005 – Present
PG&E	\$1,500	266	11%	(30 Total) Unincorporated Alpine County, Atherton, Biggs, Blue Lake, Brisbane, Buellton, Calistoga, Cloverdale, Corcoran, Dos Palos, Foster City, Ione, Lakeport, Lassen County, Livingston, Maricopa, Marysville, Mendota, Menlo Park, Monte Sereno, Oakley, Plymouth, Point Arena, Roseville, Unincorporated Sacramento County, Unincorporated San Benito County, San Bruno, San Joaquin, San Juan Bautista, Saratoga
SCE	\$1,200	208	12%	(24 Total) Aliso Viejo, Anaheim, Banning, Calabasas, Colton, Eastvale, Glendale, Goleta, Grand Terrace, Jurupa Valley, Laguna Hills, Laguna Niguel, Laguna Woods, City of Los Angeles, Menifee, Pasadena, Rancho Santa Margarita, City of Riverside, Unincorporated Imperial County, Unincorporated Madera County, Unincorporated San Diego County, Unincorporated Tuolumne County, Wildomar, Yucca Valley
SDG&E	\$735.3	27	11%	(3 Total) Dana Point, Laguna Beach, Mission Viejo
Liberty	\$20.10	10	80%	(8 Total) Alpine County, Mono County, Nevada County, Plumas County, El Dorado County, Portola, Loyalton, Sierra County
PacifiCorp	\$4.20	16	94%	(14 Total) Alturas, Modoc County, Crescent City, Del Norte County, Shasta County, Dorris, Dunsmuir, Etna, Fort Jones, Montague, Mt. Shasta, Tulelake, Yreka, Siskiyou County
Bear Valley	\$0	2	100%	(2 Total) Big Bear Lake, Unincorporated San Bernardino County
Total	\$3,460	529	16%	82 Total

3. Rule 20 Program Goals, Challenges and Guiding Principles

3.1 Current Program Goals

The current Rule 20 program is focused on promoting the construction of city- and county-sited undergrounding projects that enhance the appearance of public areas such as major corridors, parks and natural areas. Broad participation in the program is encouraged by proportionately allocating work credits based on the number of meters in a community regardless of its location and if it is urban, suburban and rural. The program is also structured to assist communities that may not have enough work credits to initiate a project by allowing them to borrow work credits up to five-years ahead. The program also incentivizes businesses, homeowners, and governmental entities with a modest contribution to construct projects through its Rule 20B and Rule 20C sub-programs that may not necessarily benefit the general public.

The program is not currently focused on safety (i.e. wildfire or traffic safety) or reliability and does not prioritize projects based on these concerns, though these are benefits commonly associated with undergrounding in general. While the Rule 20 program is not oriented towards safety enhancement, the utilities engage in strategic undergrounding under limited circumstances for safety enhancement or for technical reasons. For instance, the utilities developed Wildfire Mitigation Plans (WMPs) in compliance with SB 901 to detail their plans for increasing system awareness and fire hardening their grids in high fire risk areas, known as the HFTD. In PG&E's 2019 WMP for example, PG&E proposed fire hardening 7,100 circuit miles of their system in the HFTD by "upgrading or replacing transformers to operate with more fire-resistant fluids, installing more resilient poles to increase pole strength and fire resistance, and in rare cases, undergrounding."⁷

The program does not offer any additional funding or assistance to communities who are smaller or disadvantaged. Furthermore, the program is not intended to underground all the overhead electric facilities in the State as that would be cost prohibitive.

3.2 Challenges to the Existing Program

Over the past several years, the CPUC's Rule 20 program has been fraught with issues related to the allocation of work credits and the buildup of unused Rule 20A work credits across the State. As of March 2019, there is a balance of \$489.3 million in equivalent unused and un-committed work credits among the communities served by all the utilities.⁸ Additionally, 57 communities

⁷ [PG&E 2019 Wildfire Mitigation Plan](#), p.13-14.

⁸ The total unused, uncommitted Rule 20A work credits by utility are as follows:

- PG&E – \$254 Million

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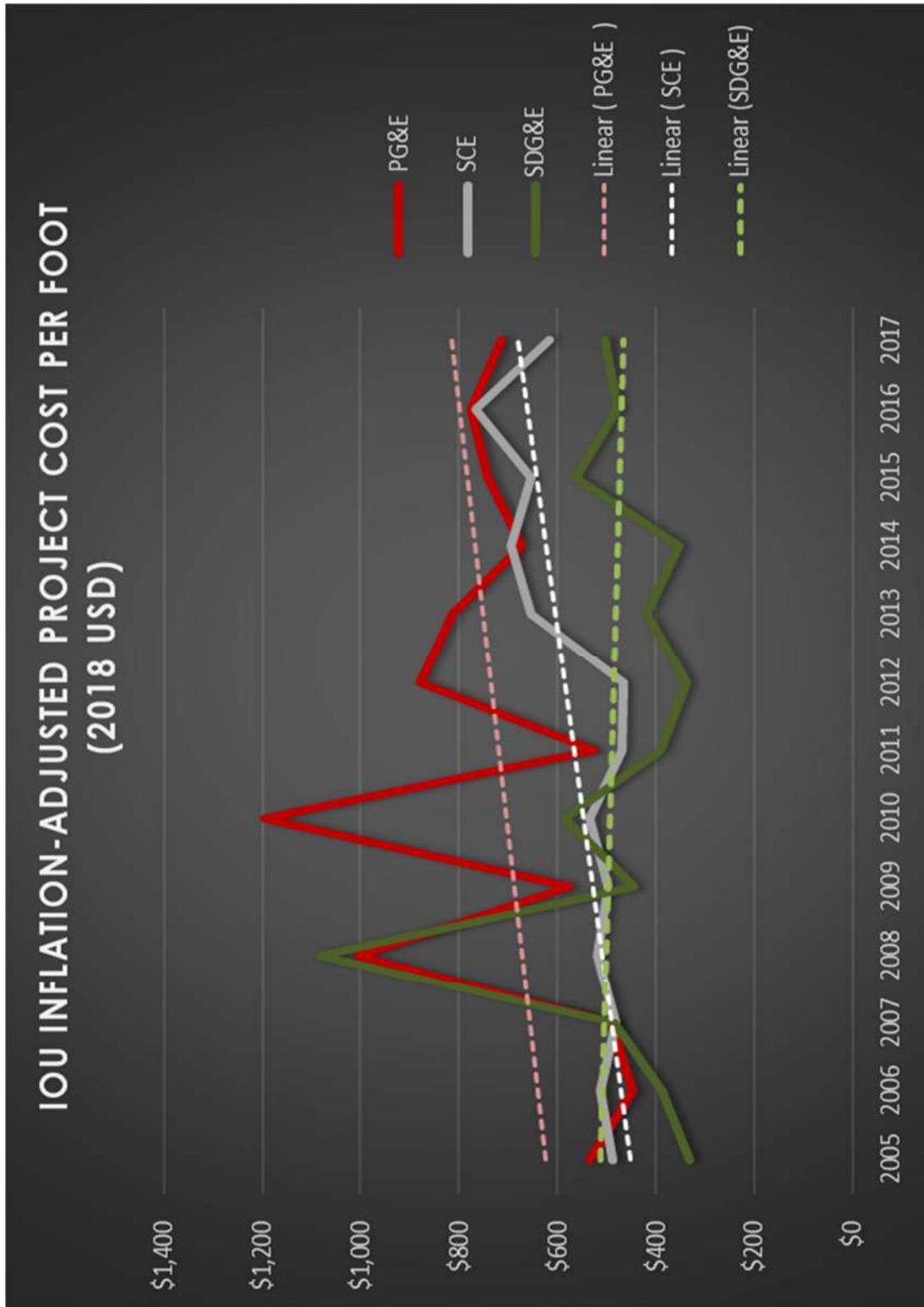
have borrowed beyond the 5 year forward limit placing them in “work credit debt” and some have work debt that exceeds 50 years in equivalent annual allocations. See Table 3 on page 49 for more details. Through an unsanctioned secondary work credit marketplace, some communities sell, trade, or donate their unused work credits to other communities that need them to complete a project. While there is a provision in the Rule 20A Tariff for reallocating unused work credits from inactive communities to those in need of additional credits, it has seen limited use and appears to be an unworkable solution to work credit shortfalls.

Numerous municipalities have expressed that the current Rule 20A is not meeting their needs as the program is too narrowly focused on aesthetic enhancement. Instead, these municipalities are eager to leverage the program to enhance wildfire mitigation and meet other community safety and reliability objectives. Additionally, some municipalities report that the electric utilities and telecommunications companies are challenging to work with due to a misalignment of incentives for timely and cost-efficient project completion and due to disagreements over cost responsibility. Consequently, there have been several instances where project costs have vastly exceeded design cost estimates and project timelines have been drawn out seven years or longer. Complicating the matter is that the utilities are incentivized to hold back on completing projects, to ensure that they do not overspend relative to their approved GRC budgeted amounts. Furthermore, by delaying project completion, the cost of the projects and in turn the cost of the capital of the underground facilities increases which allows the utilities to put higher amounts into ratebase than they would otherwise be able to.

Another issue with the program in recent years is the significant increase in project costs. Data from the R.17-05-010 discovery and the PG&E Rule 20A Audit (discussed in more detail below) demonstrate that the project costs in real terms have increased by approximately 33 percent and 44 percent for PG&E and SCE respectively. On the other hand, SDG&E’s costs appear to have declined modestly by less than six percent. See Figure 4 below.

-
- SCE – \$207.6 Million
 - SDG&E – (\$79.1Million); the \$489.3 million total excludes SDG&E’s over-commitment of \$79.1 million
 - Liberty – \$18.9 Million
 - PacifiCorp – \$8.8 Million
 - Bear Valley – \$0

Figure 4. Inflation-Adjusted Cost per Foot for all IOUs 2005-2017 (in 2018 USD)



(CPUC Data as of April 2019)

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Issues Uncovered in the PG&E Rule 20A Audit

The Rule 20A Program Audit, conducted by AzP Consulting in compliance with D.18-03-022 of the PG&E 2017 Test Year GRC Application (A.)15-09-001, uncovered several issues with PG&E's administration of the Rule 20A program.^{9,10} Between, 2007 and 2016, the Audit found that PG&E consistently underspent their annual Rule 20A GRC budgets for every year over the 10-year period. Of the \$555,776,000 that PG&E collected in rates for Rule 20A cumulatively over this period, PG&E spent \$123 million, or 22 percent, on programs other than Rule 20A. As a consequence of reprioritizing funds away from Rule 20A, several of PG&E's Rule 20A projects experienced project delays and project cost increases leading to great frustration by the affected communities. AzP Consulting's assessment of program metrics shows PG&E's assertion that measures such as creating Rule 20A government liaison positions and revising the Rule 20 Program Guidebook and Rule 20A General Conditions Agreement have increased the ability of PG&E to carry out Rule 20A projects is inconsistent with the data on PG&E's actual program performance. Furthermore, PG&E's internal controls were found to be insufficient and unable to facilitate the proper functioning and management of PG&E's Rule 20A program. The CPUC is still considering further actions to rectify these issues with PG&E's Rule 20A program.

The Audit also found that relative to recognized nation-wide industry costs reported in the Edison Electric Institute's (EEI) 2012 study on undergrounding, PG&E's costs per converted mile were higher than the "maximum" conversion cost for two out of the three population densities – rural (50 or fewer customers per square mile) and suburban (51 to 149 customers per square mile). EEI's suburban undergrounding costs range from \$329,280 to \$2,541,000 while PG&E's average cost was reported to be \$4,790,559. Similarly, EEI's rural undergrounding costs ranged from \$166,005 to \$2,058,000 while PG&E's average cost was \$2,540,321. Additionally, PG&E reported to the auditors that it did not perform any benchmarking studies from 2007 to present and did not provide any explanation as to why its costs were higher than nation-wide average undergrounding costs.¹¹

While the D.18-03-022 audit was specific to PG&E's Rule 20A program, the Audit Report recommendations may be applicable to other utilities and offer them a means of enhancing their Rule 20A programs. AzP Consulting's findings and recommendations were considered in the formation of Staff's recommendation for this proposal detailed in the subsequent sections.

⁹ For the full text for D.18-03-022, please visit: <http://docs.cpuc.ca.gov/DecisionsSearchForm.aspx>.

¹⁰ Please see the following link to the PG&E Rule 20A Audit final report: <https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442462983>.

¹¹ While the audit was unable to provide an explanation for PG&E's relatively high conversion costs, cities such as the Town of Tiburon have reported that costs have increased in recent years due in part to constraints in the construction market. In a 2018 Tiburon Staff Report on a recently cancelled Rule 20A project, Tiburon Staff cited reconstruction efforts for the Oroville Dam, the Napa and Sonoma county rebuild post 2017 wildfires, increased spending by Caltrans, and labor shortages as drivers behind construction constraints and cost drivers. For more information, see: https://townoftiburon.granicus.com/MetaViewer.php?view_id=5&clip_id=197&meta_id=9477.

3.3 Proposed Guiding Principles

Staff recommends the following guiding principles to guide the program reform of Rule 20:

- 1) Program objectives should be defined and made relevant to current undergrounding goals held by various stakeholders including safety and reliability.**

These new objectives can include a focus on safety, reliability, equity and the alignment of cost allocation with cost causation. Undergrounding safety objectives will be focused on providing communities with the ability to use their limited funds to underground areas that pose the greatest risk for wildfires or impeding emergency evacuations. Similarly, the proposed reliability goals will allow communities to underground circuits that are subject to chronic weather-related outages. The equity objectives will be focused on providing ample undergrounding opportunities for large and small communities alike and the need to target communities which have historically not benefitted from the program.

- 2) Program reform should be informed by the governmental entities which have benefitted from undergrounding and those which have not.**

As is described in Section 2.3 above, the primary beneficiaries of the Rule 20 program are the economic core cities in coastal California. However, it is not simply the largest cities that have seen the most benefits from the CPUC's various undergrounding programs, but also the outlying suburbs of the economic core which were built out with underground utilities since the 1970s.¹² All of these newer communities have seen significant benefits from underground utilities that have been subsidized in part by older communities which are served by overhead facilities.

- 3) Maintain regulatory efficiency of the program.**

The utilities should remain responsible for day-to-day administration. Staff intends to keep its oversight role over the program and mediate issues when necessary. Staff does not support taking on additional program administration responsibilities unless it is warranted.

- 4) Minimize general ratepayer impacts.**

Undergrounding for aesthetic purposes in localized areas benefits few ratepayers at the expense of the many. While society at large may benefit from the reduction of overhead facilities in scenic viewsheds, it is not a sustainable or equitable proposition to continue placing the burden on ratepayers at large. Undergrounding of overhead infrastructure can

¹² Electric Tariff Rules 15 and 16 have required that all new distribution line extensions and service extensions in both residential and commercial areas be constructed underground since the 1970s. These Tariff requirements are separate from the CPUC Rule 20 program.

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be conducted when desired by local communities, but costs should be primarily borne by those who will benefit directly from the projects.

5) Recognize and encourage projects that can leverage local funds.

Staff is promoting program reforms that will incentivize projects funded by local communities such through Rule 20B or 20C, and through municipal surcharge-based programs such as the City of San Diego’s undergrounding surcharge program. The CPUC does not oversee this type of program but can authorize the utility to collect the franchise fee through rates that goes directly to funding the undergrounding. (See Section 2.1, pg. 10-11 and Section 4.2, pg. 36 for more details)

6) Improve program operation and efficiency.

Staff seeks to resolve common issues in the program that prevent timely and cost-efficient undergrounding. Furthermore, Staff intends to uncomplicate the design of the program and remove program barriers to entry.

4. Modifications to Rule 20 Tariff

This Section, in addition to Section 5 and 6, begins with background information on specific program issues related to recent experience with the Rule 20 program, and various options for resolving these problems. Many of the options presented are not mutually exclusive and those recommended by Staff are indicated as such in parenthesis.

4.1 Rule 20 Project Eligibility Criteria

Background

The Rule 20A project eligibility criteria were initially developed in 1967 in D.73078 and were focused specifically on aesthetics and traffic considerations.¹³ Since 1967, the criteria have seen subsequent refinements and any new proposed Rule 20A project must be at a minimum of 600 feet or one block (whichever is less) and meet one or more of the five criteria listed below:¹⁴

- 1) Such undergrounding will avoid or eliminate an unusually heavy concentration of overhead electric facilities;

¹³ See [D.73078](#) for more information.

¹⁴ The criteria for Rule 20A projects are listed below. Note that the third criteria is only featured in [SDG&E’s Rule 20A tariff](#). While not a public interest criteria per se, [PG&E’s Rule 20A Tariff](#) requires in 1.A.c. that the governing body has: “Acknowledged that wheelchair access is in the public interest and will be considered as a basis for defining the boundaries of projects that otherwise qualify for Rule 20A under the existing criteria set forth in Section A(1)(a) above.”

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- 2) The street or 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 (SDG&E only);
- 4) The street or 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; or
- 5) The street or 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.

Several communities in recent years have argued that the criteria for Rule 20A is too restrictive and that they are interested in undergrounding for safety and reliability reasons. In the wake of the destructive wildfires that occurred across the state in 2017 and 2018, some communities have expressed interest in leveraging Rule 20A funds to underground overhead lines in high fire threat areas for wildfire risk mitigation and ingress and egress routes in communities to prevent poles and live wires from blocking evacuation routes. There is also an expressed interest among some communities to reduce vehicle-pole collisions in certain areas.

Another issue is that the existing criteria is not standard among all the utilities (as SDG&E is the only utility that lists impeded wheelchair access) and the first two criteria are not very specific with regards to an "unusually heavy concentration of overhead electric facilities" or a "heavy volume of pedestrian or vehicular traffic." There is a fair bit of confusion and dispute with these criteria, though the utilities have authority to interpret the criteria and determine if a proposed project meets any of them or not. For example, with the "heavy volume of pedestrian or vehicular traffic," PG&E has in practice interpreted this to mean that such streets carry through traffic as opposed to only serving local traffic and checks to see if the streets meet the major collector/arterial criterion as part of their evaluation. In the event that a community consults with the utility and disagree with its evaluation of the criteria for a given area, the community would have little recourse but to file a complaint with the CPUC.

Options

Note: Options B-F are not mutually exclusive.

A. Status Quo – Maintain Current Rule 20 Public Interest Criteria

Under the status quo scenario, the project eligibility criteria remain the same. The downside of status quo is the evolving public interest would not be fully met under criteria focused almost entirely on aesthetic enhancement.

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B. Safety and Reliability as additional criteria (Staff Recommendation)

Undergrounding can be an effective means of enhancing safety and reliability of the distribution system and under this proposal there are several additions to the Rule 20A eligibility criteria to encourage projects that meet these ends.

We recommend including wildfire mitigation as one additional safety criteria because of strong interest from stakeholders. Each community can leverage a limited pool of ratepayer funds for undergrounding projects. If a community wants to prioritize their limited Rule 20 funds on undergrounding to address wildfire safety, staff believes that this option should be added to the public interest criteria. See the proposed criteria below:

- 6) The existing above ground infrastructure is within a Tier 2 or Tier 3 area of the State's High Fire-Threat District as defined by the CPUC and the California Department Forestry and Fire Protection:

We caution the parties to have realistic expectations. Given that it will take over 3,000 years to covert the nearly 147,000 miles of overhead distribution lines to undergrounding and the high cost of conversion, this program change would have limited impact on wildfire safety. Additionally, the ALJ Guidance Ruling noted that there are several open wildfire-related dockets that may have a much greater impact on wildfire mitigation than the Rule 20A program. Staff agrees and finds that transforming Rule 20A into a wildfire mitigation program may not be the most cost-effective means of addressing wildfire risk. The utilities reported to Staff that undergrounding costs between \$2.6 million and \$6.1 million per mile which is far more expensive than other fire hardening measures such as replacing wooden poles with steel poles and installing covered conductors which the utilities report as costing \$480,000 per mile.¹⁵

In addition, projects that either underground overhead infrastructure along county-designated evacuation routes and/or major ingress and egress roads can reduce the risk of escape routes being blocked by fallen poles and live wires during natural disasters. To that end, the following proposed criterion states:

- 7) The street or road or right-of-way serves as an egress, ingress, or is designated an evacuation route by local or state government entities.

Another safety-related issue along roadways that could be addressed in revised Rule 20A criteria is that above ground infrastructure may reduce road users' visibility and increase the

¹⁵ Steel poles and covered conductors have been identified as a preferred method for fire hardening in the State's High Fire Threat District. According to SCE in its Grid Safety and Resiliency Program (GSRP) filing (A.18-09-002) the incremental cost of upgrading wooden poles to fire resistant steel composite poles is \$52,000 per mile and installing covered conductors is \$428,000 per mile. For more information, see pages 54-54 of SCE's GSRP testimony: <https://www.edison.com/content/dam/eix/documents/investors/wildfires-document-library/201809-gsrp-filing.pdf>.

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risk of accidents in areas such as in intersections. To minimize this risk, the proposed criterion states:

- 8) The above ground infrastructure dangerously limits visibility for motorists, pedestrians, bicyclists, and/or other road users, particularly in intersections;

Additionally, the above ground infrastructure may be at high risk for vehicle damage, such as vehicle-pole collision, due to the placement of the poles along the road and the area's weather. The proposed criterion eight would allow for the conversion of such overhead equipment to qualify under Rule 20A:

- 9) The existing above ground infrastructure is along a road or right-of way that has a history of vehicle-pole collisions;

Similar to Section 4.3.B, these proposed new criteria would be applicable to Rule 20A if it is either continued or sunsetted, and to a modified Rule 20B program.

C. Refine and standardize existing Rule 20 public interest criteria (Staff Recommendation)

The CPUC would refine the existing public interest criteria used to determine project eligibility in the Rule 20A Tariff to include objective requirements, add clarity, and allow more projects to qualify that are in the public interest without changing the focus away from aesthetic and traffic concerns. These enhanced criteria would be applicable to Rule 20A if it is either continued or sunsetted, and to a modified Rule 20B program. See the proposed changes below in redline.

- 1) Such undergrounding will avoid or eliminate an unusually heavy concentration of overhead electric facilities. This is defined as poles that serve circuits in addition to a single primary and secondary circuit;

This change would allow communities to utilize Rule 20A to underground not only poles that are unsightly due to too many electric wires, but also poles that may be unsafe due to pole overloading. The last sentence adds an objective description as to what an unusually heavy concentration of overhead electric facilities would be.

- 2) The street or road or right-of-way is ~~is~~ serves as a major thoroughfare for ~~is extensively used by~~ the general public and carries a heavy volume of pedestrian, bicycle, rail, vehicular, or other traffic. Heavy traffic volume means a minimum of 5,000 average trips per day among all personal and public transportation forms collectively;

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This removes “extensively used” which is vague and replaces it with a major thoroughfare. Bicycle and micro-mobility traffic are also included. Heavy traffic volume is clarified based on the State of California’s General Plan Guidelines minimum traffic volume for collectors.¹⁶

- 3) Wheelchair access is limited or impeded by existing above ground electric and/or telecommunications infrastructure including pad mounted facilities on sidewalks or in other areas in the pedestrian right-of-way that is otherwise not compliant with the Americans with Disabilities Act;

This adds clarity as to how wheelchair access is impeded and allows for any above ground infrastructure on sidewalks or other areas in the pedestrian right-of-way, such as plazas, that do not comply with the Americans with Disabilities Act to be undergrounded via Rule 20A.

- 4) The street or road or right-of-way adjoins or passes through a civic area or public recreation area or an area of significant ~~unusual~~ scenic, cultural and/or historic interest to the general public; or

This allows other areas of importance to the public to be eligible under Rule 20A in addition to scenic areas.

- 5) The street or road or right-of-way is considered an arterial street or major collector as defined by the California Department of Transportation’s California Road System functional classification system, in the Governor’s Office of Planning and Research General Plan Guidelines.

This change conforms the definitions of arterial and major collector to the definitions used by the California Department of Transportation and the rest of the State of California.

D. Include benefit-to-cost metrics as additional criteria (Staff Recommendation)

Under the current criteria, there is no consideration of costs or using benefit-to-cost analysis as a criterion under the Rule 20A program. By creating a new criterion which states that projects which meet a benefit-to-cost ratio of one or greater would qualify under Rule 20A, the program could encourage projects that would yield quantifiable positive net benefits for the ratepayers and the general public. Possible benefit streams could include safety, reliability, efficiency/economies of scale from combining undergrounding with other planned civil construction projects and/or constructing large-scale undergrounding projects, and replacement of aging overhead infrastructure. Alternatively, there could be a minimum benefit-to-cost threshold that would need to be met by any prospective project to qualify under Rule 20A to ensure that they are a prudent investment of ratepayer funds. The challenges with benefit-to-cost criteria are that there are limited third-party benefit-cost

¹⁶ 2003 General Plan Guidelines, page 256-257. For the full text of the State’s 2003 General Plan Guidelines, see: http://opr.ca.gov/docs/General_Plan_Guidelines_2003.pdf.

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studies that exist to draw from at this time for underground conversion, so the utilities would have to play a considerable role in determining the costs and benefits for the time being. Additional studies may be needed first by the utilities and/or third parties before the CPUC may be able to adopt benefit-to-cost metrics as additional criteria for the Rule 20A program.

E. Minimum Project Distance, Service Laterals, Panel Conversions – Rule 20A Section 3 (Staff Recommendation)

In Rule 20A Section 3, the utilities specify their requirements for the minimum project distance is the lesser of 600 feet or one block. Staff proposes to increase the minimum distance to the lesser of half a mile or five blocks to minimize ratepayer liability created by short, relatively expensive projects. Projects less than five blocks may be constructed as a Rule 20B project, if eligible, or as a Rule 20C project. Rural communities would be exempt from this minimum.

In terms of service laterals, the Tariff limits the length for installing underground service laterals at “no more than 100 feet” in Rule 20A Section three. However, some customers may require longer service laterals as the service lines may be routed through an alley, or because a 100-foot service lateral is otherwise infeasible. Staff recommends making 100 feet as an average for service laterals, rather than a maximum, so the utilities do not need to seek out a deviation from Rule 20A in order to underground a service line that exceeds 100 feet.

In Section three of the Rule 20A Tariff, the utilities currently limit the conversion of electric service panels to accept underground service at \$1,500 per service entrance, excluding permit fees. It is unclear how the \$1,500 figure was arrived at or if it is still a relevant figure today. Thus, Staff recommends changing the language of the fourth paragraph of Rule 20A Section three to:

The conversion of electric service panels to accept underground service. ~~up~~
to \$1,500 per service entrance, excluding permit fees.

F. Project Viability and Actionability (Staff Recommendation)

A final criterion to add to the prospective new list would be for the community to sufficiently demonstrate that the project is sufficiently funded and can be completed within seven years. To meet this criteria, the community would need to demonstrate that it could absorb at least a 100% increase in price, which is not a reasonable expectation for Class 5 project cost estimate during the project initiation or planning phase in accordance with the Association of the Advancement of Cost Engineering’s (AACE) estimation guidelines, with additional work credits or pre-arranged community funds.¹⁷ Furthermore, the prospective

¹⁷ Estimates at the planning phase of a project are based on less detailed information and assumed precision than estimates during the construction phase of a project. For more information about the AACE’s cost estimation guidelines, please visit the AAC website: <https://web.aacei.org/>.

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joint trench participants (i.e. city, telecommunications companies, electric utility) for the project would draft a binding charter for the project in which they would agree to complete the project in seven years or less and plan to execute it following the formation of the undergrounding district. This new criterion could act as a safeguard against projects dragging on for years or being prematurely cancelled due to a lack of adequate preparation or funding.

Questions for Parties:

- 4.1.i. If the CPUC ultimately decides to sunset the Rule 20A program, should any of the modified criteria be adopted for the sunset period?
- 4.1.ii. Is half a mile or 5 blocks a reasonable minimum distance for Rule 20A projects?
- 4.1.iii. How can the “unusually heavy concentration of overhead electric facilities” and “heavy volume of pedestrian or vehicular traffic” criteria be more objectively and concretely defined?
- 4.1.iv. How will the telecommunications companies modify their Rule 32 programs to align with any changes that may occur to the Rule 20 program as a result of this proceeding?
- 4.1.v. Are there other safety and reliability criteria that can be considered aside from those listed above in section D?

4.2 Rule 20A Work Credit Allocation Methodology

Background

Under the current allocation methodology, each IOU has a limit to the number of allocations that is set in their general rate cases for the Rule 20A program. The utilities allocate the Rule 20A work credits proportionately based on the number of meters (representing customer accounts) to all of their cities and counties within their service territories.¹⁸ All the utilities, except for PG&E, provide a baseline allocation based on the 1990 allocation amount to each of the communities and utilize an allocation formula to determine the additional amount of work credits to allocate.¹⁹ The allocation formula bases 50 percent of the allocations on the proportion of a municipality’s total overhead meters to the total system overhead meters that the utility serves. The other 50 percent is based on the total meters (both overhead and underground-served meters) in a municipality to the total utility system meters.

¹⁸ In 2019, the total allocations were \$102 million in total for 2019 for all the utilities. The breakdown of 2019 allocation amounts are as follows: Liberty Utilities – \$1.43 Million, PacifiCorp – \$520,000, Bear Valley – \$0, PG&E – \$41.3 Million, SCE – \$30.1 Million, and SDG&E – \$28.7 Million.

¹⁹ PG&E does not use a 1990 baseline; it simply uses the weighted allocation formula based on overhead and total meters. See [PG&E’s Rule 20 Tariff](#) for more information.

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This allocation structure has proven to be problematic in recent years as many communities receive too few work credits to undertake a project. There are many small communities that are put at a disadvantage by this methodology as they receive annual allocations that are less than \$250,000 – the minimum allocation amount needed to save enough work credits over a five year period to complete a project of five city blocks (about 3000 feet) in length.²⁰ Under the current allocation methodology, many of these communities face a significant financial barrier to entry and are fortunate to have completed any projects over the past 50 years. Smaller communities with insufficient allocations may save up work credits for decades but see the value of their saved allocations diminish in value due to inflation and rising project costs.

Further complicating matters is the fact that the current work credit allocation rules do not distinguish between communities that have an expressed interest in undergrounding, disadvantaged communities, or urban, rural and suburban communities. Many communities which either have most if not all of their system underground, or have not developed a five or ten year plan, or have not formed an undergrounding district, or otherwise have not expressed any interest in participating in Rule 20A still receive work credits each year under the current program structure. Partly as a result, there are \$489.3 million in unused and uncommitted work credits that are held by numerous communities across the state.

Another issue with the current allocation methodology is that it apportions work credits no differently to wealthy active communities as it does to disadvantaged communities which have completed few or no underground conversions through Rule 20A. The Rule 20A maps that the utilities developed in response to the R.17-05-010 show that the bulk of undergrounding investments in the state have occurred in the state's affluent and economic core areas, such as the San Francisco Bay Area and San Diego.

In recent years, the CPUC has become more focused on promoting environmental and social justice and has committed to advance equity in CPUC programs and policies. However, the Rule 20A program current allocation structure predates environmental and social justice objectives and, in some cases, underserves disadvantaged communities. The level of allocations can be insufficient for some disadvantaged communities, and allocations do not cover municipal administrative costs, which may represent a significant financial burden on disadvantaged communities and a barrier to entry for this program. However,

Finally, the current methodology is structured such that communities that are simply larger and have more meters are awarded more work credits. This process fails to consider factors such as the community's level of interest in the program, the level of potential aesthetic impacts, or urban density. Some communities may receive large allocations but do not

²⁰ This assumes a median project cost of \$825 per foot and that the community will utilize its five-year borrow. According to the data the utilities provided in response to the Staff data request for R.17-05-010, the cost per foot for Rule 20A projects ranges from \$500-\$1,150.

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prioritize aesthetic utility undergrounding in their neighborhoods for whatever reason. While the program is designed to enhance aesthetics there is no prioritization of allocations to areas where the highest societal aesthetic benefits can be made, such as near scenic coastlines, state parks or historical landmarks. Similarly, this allocation structure ignores urban density, which experts have associated with greater benefits relative to costs for undergrounding than in less dense areas due to greater economies of scale and due to existing and extensive underground rights-of-way.^{21,22}

Options

Note: Options B-G are not mutually exclusive.

A. Status quo Rule 20A Program

With the status quo option, the allocation methodology would remain unchanged and assumes that the CPUC does nothing to address work credit reallocation or trading and keeps the borrowing limit at five years. Should the CPUC choose this path, none of the equity issues would be resolved for the small and disadvantaged communities. Furthermore, many communities would still have to rely on the informal, unregulated work credit trading market, reallocation and the five year borrow in order to make up for insufficient allocation levels.

B. Eliminate Rule 20A, require cities and counties to leverage Rule 20B and 20C as written

In this scenario, the CPUC eliminates the Rule 20A program which leaves the cities and counties with Rule 20B and 20C programs to construct undergrounding projects in their respective jurisdictions. Under Rule 20B, a city or county can construct an undergrounding project that otherwise would not meet any of the Rule 20A criteria and receive a 20 to 40 percent ratepayer contribution provided that the project would include both sides of the street for a minimum of one block or 600 feet. In Rule 20C, there is no minimum length requirement and like Rule 20B, there is no public interest that the community's project would need to meet.

There are several benefits to this proposal. The equity issues around the buying, selling, and reallocating work credits would no longer be present if 20A is eliminated. The Communities would continue to benefit from a 20-40 percent ratepayer contribution from the utility for projects and can choose projects without the constraint of the Rule 20A project eligibility

²¹ Larsen, Peter H., "[Severe Weather, Power Outages, and A Decision To Improve Electric Utility Reliability](#)," PhD dissertation, Stanford University, 2016, p.114.

²² To put this in perspective, a community such as Maywood in unincorporated Los Angeles County with a population density of 23,216 per square mile would not receive a higher weighting with its Rule 20A allocation than Long Beach which has less than half of Maywood's population density at 9,191 people per square mile. Only the aggregate number of meters are considered in the allocation formula.

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criteria. There would not be any dispute as to whether projects would qualify or not under the five Rule 20A criteria. Finally, the allocation of undergrounding costs in the Rule 20 program would better match cost causation as the communities would have to pay for the bulk of their projects rather than the ratepayers who may not live in the community.

However, there are several drawbacks of this option. For instance, the 20-40 percent ratepayer contribution might not be insufficient to reduce barriers to entry to the Rule 20 program for smaller and disadvantaged communities. The CPUC may want to consider increasing the ratepayer contribution to 50 percent for smaller and disadvantaged communities or institute a matching fund scheme to enable these communities to obtain enough funding to construct projects through the Rule 20B program. Cities and counties would likely not be in favor of eliminating 20A without providing a comparable substitute. Furthermore, with the elimination of the public interest criteria, there would be no guarantee that undergrounding would occur in areas of interest to the general public or in disadvantaged communities.

C. Modify Rule 20B to Incorporate Tiered Ratepayer Contributions and Sunset the Rule 20A Allocation-Based Program (Staff Recommendation)

Another option for moving away from the allocation-based Rule 20A program would be for the CPUC to end Rule 20A and replace it with an enhanced Rule 20B program which would provide higher levels of ratepayer contributions to applicants on a tiered basis. The modified Rule 20B program would have three ratepayer contribution tiers for applicants based on public interest criteria and policy objectives:

Tier 1 – Ratepayer Contribution = 20%

Minimum distance of one block or 600 feet on both sides of the street, whichever the lesser. Tier 1 is roughly equivalent to the current 20B program.

Tier 2 – Ratepayer Contribution = 30%

Tier 1 **and** meets one or more of the revised Rule 20A public interest criteria proposed in the staff proposal including aesthetics, safety, and fire threat mitigation.

Tier 3 – Ratepayer Contribution = 50%

Tier 2 **and** meets one or more of the following equity criteria:

- Lies within or is adjacent to a disadvantaged community census tract the time of creating the undergrounding district;
- Community has not completed a Rule 20 project in 10 or more years²³;

²³ If a community is in work credit debt in excess of 5 years, then it cannot meet this criterion.

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Replacing the Rule 20A program with a tiered Rule 20B program could potentially resolve many of the equity issues and administrative challenges that have plagued the program:

- Applicants will be responsible for most of the costs of undergrounding which better reflects cost causation principles;
- Projects would be less of a burden on the general ratepayer than in the case of Rule 20A;
- Communities will be encouraged to form utility surcharge programs to accelerate local undergrounding;
- The playing field would be more even as communities would no longer be reliant on unequal levels of work credit allocations;
- Projects that address one or more of the expanded public interest criteria will receive a modestly higher level of ratepayer contribution;
- The program would be simplified through the elimination of the work credits, and program flaws related to the allocations, borrowing, trading, etc.;
- Expanded public interest criteria enable many different community interests to be served by undergrounding; and
- Disadvantaged and underserved communities will have a greater opportunity to complete projects using the higher tier of ratepayer contribution.

Transition Sunset of the Rule 20A Program

To move towards the new 20B style program requires an orderly transition and sunset of the existing Rule 20A program. The 10-year transition can follow these steps:

Year 1 – As of January 1st of year 1, there will be no issuance of work credit allocations and work credit trading shall be prohibited. One exception is counties may distribute their county-level work credits to municipalities within the county provided there is no exchange of money or things of value. Communities may continue to redeem their existing work credits for Rule 20A projects throughout the 10-year transition. They may also continue to use their Rule 20A credits to “seed” the pre-project engineering and design costs of Rule 20B projects per current rules.

Year 10 – At the end of the transition period any remaining Rule 20A credits must be applied to a designated undergrounding district in the community. Any unused Rule 20A credits will be eliminated and all work credit balances will revert to zero.

With the equity benefits and flexibility of this new program design it is still possible that some of the smaller communities with fewer resources may have difficulty engaging in this program due to competing priorities or limited resources. To address this issue, it may be necessary to issue a one-time amount of work credits to historically underserved communities that have long paid into Rule 20A but received little benefit. The purpose of

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this one-time allocation is to allow these communities to have the opportunity to complete an undergrounding project in the near term. One way to operationalize this one-time allocation of funds would be for the communities to apply into a grant program, such as the one described below in Option H.

D. Incentivize Municipal Undergrounding Surcharge Programs (Staff Recommendation)

As described earlier in the proposed program guidelines, Staff is interested in promoting more projects that can leverage local funding. Not only is Staff interested in increasing the subsidy that is available to Rule 20B applicants under certain circumstances, but Staff would also like to encourage municipalities to institute self-taxation programs such as the City of San Diego's program. To that end, Staff recommends instituting a dollar-per-dollar match of up to \$2 million per year per participating municipality that would be funded by the IOUs. In order to be eligible, a community must have a self-taxation program such as a municipal utility surcharge that is operational.

There are several benefits that this proposal offers. Self-taxation programs significantly lessen the burden on the general ratepayer by requiring only the ratepayers or taxpayers within a given municipality to be responsible for most of the costs. This matching structure would provide a significant level of assistance to communities, while capping the rate impact of the matching funds.

Surcharge or self-taxation programs also simplify the ratemaking aspect of a utility's undergrounding program as the costs simply pass through to the ratepayers within a municipality. The costs would not need to be approved as part of a forecast in a utility general rate case. However, the matching funds would need to be approved in a general rate case which adds some complication to the process.

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Options E and F described below assume that work credit allocations are to continue. Revising the work credit methodology will be unnecessary if Option C is adopted.

E. PG&E's, SCE's and SDG&E's proposal: Rule 20A allocation methodology based solely on overhead meters

During the April 2019 workshop, the investor-owned utilities (IOUs) recommended that the allocation methodology be changed so that the formula would be based entirely on the overhead fed meters in a community and eliminate the 1990 allocation baseline. According to the IOUs, this would simplify the calculation, which is currently based 50 percent on the total meters and 50 percent on the number of overhead fed meters for each community. Furthermore, it would eliminate the outdated "1990 base" from the calculations.

The effect of this allocation methodology change would be an increase in allocations to communities that have a higher ratio of overhead fed meters, such as the City of Long Beach, while lowering the allocations to communities that have a high ratio of underground served meters, such as Foster City. This could potentially reduce the buildup of unused work credits across the state and reduce work credit trading as the communities with more overhead facilities and greater interest in Rule 20A would receive more work credits than communities that are already underground and may not have much need for their work credits and prefer to sell them instead. However, this may not make much of a difference to communities with small allocation levels and they may still struggle to come up with enough work credits for constructing projects. Additionally, this change does not address the transparency and efficiency issues around the unregulated buying, selling, and reallocating work credits. Furthermore, overhead fed meters are not the most accurate proxy for the total volume of overhead facilities; they are only representative of the actual service lines to homes and businesses and not primary and secondary circuits, which make up a significant portion of the overhead facilities. It may be that there are communities with few overhead fed meters that would end up receiving fewer work credits under this new methodology despite having many overhead facilities within their boundaries.

F. Overhead line miles as the basis of determining work credits

Another option for modifying the allocation methodology that the IOUs brought up during the workshop is to have overhead distribution line miles within a community's boundaries serve as the basis for determining the work credit allocation. As mentioned earlier meters fed by overhead service are not the most accurate proxy for the total volume of overhead distribution facilities. Thus, by having at least a percentage of the allocation formula be based on overhead line miles, the allocation formula would better reflect the full scope of overhead distribution facilities within a community's boundary. However, the IOUs did not recommend what percentage of the allocation would be based on the overhead line miles. The challenge with using the line miles as a basis for the allocation is that communities may

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receive a disproportionately large number of allocations simply by encompassing large geographic areas, such as Mono and Inyo Counties, though their population sizes and densities are small. Should the CPUC keep Rule 20A as an allocation-based program, then Staff recommends that line mileage should factor in no more than 25 percent of the allocation formula.

G. Allocation of mile points rather than work credits

Also referred to as “decoupling of dollars from miles,” this proposed methodology that the IOUs shared as an alternative during the workshop would change the allocation of work credits based on dollars to mile points. The annual mileage allocation would be based on the equivalent number of miles afforded by the utility’s 2019 work credit allocations unless otherwise changed in the GRC (e.g. SCE would allocate about 10 miles points among of its communities based on its 2019 allocation of \$30.1 million). Some communities would be eligible for an additional one-time baseline allocation of points equal to 3000 feet (equal to 5 city blocks or roughly half a mile)²⁴ and be allowed to use a one-time conversion of their unused Rule 20A work credits to mile points if they meet one or more of the following:

- The community has never completed a Rule 20A project;
- The community has 80 percent or more of its population living within disadvantaged community census tracts; or
- The community received \$100,000 or less in annual work credits in its 2019 allocation.

One advantage is that mile points protect against inflation and construction cost increases. Additionally, the mile points would not be marketable if the CPUC prohibits their selling, giving and trading. The borrowing-forward and reallocation provisions could still apply, so active communities would be able obtain additional points when needed. Furthermore, the proposed baseline and one-time conversion of work credits to points would help ensure that every community would have the opportunity to complete a project.

The challenges with the mile point system are that the mile point allocations may still be insufficient to reduce barriers to entry for smaller and disadvantaged communities as municipal administrative costs and constraints may prevent them from moving forward with a Rule 20A project. Moreover, mile points would not cover municipal administrative costs. Additionally, it is mile points would not apply to subsurface transformers, securing and paying for easements contaminated soils, and cultural resource findings without a change to the utilities’ general conditions agreements. One additional challenge with mile points is assigning their value in GRC budgets. It would be hard to project the cost of mile points as a

²⁴ A project of this length for an individual community would come at an estimated cost of between \$1.5 million and \$3.45 million.

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variety of factor can increase the cost of a project. Mile points could exasperate the unfunded liability problem already present with the existence of nearly half a billion dollars of unused work credits.

H. Replace the allocations with a grant program

While several of the modifications above (Options D, E and F) are focused on different variants of an allocation-based program for distributing work credits or mile points to the municipalities, this option would instead require municipalities to apply for grant funding to complete a project. With this Rule 20A program variant, the utilities would each separately create a pool of funds based on their approved Rule 20A budgets in the general rate case. The program administrator could award funds to communities based on a variety of criteria such as the population size and density of the community, if it is proposing a project in a disadvantaged community, if it is replacing aging or overhead infrastructure, if it would measurably enhance safety and reliability, scale of the project (i.e. large-scale), and if it has a benefit-to-cost ratio approaching 1:1 or better. This program design offers a centralized mechanism to award projects that will yield the highest societal benefits. Dedicated set asides in the funding pool for smaller and larger communities will ensure that large and small communities do not have to compete against each other for funding. Grant funding in the form of matching funds could also be provided to communities that establish a surcharge or self-taxation-based program such as in the case of the City of San Diego in the first year of such a program. The grant-based program could be part of the 10-year phaseout of Rule 20A.

There are several benefits that a grant-based program design would yield. For instance, a grant-based Rule 20A would create a more level playing field for cities and counties, particularly small and disadvantaged communities, as they would no longer be dependent on varying magnitudes of allocations or having to purchase work credits from other communities. The grant system would allow communities to move forward more quickly with projects by obtaining funds all at once rather than having to wait for many years to save enough work credit allocations. Grant funds if held in an interest-bearing, one-way balancing account could accumulate interest unlike a community's work credit balance, which loses value over time due to inflation and rising project completion costs. Furthermore, the grant program could incentivize projects that would yield high levels of benefits from various streams such as enhancing safety, reliability, efficiency/economies of scale, and/or by raising property values.

A grant-based Rule 20A would be challenging to administer regardless if it is administered by the utility, the CPUC, or a third-party such as the California Energy Commission. Additionally, it will take more time to design and implement relative to other options for continuing or modifying the current allocation-based program.

Questions for Parties:

- 4.2.i. Are there other allocation or grant designs from other utility or civil construction programs that could serve as a better model than ideas that have currently been proposed?
- 4.2.ii. What are some grant-based programs that could serve as an appropriate model for a grant-based Rule 20A program should one be adopted?
- 4.2.iii. Are there definitions for “urban,” “suburban” (or “urban clusters”) and “rural” areas that would be more appropriate for this proceeding and the Rule 20A program than U.S. Census Bureau’s definitions?
- 4.2.iv. Is one block or 600 feet a reasonable minimum distance for Rule 20A and Rule 20B or would five blocks or 3,000 feet be more reasonable?
- 4.2.v. Are there other items that would be reasonable for the Tier 1 or Tier 2 categories that can be objectively measured? (Such as a threshold of annual vehicle-pole collisions?)
- 4.2.vi. Is it necessary to have a one-time transition allocation of Rule 20A work credits to underserved/disadvantaged communities at the start of the transition to a revised Rule 20 program? If so, how much would be appropriate and what criteria should be used to determine eligibility?
- 4.2.vii. Who should bear the cost of the approximately \$93 million in work credit debt held among 58 communities if work credit balances are reverted to zero under the tiered Rule 20B program proposal? (See Section 6, page 50 for more information on communities in work credit debt)
- 4.2.viii. Should Rule 20B in its current or any revised form be subject to any annual limitations for the amount of rate payer funds a community can spend or the miles of lines that a community can convert to underground?
- 4.2.ix. Are there ways that the CPUC can better encourage or incentivize self-taxation or surcharge programs among the cities and counties to accelerate undergrounding?
- 4.2.x. How should local surcharge programs interact with the Rule 20 program, for example matching funds?

4.3 Sunsetting the Rule 20A and 20D Programs

Background

The notion of sunsetting the Rule 20A program was considered in the Scoping Ruling in question 27, “If the Rule 20A program is discontinued, how should the existing program be sunset?” Only the City of San Jose and Town of Portola Valley responded in their filed comments on the Scoping Memo and recommended against discontinuing the program.

Rule 20D may no longer serve a function in light of the utilities’ wildfire mitigation plans (“WMP”) which are intended to fire harden overhead infrastructure in the same high fire threat areas that would be eligible for Rule 20D projects. The utilities’ WMPs are not

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precluded from including undergrounding as a mitigation measure. Rule 20D projects may place higher costs on ratepayers than simply installing steel poles and covered conductors. Furthermore, the program may be too slow to complete undergrounding projects in light of the growing wildfire risk. Not a single Rule 20D project has been initiated since the program began in 2014 and any projects could take up to seven years to complete.

Staff Recommendation

Staff recommends gradually phasing out the existing Rule 20A and 20D programs over a 10-year period, which would allow projects that are either underway or about to be initiated to be completed with the funds that the communities have already committed to them. Annual allocations of work credits would , and communities would not be allowed to sell their remaining work credits with each other, but county entities may donate them to cities that are within the county. Staff recommends that this gradual sunset of Rule 20A be combined with option 4.2.C. to modify the Rule 20B program to incorporate tiered ratepayer contributions shown on page 20.

Questions for Parties:

- 4.3.i. Is 10 years a reasonable and sufficient amount of time to phase out the Rule 20A program in its current form?
- 4.3.ii. Should unused, uncommitted Rule 20A work credits be applicable to Rule 20B following the sunset period? If so, should there be a limit to the percentage of a Rule 20B project that can be funded through legacy Rule 20A work credits?

4.4 Options for Obtaining Additional Rule 20A Work Credits

Background

When communities require additional funding for projects beyond what they can accumulate through their annual allocations, there are a few of options that they commonly turn to obtain additional work credits. The most common approach is for communities to borrow forward against their future work credit allocations from the utility. The Rule 20A tariff allows for communities to borrow forward for a maximum of five years.

If five years' worth of additional work credits is insufficient for funding a project, the tariff allows for the utilities to reallocate unused work credits from communities that have been inactive in the Rule 20A program. Inactive communities are defined as cities or unincorporated counties that have not formally adopted a utility undergrounding, started, or completed construction of an undergrounding conversion project within the last eight years, or have received Rule 20A allocations from the utility for only five years or fewer due to recent incorporation. Based on the language in the Rule 20A tariff and the precedent set in

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Resolution E-4971, the reallocation provision may be invoked when additional funding is necessary for projects underway due to unforeseen funding shortfalls, but only after demonstrating that all alternatives for obtaining funding for the project have been exhausted. Rule 20A at Section 2.c states:

“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.”

The reallocation provision in the Rule 20A tariff has been invoked only twice over the past two decades and many communities and the utilities have expressed concern over equity issues that the reallocation provision poses. In circumstances in which a community experiences an unexpected increase in the cost estimates or a cost overrun during construction, the utilities would more commonly work with the community to reduce the scope of the project to lower the cost, or recommend that the community come up with additional funding on their own rather than invoke the reallocation provision. This practice causes frustration for everyone involved. The utility is forced to minimize the project and the community must lower its expectations or apply more funding. Even if the project is excellent and clearly in the spirit of the Rule 20A Tariff, the parties have in some cases little option but to shrink the project and leave facilities overhead in some areas in order to fit into the budget constraints. In some cases, communities would either pause or cancel their projects altogether as a result of cost increases.

In other cases, communities have engaged in work credit exchanges – such as buying, selling, trading, loaning, and donating – as a work-around so communities can obtain additional work credits and move forward with projects that they otherwise would not be able to fund. This work credit trading is mentioned nowhere in the tariff and at least 87.6 million work credits have been exchanged in an informal, unregulated secondary market.²⁵ While work credit trading can lend to greater market efficiency by allowing communities with greater interest in the program to purchase additional work credits from communities that have no immediate interest in constructing a Rule 20A project, there is no CPUC regulatory oversight or reporting of the transactions to the CPUC. There are no set terms for buying and selling, there is no market clearing house, and only a handful of communities appear to be privy to the work credit informal market. Furthermore, there are no restrictions as to how the proceeds may be used and there are instances of communities using proceeds towards projects unrelated to the provision of safe and reliable electric services.²⁶ Additionally, the utilities claim to be largely uninvolved with the process, though they are complicit by

²⁵ Per the utility R.17-05-010 Staff data request responses transmitted to the parties via email in January 2020.

²⁶ For instance, the City of Sonora used proceeds from selling 500,000 work credits to the City of Half Moon Bay to fund the construction of public restrooms. For more information, see: <http://www.uniondemocrat.com/localnews/5607248-151/sonora-council-approves-sale-of-utility-credits-to>.

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facilitating the final transfer of work credits from one community's work credit ledger to another.

Options (Assuming Rule 20A Continues)

A. Status Quo — unregulated work credit trading

Should no changes be made with regards to work credit trading, borrowing forward, and reallocation in this proceeding, it is likely that the communities that either receive high levels of allocations or are well versed in the program will continue to reap the benefits of the program while others struggle to get their projects underway. One can argue that the work credit trading process has demonstrated success and is able to reduce the unused work credit balance that has built up among the cities and counties. However, not many communities are aware that they can buy additional work credits and not all communities have the finances to purchase additional work credits.

Additionally, the reallocation process is controversial, as the utility must take away work credits without compensation and has been traditionally a slow process due to formal CPUC review and notification to inactive communities.

B. Regulated work credit trading

Under this scenario, the CPUC would formally recognize work credit trading as part of the Rule 20A program and implement guidelines with increased transparency for the process. For instance, communities would be free to sell to one another at rates between 25 cents to the dollar and dollar per dollar, but the final negotiated price must be included in a transaction request addressed to the utility. Communities that sell their work credits would be required to use their windfall for electric rate relief and would be prohibited from using their earnings to augment their general funds. The communities would be free to loan work credits to one another and are free to negotiate rates with one another at no higher than five percent subject to utility approval. Additionally, unincorporated counties would be free to donate work credits to cities within their boundaries subject to utility approval. The utility would be required to review all work credit transactions prior to granting approval and ensure that the buyers have a legislated undergrounding district for a workable project and that the seller's terms are reasonable. The utilities should be transparent about the guidelines by including this information in their updated Rule 20A guidebooks, in their annual allocation letters to the communities, during in-person meetings with the communities, and on their public websites. The utilities should also provide information about all work credit exchanges in their annual reporting to the CPUC.

By modifying the current work credit trading practices as described above, the process can potentially be made more transparent and more efficient at drawing down the balance of

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unused, uncommitted work credits. Additionally, by requiring sellers to use profits specifically for rate relief, the CPUC can ensure that ratepayers who have been paying into the Rule 20A program for years but have had few or no projects constructed in their area would see some form of relief since they cannot opt-out of paying into the program.

However, even with these rule modifications and rate relief for selling communities, many communities that do not receive enough work credits relative to their needs and interest in the program will likely continue to inject public funds into Rule 20A projects by purchasing work credits from other communities. This is problematic as the intent of Rule 20A is to have the ratepayers fund these costs. It is unclear whether it is reasonable to require the municipalities to cover these costs simply because the Rule 20A allocation process does not efficiently allocate funds to communities with an expressed interest in the program.

C. Prohibit unregulated work credit trading and only allow intra-county transfers (Staff Recommendation)

Under this proposal, the CPUC would forbid the trading of work credits effective for the remainder of the Rule 20A program. However, one important exception to the prohibition on credit trading is to allow county governments to distribute county level work credits to municipalities within their county borders. There are several reasons to allow this type of non-monetary transfer activity, such as:

- The benefitting cities are part of the same county;
- The county can have a transparent way of deciding which cities in its jurisdiction to transfer credits to; and
- Small municipalities find it difficult to accumulate sufficient work credits to conduct a Rule 20A project. Sharing the county level allocations can help small municipalities reach a sufficient quantity of credits for a project.

One final additional exception should be allowing adjacent municipalities to pool their credits to enable an undergrounding project that benefits the county or the adjoining communities even if not in the same county. These types of non-monetary credit transfers should be allowed.

The benefit of ending work credit trading include:

- Ends an opaque trading process;
- Prevents work credits from being monetized for non-undergrounding purposes; the exceptions listed above will retain a means for communities to easily access additional work credits when the allocations and five-year borrow do not suffice without having to spend municipal funds to obtain additional work credits.

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The downside of this proposal is that communities with no interest in participating in the Rule 20A program would no longer be able to monetize their unused work credits.

D. Borrowing forward up to ten years, or \$1 million

Another potential modification to the Rule 20A Tariff aside from adjusting the rules for work credit trading and reallocation would be to allow communities to borrow forward ten years of allocations or \$1 million, whichever is greater. As is the case under the current borrowing practice, it is clear from the experience of many of the communities that the five-year borrow is only effective for some communities and not those that receive small allocations of \$250,000 or less. By allowing communities to borrow forward at least \$1 million regardless of the size of the community, the program would allow communities of all sizes to move forward much faster with projects, rather than having to wait out a decade or more to accumulate the same level of work credits. As a result, project completion rates could potentially increase.

Conversely, allowing the communities to borrow forward at least \$1 million per project could represent a higher potential ratepayer liability due to a potentially higher number of projects going into ratebase. Another issue is that communities would likely go into work credit debt for 10 years or longer, thus limiting their future participation in the Rule 20A program. Additionally, 10 years or \$1 million may not be enough to meet a project's funding shortfall and the community may need to either put their project on hold or leverage its general fund in order to fund the project.

Another variant of this option would be to allow a community to request a "grant" to cover the work credit shortfall, especially if a community has not completed a project or if the project offers multiple benefits in addition to aesthetic enhancement. See Option H under Section 4.2.

Questions for Parties:

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| <p>4.4.i. Is 90 calendar days enough time for cities and counties to form a workable underground utility district? Would 90 business days be more appropriate?</p> <p>4.4.ii. Should the definitions for active and inactive communities be based on different criteria than project statuses or an active utility undergrounding district, such as having a current 5-year plan, 10-year plan, or sending the utility and the CPUC a letter of intent?</p> <p>4.4.iii. How have the communities benefitted from Rule 20A work credit trading?</p> <p>4.4.iv. Should the CPUC continue to allow work credit trading among the communities?</p> <p>4.4.v. How should the CPUC approach work credit debt should the Rule 20A program continue?</p> |
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4.5 Potential Rule 20D Modifications

Background

In comparison to the Rule 20A, 20B and 20C programs, Rule 20D is a fledgling program of limited scope that has yet to produce a project. Established in 2014 by D.14-01-002 exclusively for SDG&E's Fire Threat Zone (now recognized as part of the State's High Fire Threat District), Rule 20D was established to allow communities to work with SDG&E to identify undergrounding projects exclusively for wildfire risk mitigation.²⁷ To qualify, a project must be identified by SDG&E as a preferred method of wildfire mitigation for the given area. Rule 20D is structured to mirror Rule 20A with similar work credit-based structure, of which \$1 million were allocated by SDG&E in 2019, that allows for a five-year borrow and work credit reallocation.

However, Rule 20D is only focused on undergrounding the high-voltage primary circuits on the poles. Under the current Rule 20D structure, poles could remain standing after a project is complete as the program does not pay for the undergrounding of the communications facilities, secondary and service lines below 600 volts, or panel upgrades to accept underground service. According to SDG&E, these costs are not included in the Rule 20D program as the Program is only designed to convert the high-voltage (distribution lines 600 volts or greater) to underground as these pose the greatest wildfire risk.²⁸ However, it is possible that the lower-voltage secondary and service lines may still pose a wildfire risk. Additionally, the Rule 20D and Rule 20A work credits are held in separate balances by the utilities and cannot be intermingled for use in Rule 20D projects.

Options

Options A-B are mutually exclusive

A. Status Quo – continue current Rule 20D program

Under the status quo scenario, the Rule 20D program will remain exclusive to SDG&E and continue to see limited use due to the program's relatively small allocation amounts and restrictions for only covering the costs of undergrounding primary distribution lines and from allowing communities to utilize Rule 20A funds. A benefit to this option is that the Rule 20D program does not interfere with SDG&E's priorities for wildfire mitigation as set in its 2019 Wildfire Mitigation Plan, as proposed Rule 20D projects are few and have been identified to be a preferred means of wildfire mitigation. However, due to the small

²⁷ Please see the following link for the full text of D.14-01-002:

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M086/K541/86541422.PDF>.

²⁸ See SDG&E Opening Brief of A.11-00-002 at page 12

<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M031/K744/31744373.PDF> and SDG&E's Rule 20 Tariff.

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allocation amounts and the limitations described above, it is unclear if any projects will be completed soon. Another downside to this option is that many of the communities outside of SDG&E's Fire Threat Zone that are eager to utilize Rule 20D would be unable to do so.

B. Expand a refined Rule 20D

In this scenario, the CPUC would expand a refined Rule 20D program to all the utilities and encompass the State's High Fire Threat District Tier 2 and Tier 3 areas rather than SDG&E's Fire Threat Zone.²⁹ The refinements would allow the program to cover the costs of undergrounding all the electrical and telecommunications facilities, such as in Rule 20A and allow the communities to leverage their Rule 20A work credits to fund Rule 20D projects.³⁰ A refined version of the Rule 20D program that is expanded to beyond SDG&E's Fire Threat Zone would facilitate significantly higher levels of Rule 20D project completion in communities throughout the state. Should the program be expanded as described above, the utilities will need to plan carefully with interested communities to ensure that the Rule 20D program does not interfere with the utilities' priorities for wildfire mitigation as set in their Wildfire Mitigation Plans.

C. Terminate the Rule 20D Program (Staff Recommendation)

Rather than expand the Rule 20D program which has little to show for in SDG&E's service territory, Staff Recommends terminating the program and sunsetting it gradually as described in Section 4.1. In the event that Rule 20 program modifications take place, such as expanding the Rule 20 public interest criteria and/or establishing a replacement for the current Rule 20A program, Rule 20D will no longer serve a purpose as communities will have other opportunities to underground for wildfire mitigation outside of the WMP framework. Rule 20 D program goals could be met through adding wildfire mitigation to the 20 A and B programs.

²⁹ During the April 22-23 workshop for R.17-05-010, the Joint Local Governments expressed interest in leveraging Rule 20D in PG&E's service territory.

³⁰ Cost sharing among the electric and telecommunications companies in the joint trench would be structured similar to the structure in Rule 20A in which the facility owners bear the costs related to converting their own infrastructure to underground.

5. Rule 20 Program Reporting, Communication and Transparency

Background

Under the current Rule 20 program, the utilities inform communities, the CPUC and the public about the program primarily through their annual allocation letters to the communities, the annual allocation and completion reports to the CPUC, and information on their undergrounding webpages to the extent that they have one. The utilities have also dedicated staff to collaborate with municipal agencies and participate in community meetings. For instance, PG&E has several regional Rule 20 liaisons that assist the project managers and coordinate directly with the government agencies.

The allocation letters are sent to each of the communities in each utilities' service territory that receives work credits to explain what a given community's work credit allocation is for the year. The letters also explain the community's total work credit balance, mention the five-year borrow as a means of obtaining additional work credits, and provide contact information to dedicated staff. Apart from these items, the allocation letters are otherwise sparse on information. The letters make no mention of how the allocation for a given community was determined, what the allocation formula is or any reasons behind changes from prior years. The letters do not convey what current or recent project costs are in nearby communities to put the work credit balance into perspective. Additionally, the letters do not mention anything about work credit reallocation, the community's active or inactive status, any relevant contacts at the utility or the CPUC, a program website or handbook, and whether the community can sell its work credits or purchase more. Moreover, the letters do not contain information as to who to contact and what the process is to file a complaint with the CPUC. See Appendix B for an example allocation letter that PG&E sent to Humboldt County in 2017.

The annual allocation reports to the CPUC are similarly sparse on information and only show the individual allocations to the communities and the total allocation for all the communities. There is no mention of how the allocation formula was applied, the change in allocations, the work credit balances, which communities are active and inactive, or which have borrowed forward five or more years of allocations. See Appendix C for an example allocation report that SCE sent to the CPUC in 2018.

The annual completion reports offer much more detail in comparison, but they could benefit from refinements. The completion report shows high-level summary statistics for program expenditures and unexpended work credits for the year and cumulative, breakdowns by Rule 20A, 20B and 20C projects.

See Appendix D for an example completion report that SDG&E submitted for calendar year 2018. During the April 2019 workshop, the utilities and various parties pointed out shortfalls

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with the current reporting structure such as the lack of data on Rule 20A project activity over the report year, particularly with projects in the queue or in-progress. The parties as explained that the reports omit data on actual project costs inclusive of the telecommunications costs, an explanation of the cost components, what the project costs estimates and any variances are, and costs on a dollar per foot/mile basis. Additionally, the utilities expressed concern over the sections that focus on Rule 20B and 20C given how labor-intensive it is to prepare that information for the report.

In addition to the undergrounding letters, reports and webpages, the utilities have also attempted to utilize a Rule 20 Guidebook, based on PG&E's 1996 "Underground Utilities Conversion Planning Guide" with the cities and counties, but it was never adopted by the League of California Cities (LOCC) and is not in use. From the 1980s to the early 2000s, PG&E, Pacific Bell (now AT&T) and the League of California Cities jointly developed and adopted two versions of a Rule 20 Guidebook to help inform the communities engaging in the program on topics ranging from project planning, funding, coordination and construction. It is unclear how widely these guidebooks were used, but during the April 2019 workshop, the City of San Jose had remarked that the guidebooks were inaccurate and had led the city to rely on inaccurate information. Following the CPUC's order in D.01-12-009 from the last Undergrounding Proceeding to revise the guidebook, the utilities attempted to work with Pacific Bell and the LOCC to update the Undergrounding Planning Guide but failed to do so as described earlier.

Despite the utilities' various forms of communication and reporting for the program, communities and ratepayer advocates have expressed that there is a lack of adequate transparency and the level of knowledge varies among the municipalities about basic information such as how the program works, how the allocations are calculated, how much the ratepayers are paying for the program, how much projects cost, what the cost components are and their unit cost ranges, how long projects typically take, what the responsibilities for all of the joint trench participants (the electric utility, the telecommunications companies and the governmental body) are, and what is in the Rule 20 Tariff.

Similarly, communities are often only able to obtain limited information regarding project cost increases and the utilities' bid results due to confidentiality protection, though the bids are for projects intended for the public benefit. The communities are often left with very little explanation when they encounter significant increases in their project cost estimates and in some cases have to request their city councils to authorize the purchase of millions of additional work credits from an unsanctioned secondary market for reasons they do not fully understand and are not communicated to them by the utility.

Options

Options B-G are not mutually exclusive.

A. Status Quo – continue current reporting requirements

While maintaining the current reporting and communications protocol may be convenient and less of an administrative burden than adopting new protocols, it has become clear that these protocols are insufficient for disseminating the information that the CPUC and communities need for planning purposes and for informing the public about the program. Should no changes occur here, then information about the program will continue to disseminate unevenly and the utilities may continue to report on areas such as Rule 20B and 20C in more detail than is needed and underreport on information concerning Rule 20A.

B. Implement refinements to the allocation letters and reports (Staff Recommendation)

Under this proposal, the utilities will modify their allocation letters to the communities and reports to the CPUC to provide some additional background and context. The updated letters and reports will briefly explain how the allocation was calculated based on the number of meters and the formula, include relevant citations to the Tariff and the most recent general rate case where the allocation totals were approved. The allocation letters and reports are to explain whether communities are inactive or inactive and include information as to how they can become active. Both the letter and report should include an attachment that shows the allocations over the past ten years for each of the communities with the allocation factors and meter totals similar to what the utilities provided the CPUC Staff as part of the R.17-05-010 data request. The utilities would also provide each community with a complete detailed invoice accounting for all the costs associated with any projects for which the community's work credit balance is deducted at project conclusion in the allocation letters. This could be supplemented with a year-end activity summary letter for communities that have active projects. In the allocation report specifically, the utilities should report the work credit balances, indicate and which communities have borrowed forward five or more years of allocations, and which obtained work credits through an exchange with another community. However, should Rule 20A be eliminated or be replaced by a grant-based program, then the allocation letter and report would no longer be necessary and can be replaced with an additional line item in the completion report detailing the growth or decline in funds available for projects. The letter template should be approved by the CPUC via Advice Letter.

C. Implement refinements to the completion reports based in part on the utilities' recommendations (Staff Recommendation)

During the workshop, the utilities shared some preliminary ideas for modifying their completion reports and better focusing the reports on data for Rule 20A for the year. The

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utilities proposed removing the data reported on Rule 20B and 20C projects, which consists of the location, job/work order number, the project applicant's costs and the total net utility costs for each of the Rule 20B and 20C projects completed during the year. By removing the 20B and 20C sections, the utilities would be able to focus their time and attention to reporting data on the Rule 20A program, which they think would provide the most value to the CPUC.

The utilities recommended that the format could be more focused on expenditures for projects in various stages rather than just plant closing data. This would allow the utilities to provide more information regarding the annual expenditures and developments with projects underway rather than the final costs to projects that have been completed. The utilities also suggested that there could be a recap of the annual budget, expenditures by project and variance explanations for being above or below design cost estimates. The utilities further proposed modifying the exhibit for Rule 20A completed projects to be consistent with actual costs for each project. The utilities suggested the use of a consistent definition of "complete," which would be defined as "operational and either the poles removed or topped just above the telecommunications facilities".

Staff's additional refinements to supplement the utilities' proposal

To help make the completion report more understandable to the communities and the public would be for the utilities to include an introduction and expanded definitions section that clearly explained the contents of the report and defined all of the terms and explained all of the cost components that make up the expenditure statistics in the report. This could include an explanation for what costs the Rule 20A work credits pay for and what costs the municipalities and the telecommunications companies are responsible for. The utilities could also provide project costs on a per mile basis over the past five years averaged by county for on-going and recently completed projects to convey trends in project costs. The utilities could supplement this with aggregate costs that could be made public for the various project cost components (both hard and soft costs) from on-going and recently completed projects. In addition to this cost information, the utilities could also include the balancing account balances for Rule 20A and any other Rule 20 programs that have balancing accounts established as a result of this proceeding. All this information could provide significant value for planning purposes to the communities and the public and convey key insights into the program to the CPUC.

In addition to including this information in the introduction, the utilities could also include basic details about the projects completed such as job ID, project name, street location, length of the project, and a breakdown of costs to show what the costs were that all the entities were responsible for after any adjustments have been made to date. The utilities could also report on expenditures made since the last completion report was issued for the completed projects and those that are still underway. Additionally, the utilities should submit

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an Excel version of the report in addition to the pdf version so the data would be more accessible to the CPUC Staff, the communities and the public.

An additional requirement to convey the utilities' program performance and allow the CPUC to evaluate and prescribe changes as needed would be for the utilities to report various program metrics. The completion reports could utilize similar metrics to the Balanced Scorecard methodology³¹ that CPUC Staff used in the January 2017 "Program Review California Overhead Conversion Program, Rule 20A for Years 2011-2015".³² The utilities could report on the following risk factors identified in the report:

- 1) compliance,
- 2) negative balance (number and magnitude),
- 3) low balance or allocation, and
- 4) program reporting.

These could be supplemented with performance factors such as:

- 1) accuracy of design cost estimates,
- 2) efficient timelines and planning, and
- 3) mileage converted relative to the size and number of customers served.

Based on the above factors, the CPUC Staff can evaluate the utilities management of the program and address any performance issues, such as lengthy project timelines or large deviations from design cost estimates. The utilities should be required to file a report template for CPUC approval via an Advice Letter.

In addition to the recommended improvements above, the utilities could file this report to the CPUC on a bi-annual basis and serve it publicly to the members of the R.17-05-010 and/or future undergrounding proceeding service list for comment.

D. Update and adopt the Rule 20 Guidebook (Staff Recommendation)

Another means of more effectively disseminating information about the Rule 20 program to the communities is by revising the 2007 draft Rule 20 Guidebook that was never adopted. The utilities could meet and confer with the CPUC Staff, AT&T, the LOCC, and the California State Association of Counties (CSAC) following the issuance of the phase I decision and any potential changes to the Rule 20 program. The Guidebooks should be comprehensive for Rule 20 and all of its sub-programs (A, B, C, and D) and would be

³¹ The Balanced Scorecard is an established performance management tool that uses key performance indicators to track strategic performance in a program. For more information see: <https://www.balancedscorecard.org/BSC-Basics/About-the-Balanced-Scorecard>.

³² See the following link for the full report:

[https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/About_Us/Organization/Divisions/Policy_and_Planning/PPD_Work_Products_\(2014_forward\)\(1\)/PPD_Rule_20-A.pdf](https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/About_Us/Organization/Divisions/Policy_and_Planning/PPD_Work_Products_(2014_forward)(1)/PPD_Rule_20-A.pdf).

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standardized between the utilities.³³ The Guidebooks should largely be uniform across the IOUs. The Guidebooks would be subject to approval by the CPUC via Resolution or Decision and any subsequent updates to it would be submitted to the CPUC's Energy Division via Advice Letter. Once ratified, the utilities and CPUC Staff would put the Guidebooks on their respective public websites and circulate them among the cities and counties serve by the investor-owned utilities.

- E. Publish all the relevant program information, documents, and reports on dedicated undergrounding webpages (Staff Recommendation)

To ensure that the information is widely available for the public, the communities, ratepayer and community advocates, the utilities and the CPUC should develop dedicated undergrounding webpages (to the extent that they have not already).³⁴ The webpages would include detailed information about Rule 20, information about the costs of projects and estimates bill impacts, links to information about related undergrounding programs (such as PUC Code Section 320), links to the Rule 20 Tariff, the updated Rule 20 Guidebook, and the allocation and completion reports for all years since the beginning of the program.³⁵ The utilities shall also maintain links to their maps that were presented during the April 2019 Workshop and update them on a quarterly basis. The utilities shall also detail the work credit balances of all the communities, include links to the project queues for Rule 20A, 20B, and 20C and have a calendar with upcoming undergrounding community meetings. The websites shall also have contact information and application forms and instructions for prospective Rule 20B and 20C applicants. This information should include the process for how to file a complaint with the CPUC and who to contact regarding recommended program changes. Additionally, there should be a web portal for governmental agencies to review data regarding project status and work credit balance. The webpages should be updated at least on a quarterly basis.

- F. Implement the utilities' suggestions for improved communications

During the April 2019 workshop, the utilities proposed several different ways they could improve their in-person and written communications with the communities and the broader public. For instance, they proposed providing more frequent updates to the municipalities as to the availability of their work credits so they can be made more aware of their existence and better track any updates throughout the year such as from project true ups. The utilities also suggested improved collaboration with local governmental body and community groups and providing updates during construction to the wider group of impacted residents and

³³ Items that are specific to any individual utility can be called out specifically or footnoted for reference.

³⁴ Please see the following links to the [PG&E](#) and [SCE](#) undergrounding webpages. SDG&E, Liberty CalPeco, PacifiCorp and Bear Valley do not currently have dedicated undergrounding webpages.

³⁵ The Commission's [undergrounding webpage](#) includes the utilities allocation and completion reports that were filed since the late 1960s in pdf format.

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businesses. This could improve transparency on the job progress and allow for community members to have a greater voice in the Rule 20 planning and construction process.

Additionally, the utilities proposed to have a pole-out ceremony to mark the conclusion of projects with the communities and celebrate the accomplishment. While this could build rapport with the communities and the residents, it may not make sense in all cases due to costs unless they are larger projects in scope and were identified by the community to be a high priority.

While these suggestions could lead to greater input from the municipalities, it is not clear that they all will encourage a higher level of municipal engagement in the program. Thus, it may make sense to pilot different methods and fine-tune them accordingly.

G. Enhanced written communications to the communities (Staff Recommendation)

An additional suggestion that Staff recommends is to require the utilities to write to the communities to coordinate an annual in-person meeting to discuss ten-year plans with the communities that would like to participate in Rule 20. The utilities should maintain a service list of municipal program participants and stakeholders and should be updated annually in order to maintain a comprehensive and accurate list of phone and email contacts. The utilities could send a letter to each of the communities informing them about the program, provide a contact list for relevant utility and CPUC personnel, the community's annual allocation and work credit balance, and put the work credit balance in context with current project costs in their area. This could be a modified version of the current annual allocation letter. Additionally, the utilities should ask if the communities are interested in initiating a project within the next five years and require them to sign a form acknowledging that they have read the Rule 20 Tariff and that their work credits can be taken away from them if they do not participate in the program. For the communities that indicate that they are interested, they can indicate if they would be interested in having a coordination meeting with the utility to discuss their ten-year plan and any future or on-going projects.

H. Require the utilities to report on aggregate costs for project cost categories based on bids that the utilities receive (Staff Recommendation)

In order to provide information on the individual project cost categories (such as labor, parts, trenching, overhead costs, etc.) without disclosing confidential bid information, the utilities would report on aggregate costs for each of the individual cost categories under this proposal. This would allow the communities and the public to better understand what the major cost drivers are in a project and more effectively budget and plan for projects. Aggregating the costs could be accomplished based on a three-year averaging of costs and on a regional basis to help capture any regional variations in construction costs.

Questions for Parties:

5.i. Can the cities and counties sign a non-disclosure agreement with the utilities so they can have access to project bid information and other confidential information?

6. Rule 20 Project Completion Issues

Background

In the current Rule 20A program, the average project takes between two to seven years (not including delays) to complete from forming an underground utility district to the restoration of service following removal of the last pole.³⁶ The cost of the projects on average are around \$3.8 million per mile across all the utilities' service territories. Over the course of the various planning, design and construction phases over the project lifecycle, the project cost estimates are continually refined, and the variability tends to decrease significantly. For instance, during the design phase (AACE Class 4), the costs can vary as much as 50 percent higher and 30 percent lower from design cost estimates. By the time the project has received bids in the pre-construction phase, the estimates (AACE Class 2) can be reasonably expected to vary by +20 percent and -15 percent.

There have been several cases in recent years that have been of great concern due to high project cost variances that merit greater scrutiny in the project cost estimation process. For instance, the County of Napa and City of St. Helena's joint project that was completed in 2013, the project was estimated to cost \$8 million and more than doubled in cost to over \$17 million. As a result, the County of Napa, which had a work credit balance of \$6.15 million in 2010, an allocation of about \$360 thousand Rule 20A work credits and was responsible for the majority of the costs ended up with over 75 years of work credit debt to the dramatic and unexpected rises in the project costs. 58 communities across the State are currently in work credit debt, and some have work debt that exceeds 50 years in equivalent annual allocations. As of 2019, these 58 communities held a cumulative work credit of approximately \$93 million. See Figure 3 below for the communities with the highest levels of work credit debt. To date, the Rule 20A program does not offer any mechanisms for eliminating this debt and the utilities have chosen to continue allocating work credits to indebted communities and forbid them from initiating any projects until they have a positive balance.

³⁶ This is based on the average taken from all the utilities and assumes there are 261 workdays a year for projects. Within this timeframe, it takes about three to five years from project design to completion.

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Figure 3. Top 20 Communities with the Highest Levels of Work Credit Debt

Community	Utility	2019 Allocation	2019 Balance	Years in Work Credit Debt
Chino Hills	SCE	\$ 10,204	\$ (893,909)	87.6
Napa County	PG&E	\$ 152,605	\$ (11,331,024)	74.3
Firebaugh	PG&E	\$ 17,599	\$ (989,237)	56.2
Anderson	PG&E	\$ 40,122	\$ (2,016,864)	50.3
San Marcos	SDG&E	\$ 6,200.00	\$ (296,131.00)	47.8
Riverbank	PG&E	\$ 35,243	\$ (1,653,339)	46.9
La Canada-Flintridge	SCE	\$ 76,772	\$ (3,465,161)	45.1
Belvedere	PG&E	\$ 6,036	\$ (262,373)	43.5
Angels Camp	PG&E	\$ 16,682	\$ (624,828)	37.5
Hillsborough	PG&E	\$ 28,109	\$ (861,117)	30.6
Manhattan Beach	SCE	\$ 167,484	\$ (4,028,934)	24.1
Laguna Hills	SDG&E	\$ 1,833.00	\$ (38,559.00)	21.0
Campbell	PG&E	\$ 162,665	\$ (2,911,057)	17.9
Fowler	PG&E	\$ 16,848	\$ (269,867)	16.0
Brea	SCE	\$ 76,795	\$ (1,222,996)	15.9
San Francisco	PG&E	\$ 2,970,435	\$ (42,687,251)	14.4
Atwater	PG&E	\$ 68,848	\$ (875,490)	12.7
Mill Valley	PG&E	\$ 61,858	\$ (674,340)	10.9
Irwindale	SCE	\$ 10,237	\$ (103,365)	10.1
Malibu	SCE	\$ 39,702	\$ (381,408)	9.6

(Source: IOU R.17-05-010 Data Request Responses and 2019 Allocation Reports)

While it did not enter work credit debt, the City of Tiburon was forced to cancel their Tiburon Boulevard Rule 20A project as the costs increased from \$925,980 in 2014 at the initial estimate to \$3,744,566 in 2018 before breaking ground on construction. According to the Town of Tiburon, this was in part attributed to increased construction costs due to shortages in the construction market.³⁷

Similarly, the City of Newport Beach saw the initial project estimate of \$4.1 million for a scope of 7,480 linear feet of overhead removal (\$500 per foot) saw its design cost estimate more than double to \$8.6 million and later receive a bid of \$6.43 million. According to SCE, the high prices can be attributed to contractor bids that have become significantly less competitive and overhead costs that collectively represented 35 percent of the project cost

³⁷ According to the Town of Tiburon, the construction market in 2018 was constrained due to reconstruction efforts for the Oroville Dam, the Napa and Sonoma county rebuild post 2017 wildfires, increased spending by Caltrans, and labor shortages. For more information, see the May 2018 Town of Tiburon Staff Update on the Rule 20A Undergrounding project: https://townoftiburon.granicus.com/MapView.php?view_id=5&clip_id=197&meta_id=9477.

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estimate.³⁸ With SCE's approval, the City of Newport Beach decided to manage and re-bid the project on its own in 2019 and received a final bid at \$4.5 million, which included both the Rule 20A component of the Balboa Blvd project and the Rule 20B components for the adjacent residential areas.³⁹

Another issue that some communities have encountered is that the project timelines can get drawn out due to unforeseen circumstances. Situations behind such delays could include a lack of sufficient utility financial and personnel resources, third party delays such as from labor market shortages for contractors, encountering contaminated soils or archeological remains, project cost increases that require the community to obtain additional work credits, and disagreements over project cost and leadership responsibilities. For example, there were several communities in PG&E's service territory that were unwilling to move forward with projects both prospective and planned projects due to the legal and financial uncertainty surrounding PG&E's revision of its Rule 20A General Conditions Agreement (GCA). From 2012 to May 2018, PG&E worked with the LOCC, the CSAC and interested local governments to revise the GCA that was established in 2010 as it contained terms that were too burdensome for many of the communities. Many communities chose to hold out for six years on projects in hopes of constructing projects under more favorable terms. During this time, the CPUC was not only unaware of those negotiations but also unaware of the issues the communities were facing at that time. PG&E eventually filed two Advice Letters following the negotiations which were hotly contested by the Cities of San Jose and Cupertino and required the Commission to issue Resolution E-4919 to resolve the issues and adopt the revised PG&E GCA.

Also associated with increased project timelines are increased costs as described earlier. Typically, these increased costs have been paid for by communities which opt to purchase additional Rule 20A work credits or they are borne by the ratepayers. Given that the costs are often the result of third-party delays or unanticipated consequences, the CPUC in the 2006 Resolution E-4001 did not find it to be reasonable to require the ratepayers to bear these associated costs under all circumstances. In Resolution E-4001, the utilities were ordered not to commit the ratepayers to the costs of Rule 20A projects that cannot be paid for through banked work credits and the five-year borrow alone without prior CPUC approval. Any costs not approved by the CPUC are to be paid either by pre-arranged community funds (general funds) or by the utility shareholders.⁴⁰ However, having the communities trade for additional

³⁸ For more information see: <https://www.latimes.com/socal/daily-pilot/news/tn-dpt-me-utilities-undergrounding-20180615-story.html>.

³⁹ For more information see: <https://www.latimes.com/socal/daily-pilot/news/tn-dpt-me-peninsula-utilities-20190412-story.html>

⁴⁰ For more information on Resolution E-4001, see: http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_RESOLUTION/59265.PDF.

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work credits or otherwise pay with pre-arranged funds from their general fund to proceed with a project is problematic as it is not aligned with the intent of the Rule 20A Tariff.

In addition to the above, some communities have expressed frustration over the lack of clarity over which pre-construction and construction tasks and costs the utility is responsible for and which the communities are responsible for. While the Rule 20A Tariff specifies that the utility “will at its expense, replace its existing overhead electric facilities with underground electric facilities,” there is no explanation if the utility is responsible for all costs and tasks or if it is more reasonable for the communities to bear some of the burden. For instance, the Rule 20A tariff makes no mention of who is responsible for paying for underground transformers, which the utilities consider to be non-standard installations. To make up for this lack of guidance in the tariff, the utilities have clarified in their Rule 20A general terms and conditions which tasks and costs the community and the utility are responsible for subject to approval by the CPUC. This has led to a variable approach by the utilities which rely on terms that are inconsistent from one another. For example, PG&E’s GCA allows communities to elect to install subsurface transformers and pay for them using their Rule 20A work credits, while SDG&E only installs pad-mounted, above ground transformers.⁴¹ One consequence of this variable approach is that some communities have come to question whether the utilities’ general terms and conditions are even consistent with the Rule 20A tariff and the CPUC’s intent for the program. For instance, the utilities expect in the general terms and conditions that the communities to pay for securing easements, which appears contradictory to the Rule 20A Tariff which specifically says that the utility is to obtain the rights-of-way at its own expense.

Options

Note that Options B-E are not mutually exclusive.

A. Status quo – no Rule 20A project completion incentives

Under the status quo scenario, the CPUC would not implement any policy changes that aim to incentivize more efficient project completion and lower costs and would not require any changes to the way the utilities delineate which entities bear which cost and task responsibility. Currently, the utilities Rule 20A general terms and conditions documents in effect spell out the community and utility responsibilities for project planning and they are not subject to a significant level of debate. Thus, one could argue that it is not necessary to revise the Tariff and Guidebooks to delineate the project responsibilities and it is unclear if any of the responsibilities need to change to be consistent with the Rule 20A Tariff.

⁴¹ PG&E requires in its GCA that the city or county that elects to install underground transformers to pay a one-time maintenance fee representing the difference in maintenance costs between a pad-mounted facility and a subsurface facility.

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However, by not implementing any policy changes, it is unclear how effectively the utilities' and communities' incentives can be aligned to enhance the efficient and timely project completion. Additionally, the status quo scenario does nothing to resolve the issues surrounding growing costs and timelines and does not address the dilemma of who should bear the associated costs.

- B. Require cities and counties to be the trench lead by default and allow for them to bid for their own contractors (Staff Recommendation)

Currently, the electric utilities are designated as the default trench lead unless a community elects to be the project lead. This means that the electric utility is responsible for the project design, planning, bid solicitations and contracting, coordination with the joint trench participants. By designating the community as the default trench lead – unless they assign the electric utility or one of the telecommunications utilities as the trench lead – the community can better ensure that project management and coordination matches their expectations and that these tasks do not get de-prioritized by the utility when circumstances like wildfires arise. Additionally, by allowing the communities to conduct their own bids, they may be able to receive lower bids than the electric utilities and that the results will be made public. To make up for the increased administrative costs for communities leading a project, the community's costs could be reimbursable by the electric utility. However, not all cities and counties would be able to take on this level of responsibility for managing the project and soliciting their own bids. Furthermore, there is little evidence that shows the bids communities receive are lower when they conduct them themselves given that they would still have to rely on a limited pool of pre-approved contractors.

- C. Establish threshold timeframes for project milestones (Staff Recommendation)

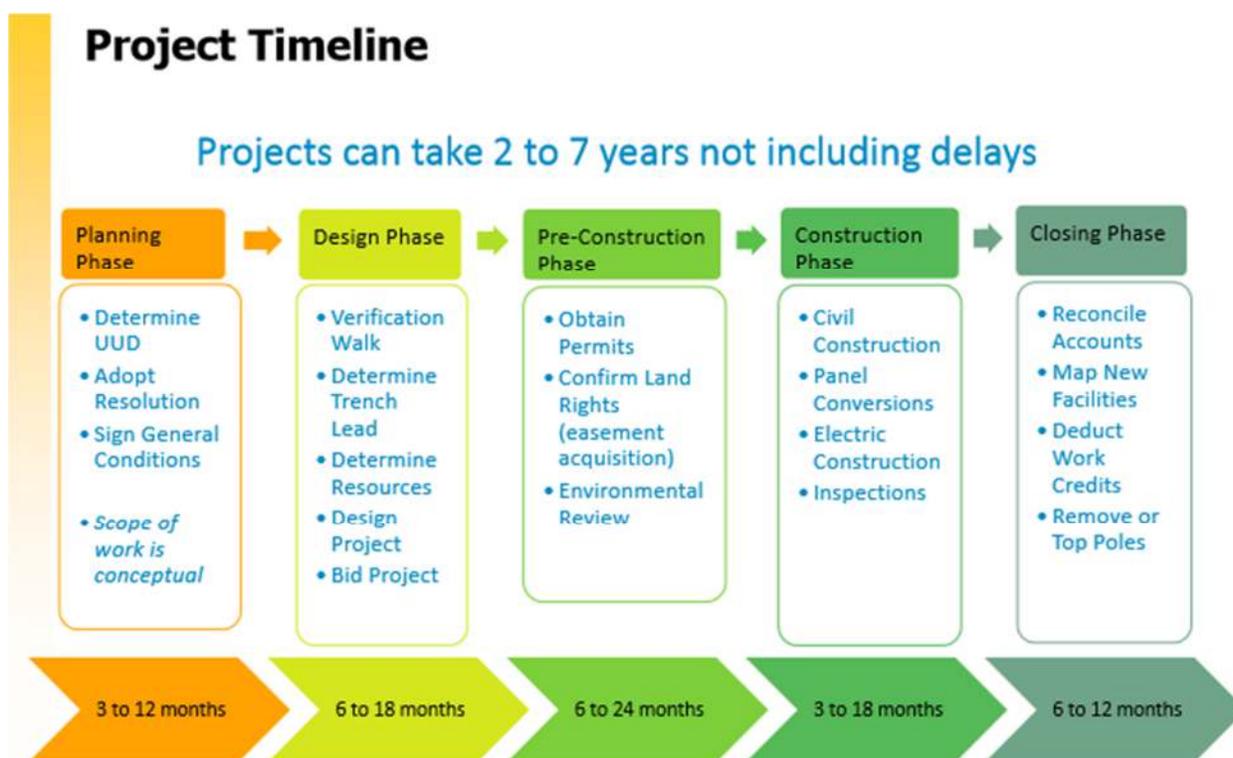
Under this proposal, the CPUC would specify what acceptable timelines are for project milestones in the design, pre-construction, construction and closing phases with a certain degree of flexibility for unforeseen circumstances. If any given milestone is not reached within a specified timeframe, then the utility shareholders will be required to bear any project costs associated with delays in excess of 30 days. When these timelines are exceeded, the utility must additionally notify CPUC Staff within 10 business with the following information in writing:

- i. Background on the project
- ii. Targeted timeline for all work steps involved project and actual timeline for completed steps
- iii. An explanation as to why there is a delay and what efforts have been taken to resolve it
- iv. An estimated timeline for the resolution of the delay and
- v. Estimated cost impacts of the delay and how they are to be funded

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Staff proposes to use the same timelines that the IOUs presented during the April 22-23 workshop for R.17-05-010 as common Rule 20A project timelines. These timelines are shown below in Figure 5.

Figure 5. Typical IOU Rule 20A Project Timeline



(Source: Joint IOU Presentation on Project Completion Issues. April 2019)

To illustrate how this would work, if the pre-construction phase was to exceed 24 months, the utility would be required to notify the CPUC in writing and bear any costs associated with delays in excess of 25 months.

By requiring the utility to report on the delays and bear the costs of excessive delays, this promotes greater transparency into delays and could directly incentivizes the utility to resolve them as quickly as possible.

- D. Delineate costs and responsibilities for Rule 20A projects in the Tariff, General Terms and Conditions, and Updated Rule 20A Guidebooks (Staff Recommendation)

Under this proposal, the CPUC would require the Utilities to modify the Rule 20A Tariff, general terms and conditions, and the Rule 20A Guidebooks to include a complete list of community & utility responsibilities. This would help clarify for the

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communities which costs and tasks they are responsible for versus what the utility is responsible for. This would also ensure that these terms are consistent with the Rule 20A Tariff and the CPUC's intent for the Rule 20A program and are communicated consistently by all the Rule 20A guiding documents to the communities. The IOUs' general terms and conditions documents should be largely the same among the IOUs and be subject to CPUC approval.

- E. Establish one-way balancing accounts for the Rule 20A, 20B, and 20D programs to the extent the utilities do not have them (Staff Recommendation)

In order to prevent the utilities from redirecting funds the CPUC approves in the general rate case for the Rule 20 program, the CPUC could require that the utilities establish one-way balancing accounts for the program. This requirement will help ensure that the utility has adequate financial resources to devote to the program and can hire additional personnel as needed to best manage the program. Furthermore, it would help the utility pay for projects even if they were to exceed their GRC expectations if there are unused funds in the balancing account. Currently PG&E and SCE have one-way balancing accounts for their Rule 20A programs, but none of the utilities have one for their Rule 20B program nor does SDG&E for its Rule 20D program. Rule 20C is paid for almost entirely by the applicant, so establishing a one-way balancing account would be of little use.

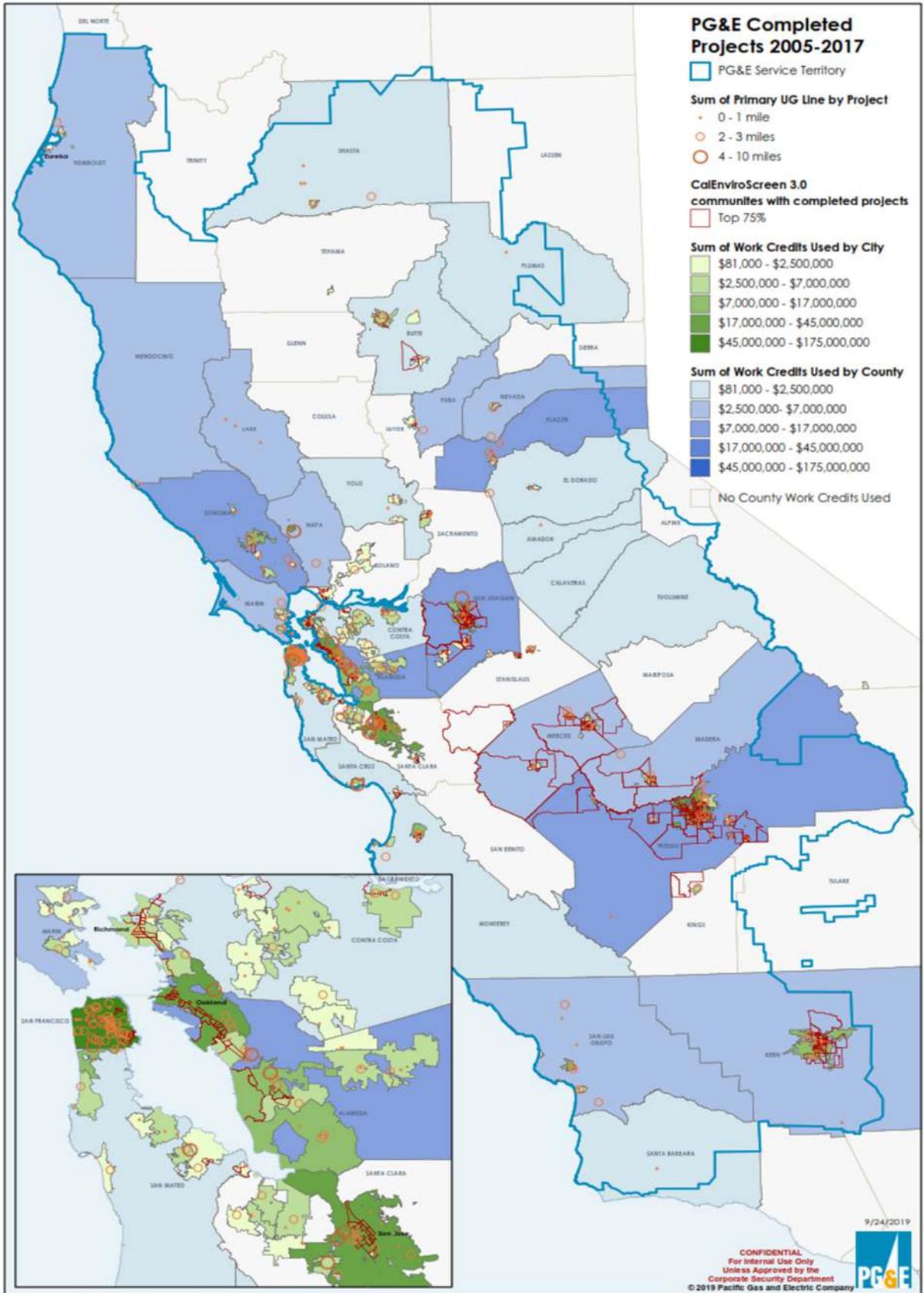
Questions for Parties:

- 6.i. Are there other policies that the CPUC can implement to incentivize more efficient and less expensive project completion?
- 6.ii. What are reasonable time thresholds for the project milestones?
- 6.iii. Are there any additional project planning and construction processes that can be outsourced in order to achieve greater cost savings?
- 6.iv. Are there ways to incentivize more efficient construction processes? For instance, directional boring could potentially save time and money by eliminating the need for extensive trenching.
- 6.v. What are additional ways to help align the incentives of all the joint trench participants and enhance greater coordination?
- 6.vi. Should the costs and responsibilities currently borne by the telecommunications companies be modified to enhance project completion and minimize project costs on the electric ratepayers? If so, how can this be accomplished?

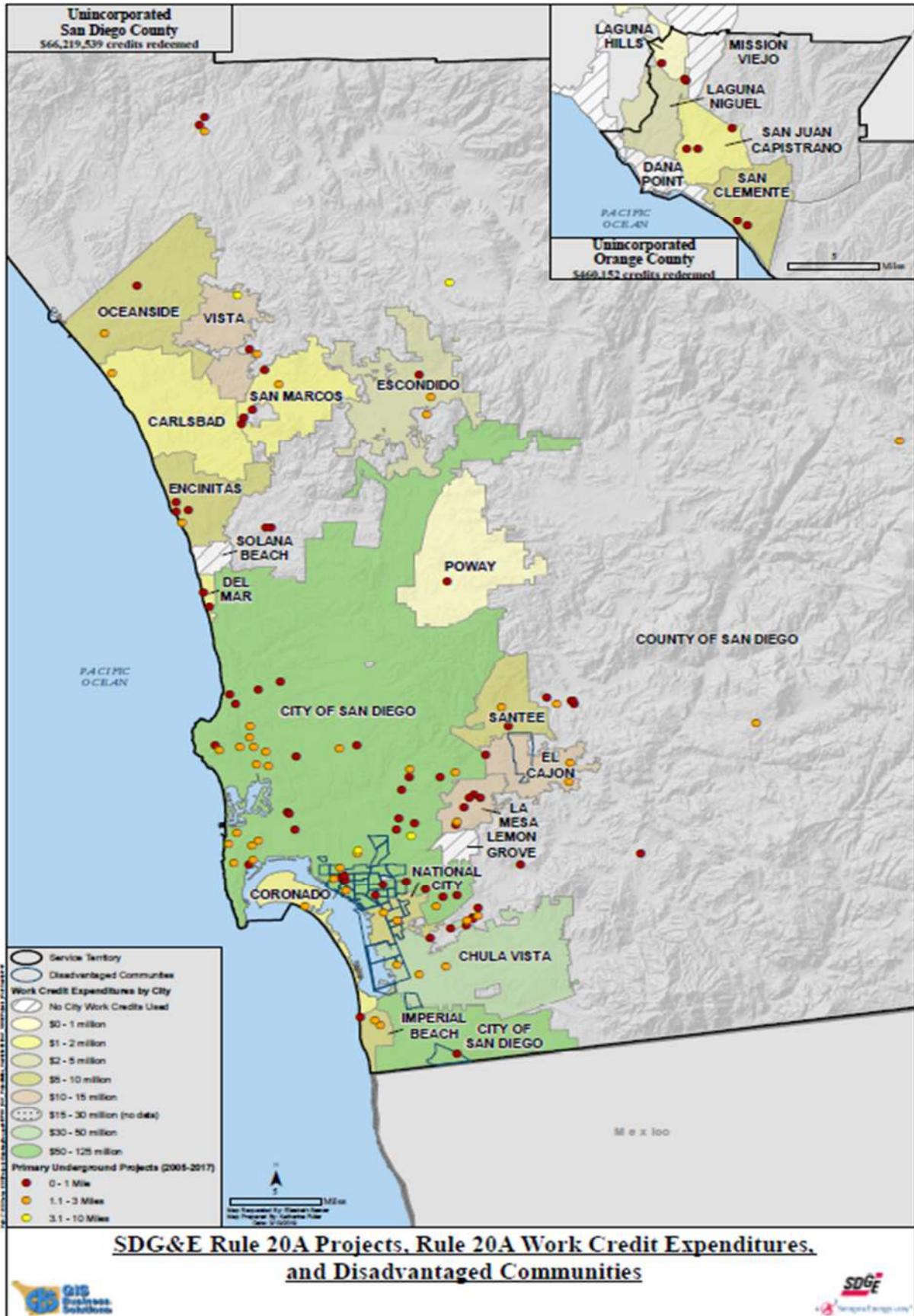
Appendix A

Utility Rule 20A Maps (for PG&E, SDG&E and SCE)

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Appendix B

PG&E 2017 Humboldt County Rule 20A Allocation Letter



JUN 05 2017

June 2, 2017

Public Works Director
County of Humboldt
1106 - 2nd Street
Eureka, CA 95501

PUBLIC WORKS	
<input checked="" type="checkbox"/>	DIR
<input checked="" type="checkbox"/>	AV
<input checked="" type="checkbox"/>	BUS
<input checked="" type="checkbox"/>	ENR
<input checked="" type="checkbox"/>	MAINT
<input checked="" type="checkbox"/>	HD
<input checked="" type="checkbox"/>	EM
<input checked="" type="checkbox"/>	PCA
<input checked="" type="checkbox"/>	BLDG
<input checked="" type="checkbox"/>	NR
<input checked="" type="checkbox"/>	FC
<input checked="" type="checkbox"/>	RP
<input checked="" type="checkbox"/>	LU
<input checked="" type="checkbox"/>	SEC
<input checked="" type="checkbox"/>	FILE
<input checked="" type="checkbox"/>	TAC

Subject: 2017 Rule 20A Allocation and Work Credit Balance

Dear Public Works Director,

The purpose of this letter is to provide you with an update on your 2017 Rule 20A annual allocation amount and work credit balance. As of March 31, 2017, your work credit balance was **\$2,240,461**, which includes the 2017 allocation amount of **\$346,778**. In addition, the work credit balance does not reflect an offset for currently active projects as this work is deducted at the conclusion of the project.

If your community would like to proceed with a Rule 20A project but does not have sufficient work credits, the Rule 20 tariff allows for the use of up to 5-years of future annual allocations. If you would like to elect this option, please let us know and we can further explain the process.

PG&E values its partnership with your community and we look forward to working with you. If you have any questions regarding your Rule 20A Work Credit Status, or if your community wants to discuss pending Rule 20A projects or potential future projects, please contact Lizette Burtis, your Rule 20A Program Liaison, at (707) 321-0206.

Sincerely,

ANDREA MILLER
Manager, Rule 20A Program

Appendix C

SCE 2019 Rule 20A Work Credit Allocation Report to the CPUC



Linda Letizia
Manager of Cost Recovery
and Tariffs

December 13, 2018

Ms. Alice Stebbins
California Public Utilities Commission
Energy Division
505 Van Ness Avenue
San Francisco, CA 94102-3298

Re: Southern California Edison Company's 2019 Rule 20A Program
Budget and Allocations

Dear Ms. Stebbins:

As required by Decision (D.) 73078, Southern California Edison Company (SCE) hereby submits to the California Public Utilities Commission (Commission or CPUC) its proposed budget for Rule 20A conversions for 2019 and the allocations of that amount to the 208 cities and counties within its service territory where SCE provides retail electric service via overhead-served meters.¹ These allocations are set forth in Exhibit "A" attached hereto.

SCE's total proposed Rule 20A budget for 2019 is \$30,061,307. This amount includes estimates for all loadings including administrative and general expenses. Commission action or other circumstances may necessitate a revision to this figure.

The figures shown in Exhibit "A" were determined by allocating the total 2019 Rule 20A budget of \$30,061,307 to the listed local governments using the approved allocation methodology set forth in Section A.2 of Rule 20. Included in this list are cities served primarily by publicly-owned electric utilities, but within which SCE continues to provide some residual retail service.

Application of the allocation methodology as set forth in Section A.2.b of Rule 20, which calculates allocations as a change to the 1990 base, resulted in negative allocations for the cities of Laguna Hills, Lake Forest and Jurupa

¹ Ordering Paragraph 6 of D.73078 states in pertinent part that "[e]ach respondent electric utility shall file with the Commission...annually...a statement setting forth its annual budgeted amount for replacement of overhead with underground facilities, together with the amounts allocated to each city and unincorporated area under Section A of the rule."

R.17-05-010 ALJ/EW2/nd3

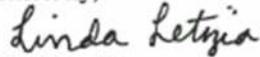
Undergrounding Proceeding (R.17-05-010) Staff Proposal

Undergrounding Proceeding (R.17-05-010) Staff Proposal

Valley, the total of which is \$6,017. Allocations for these three (3) cities for 2019 were consequently increased to zero, and SCE's total proposed 2019 budget increased by \$6,017 to a total allocation of \$30,067,324.

If you have any questions concerning the allocation for 2019, please contact Shiela Linao at (626) 302-4506 or by electronic mail at Shiela.Linao@sce.com or Tony Mathis at (714) 973-5466 or by electronic mail at Tony.Mathis@sce.com.

Sincerely,



Linda Letizia
Manager of Cost Recovery and Tariffs

Attachment (1)

cc: Julie Fitch, CPUC
David K. Lee, CPUC
Gabe Petlin, CPUC
Molly Sterkel, CPUC
Mary Jo Borak, CPUC
Andrew Barnsdale, CPUC
Norman Copping, League of California Cities
Matt Cate, Executive Director Calif. State Assoc. of Counties
Megan Lawson, Pacific Gas and Electric Company
Tamon Norimoto, Pacific Gas & Electric Company
Megan Caulson, Sempra Utilities
Kathryn Valdivia, San Diego Gas & Electric

Undergrounding Proceeding (R.17-05-010) Staff Proposal

EXHIBIT A
Southern California Edison Company
2019 Allocated Amount For The Replacement
Of Electric Overhead With Underground Facilities
Under Section A Of Rule 20

COUNTY	METERS		2019 ALLOCATION
	OH SOURCE	TOTAL	
FRESNO County			
Unincorporated Fresno County	1,749	3,080	\$ 21,991
TOTAL Fresno County	1,749	3,080	\$ 21,991
IMPERIAL County			
Unincorporated Imperial County	265	430	\$ 4,137
TOTAL Imperial County	265	430	\$ 4,137
INYO County			
Bishop	201	579	\$ 3,246
Unincorporated Inyo County	2,267	5,406	\$ 32,540
TOTAL Inyo County	2,468	5,985	\$ 35,786
KERN County			
California City	1,811	5,536	\$ 19,615
Delano	4,776	12,245	\$ 52,382
McFarland	699	972	\$ 7,474
Ridgecrest	3,877	13,435	\$ 67,258
Tehachapi	1,553	4,583	\$ 16,190
Unincorporated Kern County	27,027	47,244	\$ 336,745
TOTAL Kern County	39,743	84,015	\$ 499,663
KINGS County			
Hanford	7,733	22,217	\$ 83,996
Unincorporated Kings County	3,886	5,572	\$ 55,098
TOTAL Kings County	11,619	27,789	\$ 139,094
LOS ANGELES County			
Agoura Hills	471	9,106	\$ 33,081
Alhambra	26,165	35,998	\$ 341,813
Arcadia	15,425	23,762	\$ 215,760
Artesia	4,034	5,662	\$ 49,590
Avalon	1,319	2,415	\$ 16,678
Azusa	329	410	\$ 6,877
Baldwin Park	13,633	20,254	\$ 166,502
Bell	8,632	9,798	\$ 105,521
Bell Gardens	9,768	11,062	\$ 110,290
Bellflower	17,975	26,780	\$ 234,891
Beverly Hills	10,898	19,951	\$ 156,639
Bradbury	226	409	\$ 3,920
Calabasas	1,189	10,439	\$ 27,444

12/12/2016
Exhibit A 2019

1 of 6

Undergrounding Proceeding (R.17-05-010) Staff Proposal

EXHIBIT A
Southern California Edison Company
2019 Allocated Amount For The Replacement
Of Electric Overhead With Underground Facilities
Under Section A Of Rule 20

Carson	19,374	30,431	\$	227,687
Cerritos	1,672	18,713	\$	66,609
Claremont	6,774	13,510	\$	89,605
Commerce	4,197	6,337	\$	55,644
Compton	22,601	27,502	\$	267,623
Covina	12,991	19,818	\$	161,069
Cudahy	4,808	6,090	\$	56,977
Culver City	11,324	20,181	\$	154,811
Diamond Bar	3,204	21,314	\$	84,165
Downey	30,482	39,061	\$	386,643
Duarte	4,007	7,830	\$	49,187
El Monte	24,065	32,757	\$	298,965
El Segundo	6,275	9,427	\$	88,418
Gardena	19,878	25,293	\$	221,845
Glendale	471	495	\$	5,306
Glendora	12,207	20,377	\$	151,003
Hawaiian Gardens	2,541	3,892	\$	32,692
Hawthorne	21,524	29,595	\$	259,987
Hermosa Beach	5,814	11,042	\$	105,504
Hidden Hills	243	693	\$	5,194
Huntington Park	13,910	17,522	\$	167,509
Industry	739	3,292	\$	14,681
Inglewood	34,728	43,591	\$	441,523
Irwindale	623	1,818	\$	10,237
La Canada-Flintridge	5,775	7,927	\$	76,772
La Habra Heights	1,405	1,995	\$	18,389
La Mirada	10,987	16,409	\$	128,253
La Puente	7,985	11,074	\$	95,095
La Verne	3,609	12,309	\$	57,932
Lakewood	24,054	29,676	\$	282,467
Lancaster	11,528	57,011	\$	196,271
Lawndale	7,815	10,790	\$	105,348
Lomita	6,166	9,328	\$	81,001
Long Beach	146,926	191,437	\$	1,684,736
Los Angeles, City of	739	1,550	\$	5,262
Lynwood	14,440	17,134	\$	177,864
Malibu	2,612	7,528	\$	39,702
Manhattan Beach	10,123	16,455	\$	167,484
Maywood	6,478	7,118	\$	79,000
Monrovia	11,441	17,279	\$	147,961
Montebello	16,495	23,488	\$	198,318
Monterey Park	16,565	24,114	\$	217,149
Norwalk	23,147	29,547	\$	279,499
Palmdale	6,224	51,977	\$	99,713
Palos Verdes Estates	2,108	5,742	\$	34,426

Undergrounding Proceeding (R.17-05-010) Staff Proposal

EXHIBIT A
Southern California Edison Company
2019 Allocated Amount For The Replacement
Of Electric Overhead With Underground Facilities
Under Section A Of Rule 20

Paramount	10,466	16,202	\$ 127,433
Pasadena	73	130	\$ 700
Pico Rivera	13,992	18,261	\$ 172,941
Pomona	28,748	46,914	\$ 336,181
Rancho Palos Verdes	7,015	17,298	\$ 102,457
Redondo Beach	22,873	35,155	\$ 308,761
Rolling Hills	370	937	\$ 6,977
Rolling Hills Estates	1,471	3,600	\$ 22,111
Rosemead	12,521	16,437	\$ 155,368
San Dimas	3,657	13,780	\$ 64,240
San Fernando	6,053	7,710	\$ 72,932
San Gabriel	11,860	15,961	\$ 157,259
San Marino	3,808	5,070	\$ 49,499
Santa Clarita	8,760	82,371	\$ 180,394
Santa Fe Springs	5,033	10,742	\$ 66,477
Santa Monica	35,774	58,674	\$ 535,707
Sierra Madre	4,467	5,440	\$ 55,328
Signal Hill	3,194	6,634	\$ 40,410
South El Monte	6,004	8,073	\$ 80,847
South Gate	23,823	27,207	\$ 278,740
South Pasadena	9,079	12,378	\$ 114,726
Temple City	10,159	13,224	\$ 136,319
Torrance	41,312	64,789	\$ 539,564
Walnut	1,767	10,472	\$ 41,677
West Covina	19,144	36,541	\$ 225,010
West Hollywood	18,207	27,981	\$ 262,016
Westlake Village	88	4,361	\$ 13,164
Whittier	26,560	32,854	\$ 312,475
Unincorporated Los Angeles County	217,818	320,682	\$ 2,651,304
TOTAL Los Angeles County	1,265,234	2,056,393	\$ 16,155,550
MADERA County			
Unincorporated Madera County	18	22	\$ 133
TOTAL Madera County	18	22	\$ 133
MONO County			
Mammoth Lakes	958	10,876	\$ 37,671
Unincorporated Mono County	1,576	3,825	\$ 27,829
TOTAL Mono County	2,534	14,701	\$ 65,500
ORANGE County			
Aliso Viejo	228	19,484	\$ 50,000
Anaheim	20	96	\$ 169
Brea	4,336	19,201	\$ 76,795
Buena Park	16,953	29,123	\$ 219,123

Undergrounding Proceeding (R.17-05-010) Staff Proposal

EXHIBIT A
Southern California Edison Company
2019 Allocated Amount For The Replacement
Of Electric Overhead With Underground Facilities
Under Section A Of Rule 20

Costa Mesa	20,804	50,076	\$	300,252
Cypress	5,717	18,259	\$	90,083
Fountain Valley	5,288	21,704	\$	101,012
Fullerton	24,524	54,322	\$	306,138
Garden Grove	35,000	54,381	\$	443,397
Huntington Beach	23,183	89,302	\$	430,692
Irvine	1,088	127,261	\$	124,896
La Habra	12,761	23,227	\$	152,691
La Palma	334	5,628	\$	20,382
Laguna Beach	4,021	12,488	\$	88,264
Laguna Hills	119	6,033	\$	-
Laguna Niguel	76	4,933	\$	10,007
Laguna Woods	54	13,695	\$	24,588
Lake Forest	1,511	32,602	\$	-
Los Alamitos	2,722	6,079	\$	44,810
Mission Viejo	420	27,057	\$	73,824
Newport Beach	8,586	47,955	\$	223,883
Orange	23,198	54,543	\$	289,751
Placentia	4,795	19,172	\$	78,668
Rancho Santa Margarita	224	18,669	\$	54,172
Santa Ana	43,344	88,700	\$	577,107
Seal Beach	3,796	15,349	\$	78,514
Stanton	5,173	11,858	\$	70,064
Tustin	8,056	31,472	\$	120,914
Villa Park	358	2,159	\$	10,372
Westminster	14,403	29,460	\$	179,369
Yorba Linda	3,039	25,994	\$	81,640
Unincorporated Orange County	17,162	32,930	\$	303,909
TOTAL Orange County	291,293	993,212	\$	4,614,187
RIVERSIDE County				
Beaumont	3,029	17,445	\$	24,175
Blythe	2,861	6,166	\$	25,167
Calimesa	1,488	3,676	\$	15,959
Canyon Lake	247	4,828	\$	10,155
Cathedral City	3,587	24,519	\$	94,179
Corona	8,619	53,129	\$	141,536
Desert Hot Springs	2,364	11,835	\$	50,777
Eastvale	323	16,698	\$	43,372
Hemet	5,442	34,090	\$	78,537
Indian Wells	147	5,364	\$	11,014
Jurupa Valley	10,709	29,038	\$	-
Elsinore, Lake	2,665	22,513	\$	26,036
Menifee	3,995	29,763	\$	62,656
Moreno Valley	5,704	53,990	\$	163,533

Undergrounding Proceeding (R.17-05-010) Staff Proposal

EXHIBIT A
Southern California Edison Company
2019 Allocated Amount For The Replacement
Of Electric Overhead With Underground Facilities
Under Section A Of Rule 20

Murrieta	1,030	39,277	\$	21,535
Norco	3,510	8,604	\$	46,575
Palm Desert	3,786	41,925	\$	90,852
Palm Springs	5,587	38,731	\$	166,248
Perris	2,682	20,753	\$	35,592
Rancho Mirage	514	15,174	\$	42,067
Riverside, City of	232	611	\$	56
San Jacinto	2,458	15,637	\$	26,329
Temecula	531	38,676	\$	32,931
Wildomar	1,684	11,322	\$	27,393
Unincorporated Riverside County	38,489	126,331	\$	595,703
TOTAL Riverside County	111,683	670,095	\$	1,832,378
SAN BERNARDINO County				
Adelanto	1,106	10,141	\$	12,869
Apple Valley	12,440	29,066	\$	142,384
Banning	36	65	\$	365
Barstow	5,891	10,462	\$	64,081
Chino	5,623	31,178	\$	92,815
Chino Hills	2,052	27,434	\$	10,204
Colton	243	349	\$	1,288
Fontana	12,098	58,146	\$	146,805
Grand Terrace	1,587	5,023	\$	17,485
Hesperia	19,272	32,981	\$	157,228
Highland	6,891	17,815	\$	79,074
Loma Linda	2,995	10,517	\$	37,514
Montclair	6,610	12,720	\$	82,333
Ontario	20,031	59,378	\$	283,740
Rancho Cucamonga	5,983	66,139	\$	159,959
Redlands	11,587	30,488	\$	148,268
Rialto	9,126	30,221	\$	132,944
San Bernardino	38,817	74,411	\$	477,635
Twentynine Palms	5,652	8,128	\$	60,784
Upland	10,927	33,228	\$	156,890
Victorville	6,110	42,664	\$	71,109
Yucaipa	8,203	19,024	\$	87,769
Yucca Valley	7,626	10,878	\$	20,448
Unincorporated San Bernardino County	82,489	121,741	\$	1,143,822
TOTAL San Bernardino County	283,395	742,197	\$	3,587,810
SAN DIEGO County				
Unincorporated San Diego County	11	16	\$	112
TOTAL San Diego County	11	16	\$	112

Undergrounding Proceeding (R.17-05-010) Staff Proposal

EXHIBIT A
Southern California Edison Company
2019 Allocated Amount For The Replacement
Of Electric Overhead With Underground Facilities
Under Section A Of Rule 20

SANTA BARBARA County			
Carpinteria	1,781	6,015	\$ 30,439
Goleta	3,963	13,623	\$ 63,784
Santa Barbara	21,104	42,236	\$ 345,440
Unincorporated Santa Barbara County	<u>13,039</u>	<u>25,814</u>	<u>\$ 183,170</u>
TOTAL Santa Barbara County	39,887	87,688	\$ 622,834
TULARE County			
Exeter	1,929	3,980	\$ 24,204
Farmersville	1,174	2,760	\$ 13,847
Lindsay	2,203	4,302	\$ 24,137
Porterville	7,099	18,877	\$ 67,146
Tulare	7,441	22,901	\$ 78,342
Visalia	13,818	54,460	\$ 178,105
Woodlake	1,341	2,481	\$ 14,689
Unincorporated Tulare County	<u>45,319</u>	<u>59,982</u>	<u>\$ 601,650</u>
TOTAL Tulare County	80,324	169,743	\$ 1,002,119
TUOLUMNE County			
Unincorporated Tuolumne County	<u>2</u>	<u>29</u>	<u>\$ 26</u>
TOTAL Tuolumne County	2	29	\$ 26
VENTURA County			
Camarillo	5,559	30,913	\$ 92,825
Fillmore	1,955	4,816	\$ 23,655
Moorpark	1,211	13,477	\$ 35,668
Ojai	2,182	3,950	\$ 30,770
Oxnard	21,149	59,235	\$ 257,089
Port Hueneme	2,591	8,721	\$ 41,367
Santa Paula	5,634	9,745	\$ 66,959
Simi Valley	12,490	47,978	\$ 197,358
Thousand Oaks	7,314	53,549	\$ 190,674
Ventura	20,222	48,513	\$ 249,184
Unincorporated Ventura County	<u>20,389</u>	<u>38,765</u>	<u>\$ 294,804</u>
TOTAL Ventura County	100,696	319,662	\$ 1,480,354
TOTAL SOUTHERN CALIFORNIA EDISON:	<u>2,230,921</u>	<u>5,175,057</u>	<u>\$ 30,067,324</u>

Appendix D

SDG&E 2018 Rule 20A Completion Report



REPORT OF RULE 20A CONVERSIONS
UTILITY: SAN DIEGO GAS & ELECTRIC YEAR ENDING: **2018**

ALLOCATIONS FOR CONVERSIONS

1. Total allocations (1968 - 2017)		\$818,460,432
2. Report year's allocation (2018)	\$26,332,083	
3. Total allocations through report year (1968 - 2018 (1+2))		\$844,792,515

EXPENDITURES FOR CONVERSIONS

4. Total expended for completed conversions (1968-2017) (from 2017 report)	\$730,464,189	
5. Total report year expended for completed conversions (2018)	\$4,857,752	
6. Total expended for completed conversions through report year (1968-2018) (4+5)		\$735,321,941
7. Total expended on conversions not completed by report year-end (2018)	\$78,566,205	
8. Total expended (6+7)		\$813,888,146

TOTAL UNEXPENDED FUNDS (3-8)

9. If expenditures are greater than allocations		\$0
10. If allocations are greater than expenditures (One of the above (9 or 10) will always be -0-)		\$30,904,369

FUNDS COMMITTED

11. Total funds authorized to complete partially completed jobs shown on Line 7	-\$5,567,293	
12. Funds for jobs not under construction where U.G. districts have been formed under enabling legislation	\$115,549,703	
13. Total Committed (11+12)		\$109,982,410

ADDITIONAL FUNDS COMMITTED

14. Funds required for identified projects under study by active U.G. Communities as of report year. *	* No longer used as of 12/31/2008	
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MEMO INFORMATION

15. Advance for specific communities beyond current allocations		-\$3,159,651
16. Reserve funds held for specific communities for which no specific current projects are under study as of report year-end.		-\$79,078,041
17. Expenditures to Case 9365 (Transmission dollars which are included in the total cost above in Line 8) *	* No longer used as of 12/31/2008	

RULE 20A DEFINITIONS

1. Total Rule 20A funds committed by the Utility. This amount is equal to the Company's total allocation from the year of inception to prior report year.
2. This amount is the Company total for the report year Rule 20A allocation.
3. Total of Line 1 plus Line 2 which is the base for this year's report.
4. Total expended for completed conversion jobs from inception through prior report year.
5. Total expended for completed conversion jobs for the report year.
6. Total of Line 4 plus Line 5.
7. Total expended for conversion jobs not yet completed through report year.
8. Total of Line 6 plus Line 7.
9. Expenditures that are greater than allocations:
Line 8 minus Line 3 = overexpended funds.
10. Expenditures that are less than allocations:
Line 3 minus Line 8 = unexpended funds.
11. Total funds authorized to complete the conversion jobs reported in Item Line 7.
12. Funds committed for conversion jobs where the Underground District has been established under enabling legislation.
13. Total of Line 11 plus Line 12.
14. Additional funds committed for specific identified jobs under study by active U.G. communities as of report year-ending.*
15. The total sum for specific aggressive communities that have expended and committed funds that exceed their report year allocation.
16. The total sum for specific communities that have not expended or committed funds equal to their report year allocation.
17. Expenditures to Case 9365 (transmission dollars which are included in Line 8 above).*

* Items 14 and 17 no longer used as of 12/31/2008.



**TOTAL SUMMARY
SAN DIEGO GAS & ELECTRIC
REPORT ON CONVERSION OF OVERHEAD TO UNDERGROUND
ELECTRIC DISTRIBUTION FACILITIES
YEAR 2018**

<u>Rule</u>	<u>Location</u>	<u>Distribution of Costs</u>
20A	City of San Diego	\$3,964,896
	20A TOTAL	\$3,964,896
	Adjustments to previously reported jobs	\$892,856
	20A GRAND TOTALS:	\$4,857,752



**TOTAL SUMMARY
SAN DIEGO GAS & ELECTRIC
REPORT ON CONVERSION OF OVERHEAD TO UNDERGROUND
ELECTRIC DISTRIBUTION FACILITIES
YEAR 2018**

<u>Rule</u>	<u>Location</u>	<u>DISTRIBUTION OF COSTS</u>		
		<u>Total</u>	<u>Other</u>	<u>Utility</u>
20B				
	City of Chula Vista	\$502,772	\$207,830	\$294,942
	City of El Cajon	\$63,376	\$23,021	\$40,355
	City of Encinitas	\$135,719	\$19,133	\$116,586
	City of Solana Beach	\$90,241	\$25,589	\$64,652
	City of San Marcos	\$309,436	\$198,021	\$111,415
	20B TOTALS:	\$1,101,544	\$473,594	\$627,950
20C				
	City of Carlsbad	\$156,383	\$67,449	\$88,934
	City of Encinitas	\$589,298	\$281,300	\$307,998
	City of Escondido	\$101,919	\$84,002	\$17,917
	County of Orange	\$56,757	\$49,020	\$7,737
	City of Solana Beach	\$70,584	\$45,457	\$25,127
	City of San Diego	\$273,157	\$138,304	\$134,853
	County of San Diego	\$135,723	\$88,356	\$47,367
	City of Santee	\$337,869	\$231,857	\$106,012
	20C TOTALS:	\$1,721,690	\$985,745	\$735,945



**RULE 20B
SAN DIEGO GAS & ELECTRIC
REPORT ON CONVERSION OF OVERHEAD TO UNDERGROUND
ELECTRIC DISTRIBUTION FACILITIES
YEAR 2018**

<u>Description and Location</u>	<u>Distribution of Allocation Costs</u>		
	<u>Total</u>	<u>Other</u>	<u>Utility</u>
CHULA VISTA Otay Ranch Vig3 Heritage Rd BB Ph1 Heritage Rd & Main St, CV WO 2520670, 2520671	\$502,772	\$207,830	\$294,942
EL CAJON Sycuan Casino Improv & Reloc 5441 Sycuan Rd, EC WO 2560597, 2560598	\$63,376	\$23,021	\$40,355
ENCINITAS The Enclave Ph1 Berryman Cyn @ Tennis Club Dr, EN WO 247820, 247821	\$135,719	\$19,133	\$116,586
SOLANA BEACH Feather Acres Avocado Pl, SB WO 2551080, 2551081	\$90,241	\$25,589	\$64,652
SAN MARCOS Carmel St 20B Conv Carmel St, SM WO 2430890, 2430891	\$309,436	\$198,021	\$111,415
20B TOTALS:	\$1,101,544	\$473,594	\$627,950



**RULE 20C
SAN DIEGO GAS & ELECTRIC
REPORT ON CONVERSION OF OVERHEAD TO UNDERGROUND
ELECTRIC DISTRIBUTION FACILITIES
YEAR 2018**

<u>Description and Location</u>	<u>Distribution of Allocation Costs</u>		
	<u>Total</u>	<u>Other</u>	<u>Utility</u>
CARLSBAD			
Blue Water Grill w/SAP 3-92347 417 Carlsbad Vlg Dr, CB WO 2481781, 2481782	\$156,383	\$67,449	\$88,934
ENCINITAS			
Cardiff 8 1412 Mackinnon Av, EN Work Orders 2587780, 2587781	\$169,424	\$74,603	\$94,821
Manzanita Cove Requeza St w/o Westlake Dr, EN Work Orders 2480880, 2480882	\$304,044	\$155,738	\$148,306
Laurel Cove Balour Dr n/o San Andrade Dr, EN Work Orders 2521440, 2521441	\$115,830	\$50,959	\$64,871
	\$589,298	\$281,300	\$307,998
ESCONDIDO			
Escondido United Reformed Church 1864 N. Broadway, ES Work Orders 2519730, 2519731	\$101,919	\$84,002	\$17,917
ORANGE COUNTY			
Reata Glen Service Road w/o Reata Rd and n/o Ortega Hwy, RV Work Orders 2529590, 2529591	\$56,757	\$49,020	\$7,737
SOLANA BEACH			
Powell Project 342-348 S. Cedros Av, SB Work Orders 2590540, 2590542	\$70,584	\$45,457	\$25,127
SAN DIEGO (CITY)			
San Diego Unified Schools/Living Lab 4255 Thorn St, SD Work Orders 2431450, 2431451	\$111,391	\$54,292	\$57,099
Indiana Street Apts (3X62665) Indiana and Cypress, SD Work Orders 2426890, 2426891	\$161,766	\$84,012	\$77,754
	\$273,157	\$138,304	\$134,853



**RULE 20C
SAN DIEGO GAS & ELECTRIC
REPORT ON CONVERSION OF OVERHEAD TO UNDERGROUND
ELECTRIC DISTRIBUTION FACILITIES
YEAR 2018**

<u>Description and Location</u>	<u>Distribution of Allocation Costs</u>		
	<u>Total</u>	<u>Other</u>	<u>Utility</u>
SAN DIEGO COUNTY			
Rio Estrella CM Del Rey & Old River Road, BS Work Orders 2430720, 2430721	\$135,723	\$88,356	\$47,367
SANTEE			
City of Santee Tract 2007 2 Conejo Rd s/o Conejo Ln, ST Work Orders 2498680, 2498681	\$68,013	\$49,081	\$18,932
Prospect Estates Prospect Av at Clifford Heights Rd, ST Work Orders 2533240, 2533241, 2533242	\$269,856	\$182,776	\$87,080
	\$337,869	\$231,857	\$106,012
20C TOTALS	\$1,721,690	\$985,745	\$735,945



20A WORK CREDIT BALANCES March 31, 2019

<u>District</u>	<u>Balance</u>
Carlsbad	\$ 1,059,694
Chula Vista	\$ 6,135,221
Coronado	\$ 1,601,127
Dana Point	\$ 1,814,173
Del Mar	\$ 6,594
El Cajon	\$ 4,003,329
Encinitas	\$ (1,521,762)
Escondido	\$ 2,222,623
Imperial Beach	\$ 772,565
Laguna Beach	\$ 732,958
Lemon Grove	\$ 7,345,013
Laguna Hills	\$ (38,559)
La Mesa	\$ 5,855,261
Laguna Niguel	\$ 1,150
Mission Viejo	\$ 366,830
National City	\$ 1,692,177
Oceanside	\$ 2,862,044
Orange County	\$ 8,031
Poway	\$ 1,872,670
Solana Beach	\$ 1,221,937
San Clemente	\$ 1,716,887
San Diego (City)	\$94,660,191
San Diego (County)	\$23,395,840
San Juan Capistrano	\$ 70,740
San Marcos	\$ (296,131)
Santee	\$ 221,476
Vista	\$ (1,773,400)



**RULE 20A
SAN DIEGO GAS & ELECTRIC
REPORT ON CONVERSION OF OVERHEAD TO UNDERGROUND
ELECTRIC DISTRIBUTION FACILITIES
YEAR 2018**

<u>Description and Location</u>	<u>DISTRIBUTION OF ALLOCATION COSTS</u>	
	<u>City/County</u>	<u>Total Costs</u>
SAN DIEGO		
Illion St 20A #153778 (Milton St to Gardena St) Work Orders: 2949900, 2347261, 2347262, 2347263 Trench Footage: 3,605 No. of Services: 5 Poles Removed: 13		\$1,993,684
Island Ave 20A Ph 2 #863651 (27th to 30th) Work Orders: 2916290, 2916291, 2916292, 2916293, 2916294, 2585780 Trench Footage: 5,856 No. of Services: 38 Poles Removed: 22		\$1,971,212
20A TOTAL:		\$3,964,896

Appendix E

Staff April 22, 2019 Presentation on R.17-05-010 Data Request Findings



Undergrounding Rule 20A Slides – R.17-05-010 Staff Data Request Highlights



Jonathan Frost
Energy Division
California Public Utilities Commission



1



Presentation Outline

Introduction

- Background to the R.17-05-010 Data Request

Data Request Highlights:

- I. Basic Details and Status of Projects
- II. Project Costs and Credit Allocations
- III. Expenditures and Unexpended Funds
- IV. Rule 20A Credit Trading
- V. Community Rule 20A Work Credits Redeemed
- VI. Work Credit Debt
- VII. Rule 20A Program Cost to Residential Customers
- VIII. Rule 20A Maps

Questions & Answers



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Background to Data Request

- § 5.2.1 "Preliminary Information from Electric Utilities" of the R.17-05-010 OIR lists the basic items that the Commission seeks to gather.
 - "As part of this Order Instituting Rulemaking (OIR), we anticipate directing each electric utility to file and serve the following data for the 2005-2016 calendar years. This data will create a common baseline on the relevant issues identified in this rulemaking" (OIR, p.16-18)
- In November 2017, Energy Division sent SCE, PG&E, SDG&E, Liberty Utilities, PacifiCorp and Bear Valley a comprehensive data request based on the outline in § 5.2.1.
- The data CPUC Staff received is primarily for 2005 to present, with some data points dating back to the 1960s.





I. Basic Details and Status of Projects:

	PG&E	SCE	SDG&E
Total Projects Underway	145	77	65
Total Projects Completed (2005-17)	282	134	186
Total Communities	266	208	27
Eligible Communities	All*	All*	24
Ineligible Communities	None	None	3**
Active Communities***	194	63	15
Inactive Communities	72	145	12
Total Work Credit Balance of Inactive Communities	\$108,815,591	\$88,348,414	\$16,630,018

*Includes communities served by municipal utilities, and communities that are served by more than one IOU
 **The three ineligible communities in SDG&E are Aliso Viejo, Laguna Hills, and Mission Viejo
 ***Active communities are defined as communities that have formed an undergrounding district, and/or started or completed an undergrounding project within the past 8 years



II. Project Cost and Credit Allocations: Cost Per Distance

1. PG&E

1. Cost per distance: \$650-\$1,150 per ft (\$3.4 M-\$6.1M per mile)
2. Cost per median project (Half Mile or 5 blocks): \$2,000,000 to \$3,500,000
3. Cost per minimum project (600 feet or one block): \$400,000 to \$700,000

2. SCE

1. Cost per distance: \$500-\$750 per ft (or \$2.6M to \$4M per mile)
2. Cost per median project (Half Mile or 5 blocks): \$1,500,000 to \$2,250,000
3. Cost per minimum project: between \$300,000 and \$450,000

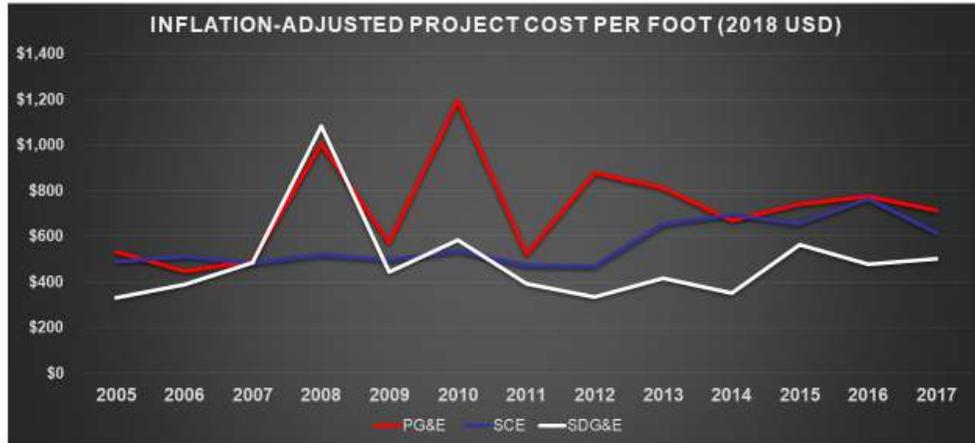
3. SDG&E

1. Cost per distance: \$500-\$700 per ft (\$2.64M-\$3.696M per mile)
2. Cost per median project (Half Mile or 5 blocks): \$1,500,000 to \$2,100,000
3. Cost per minimum project: \$300,000 to \$420,000





II. Project Cost and Credit Allocations: Cost Per Distance



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**II. Project Cost and Credit Allocations:
Allocations – 2019 Annual and Total Historical**

2019 Rule 20A Annual Allocations

- Liberty Utilities – \$1.43 Million
- PacifiCorp – \$520,000
- Bear Valley – \$0
- PG&E – \$41.3 Million
- SCE – \$30.1 Million
- SDG&E* – \$28.7 Million
- **Total 2019 Rule 20A Allocations – \$102 Million**

Total Rule 20A Allocations (1967-2019)

- Liberty Utilities – \$41.3 Million
- PacifiCorp – \$14.1 Million
- Bear Valley – \$0
- PG&E – \$2.1 Billion
- SCE – \$1.52 Billion
- SDG&E – \$848.4 Million
- **Total Rule 20A Allocations Since 1967 – \$4.6 Billion**

7 *SDG&E also allocated \$1 Million in Rule 20D work credits, which are not included in this total





III. Expenditures and Unexpended Funds: Total Expenditures and Unexpended Funds for Conversion Since 1967-2018

<u>Expenditures</u>	<u>Unused, Uncommitted, Funds*</u>
• PG&E – \$1.5 Billion	• PG&E – \$254 Million
• SCE – \$1.2 Billion	• SCE – \$207.6 Million
• SDG&E – \$735.3 Million	• SDG&E – (\$79.1 Million)
• Liberty – \$20.1 Million	• Liberty – \$18.9 Million
• PacifiCorp – \$4.2 Million	• PacifiCorp – \$8.8 Million
• Bear Valley – \$0	• Bear Valley – \$0
• Total – \$3.4 Billion	• Total – \$489.3 Million**

* There are \$963.1 million unused funds in total, and \$501.5 million are committed to projects underway.

** Excludes SDG&E since all unused funds are committed.

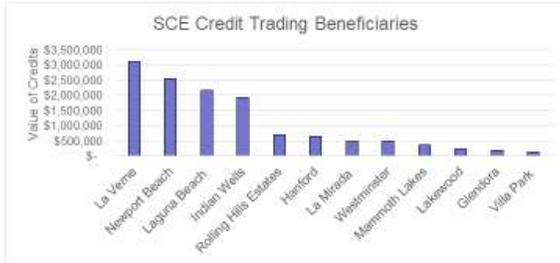
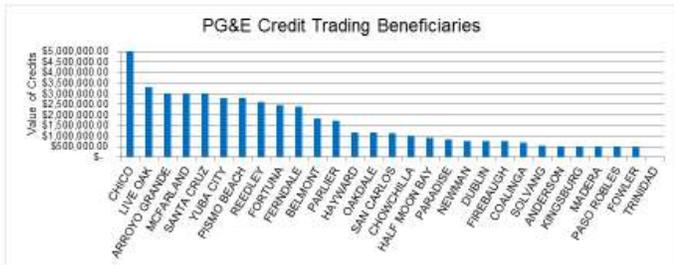
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IV. Rule 20A Work Credit Trading

Refers to buying, selling, loaning or gifting work credits. Not in the Rule 20A tariff and not condoned by the Commission.

- Total Rule 20A work credits traded since 2005: \$62.2 Million**
- PG&E: 44 transactions dating back to 2009 totaling \$46,081,487**
- SCE: 27 transactions since 2008 totaling \$13,026,453**
- SDG&E: one trade in 2010 in which San Diego County loaned \$2.9 million to the City of Vista for its East Vista Way project.**
- PacifiCorp: Siskiyou County transferred \$250,000 to the City of Weed's 2016 Rule 20A project.**



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V. Community Rule 20A Work Credits Redeemed – All IOUs

	Community	Utility	Total Work Credit Expenditures
1	City and County of San Francisco	PG&E	\$174,194,533
2	City of San Diego	SDG&E	\$123,959,969
3	Unincorporated Los Angeles County	SCE	\$80,199,098
4	Unincorporated San Diego County	SDG&E	\$66,219,539
5	City of Long Beach	SCE	\$66,113,635
6	City of Oakland	PG&E	\$59,290,182
7	City of San Jose	PG&E	\$54,445,341
8	Unincorporated San Bernardino County	SCE	\$38,824,162
9	City of Fresno	PG&E	\$ 34,846,837
10	City of Chula Vista	SDG&E	\$30,601,828



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V. Community Rule 20A Work Credits Redeemed – PG&E

	Community	County	Total Work Credit Expenditures
1	City and County of San Francisco	San Francisco	\$174,194,533
2	City of Oakland	Alameda	\$59,290,182
3	City of San Jose	Santa Clara	\$54,445,341
4	City of Fresno	Fresno	\$34,846,837
5	Fresno County	Fresno	\$20,486,987
6	Hayward	Alameda	\$20,163,522
7	Napa County	Napa	\$19,189,272
8	Bakersfield	Kern	\$18,755,164
9	Berkeley	Alameda	\$16,254,918
10	Alameda County	Alameda	\$15,984,518
11	Sonoma County	Sonoma	\$15,489,381
12	Stockton	San Joaquin	\$14,672,229
13	Placer County	Placer	\$14,362,360
14	Fremont	Alameda	\$12,702,851
15	Santa Rosa	Sonoma	\$12,451,192



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V. Community Rule 20A Work Credits Redeemed – SDG&E

	Community	County	Total Work Credit Expenditures
1	City of San Diego	San Diego	\$123,959,969
2	Unincorporated San Diego County	San Diego	\$66,219,539
3	City of Chula Vista	San Diego	\$30,601,828
4	Vista	San Diego	\$11,402,806
5	El Cajon	San Diego	\$11,274,167
6	La Mesa	San Diego	\$11,212,771
7	Encinitas	San Diego	\$6,637,177
8	National City	San Diego	\$6,123,514
9	San Clemente	Orange	\$6,052,847
10	Santee	San Diego	\$5,541,750
11	Imperial Beach	San Diego	\$5,511,517
12	Oceanside	San Diego	\$5,221,247
13	Escondido	San Diego	\$3,738,517
14	Solana Beach	San Diego	\$3,428,656
15	Laguna Niguel	Orange	\$2,103,944

SDG&E Communities That Have Not Completed a Project Since 2005
 Dana Point
 Laguna Beach
 Mission Viejo



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V. Community Rule 20A Work Credits Redeemed – SCE

	Community	County	Total Work Credit Expenditures
1	Unincorporated Los Angeles	Los Angeles	\$80,199,098
2	Long Beach	Los Angeles	\$66,113,635
3	Unincorporated San Bernardino	San Bernardino	\$38,824,162
4	Unincorporated Riverside	Riverside	\$28,371,710
5	Santa Ana	Orange	\$27,482,634
6	Santa Monica	Los Angeles	\$26,591,298
7	San Bernardino	San Bernardino	\$25,080,765
8	Torrance	Los Angeles	\$21,919,241
9	Inglewood	Los Angeles	\$21,358,234
10	Huntington Beach	Orange	\$20,264,926
11	Downey	Los Angeles	\$16,691,593
12	Garden Grove	Orange	\$15,691,032
13	Santa Barbara	Santa Barbara	\$15,308,949
14	Orange	Orange	\$15,285,099
15	Gardena	Los Angeles	\$13,533,602



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Undergrounding Proceeding (R.17-05-010) Staff Proposal



Communities With No Rule 20A Projects 2005-Present – PG&E

	Community	County		Community (Cont.)	County (Cont.)		Community (Cont.)	County (Cont.)
1	Alpine County	Alpine	16	Maricopa	Kern	31	Shasta Lake	Shasta
2	Atherton	San Mateo	17	Marysville	Yuba	32	Sierra County	Sierra
3	Biggs	Butte	18	Mendota	Fresno	33	Siskiyou County	Siskiyou
4	Blue Lake	Humboldt	19	Menlo Park	San Mateo	34	Soledad	Monterey
5	Brisbane	San Mateo	20	Monte Sereno	Santa Clara	35	Sutter Creek	Amador
6	Buellton	Santa Barbara	21	Oakley	Contra Costa	36	Tehama	Tehama
7	Callistoga	Napa	22	Plymouth	Amador	37	Wheatland	Yuba
8	Cloverdale	Sonoma	23	Point Arena	Mendocino	38	Williams	Colusa
9	Corcoran	Kings	24	Roseville	Sacramento			
10	Dos Palos	Merced	25	Sacramento County	Sacramento			
11	Foster City	San Mateo	26	San Benito County	San Benito			
12	Ione	Amador	27	San Bruno	San Mateo			
13	Lakeport	Lake	28	San Joaquin	San Joaquin			
14	Lassen County	Lassen	29	San Juan Bautista	San Benito			
15	Livingston	Merced	30	Saratoga	Santa Clara			

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Communities With No Rule 20A Projects 2005-Present – SCE

	Community	County		Community (Cont.)	County (Cont.)
1	Aliso Viejo	Orange	16	Pasadena	Los Angeles
2	Anaheim	Orange	17	Rancho Santa Margarita	Orange
3	Banning	San Bernardino	18	Riverside	Riverside
4	Calabasas	Los Angeles	19	Unincorporated Imperial	Imperial
5	Colton	San Bernardino	20	Unincorporated Madera	Madera
6	Eastvale	Riverside	21	Unincorporated San Diego	San Diego
7	Glendale	Los Angeles	22	Unincorporated Tuolumne	Tuolumne
8	Goleta	Santa Barbara	23	Wildomar	Riverside
9	Grand Terrace	San Bernardino	24	Yucca Valley	San Bernardino
10	Jurupa Valley	Riverside			
11	Laguna Hills	Orange			
12	Laguna Niguel	Orange			
13	Laguna Woods	Orange			
14	Los Angeles	Los Angeles			
15	Menifee	Riverside			

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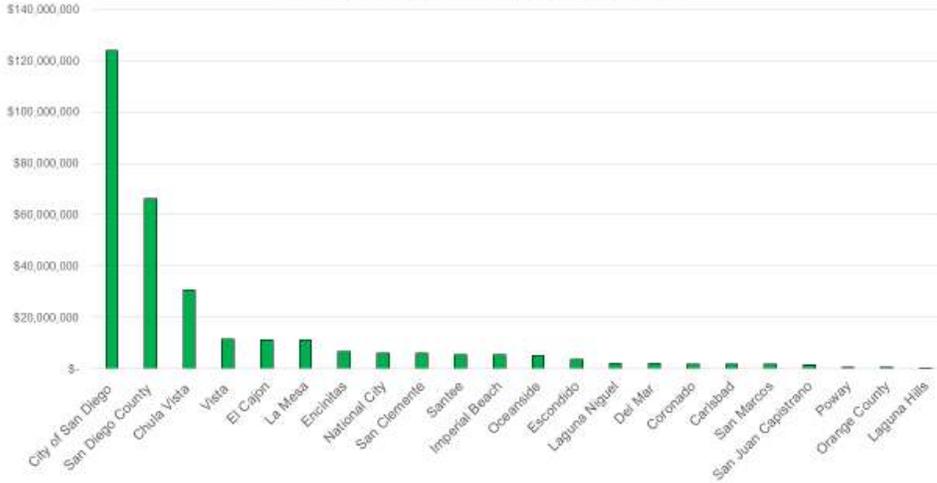


Undergrounding Proceeding (R.17-05-010) Staff Proposal



V. Community Rule 20A Work Credits Redeemed (Cont.)

SDG&E Value of Credits Redeemed (2005-2017)



SDG&E Communities That Have Not Completed a Project Since 2005

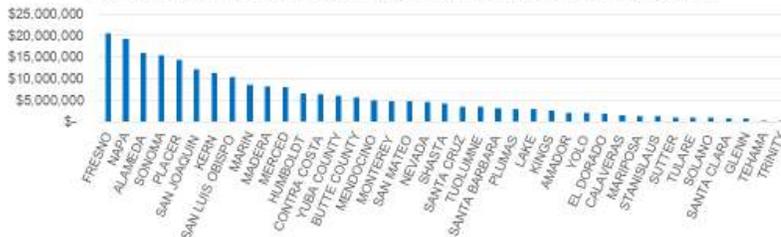
Dana Point
Laguna Beach
Mission Viejo

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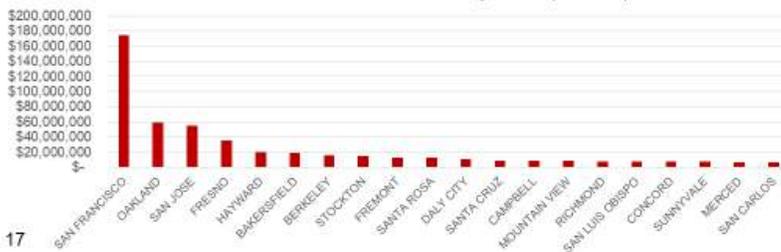


V. Community Rule 20A Work Credits Redeemed (Cont.)

PG&E Value of Credits Redeemed by Unincorporated Counties (2005-17)



PG&E Value of Credits Redeemed by Cities (2005-17)



PG&E Communities That Have Not Completed Any Projects Since 2005

ALPINE COUNTY
ATHERTON
BIGGS
BLUE LAKE
BRISBANE
BUELLTON
CALISTOGA
CLOVERDALE
CORCORAN
DOS PALOS
FOSTER CITY
IONE
LAKEPORT
LASSEN COUNTY
LIVINGSTON
MARICOPA
MARYSVILLE
MENDOTA
MENLO PARK
MONTE SERENO
OAKLEY
PLYMOUTH
POINT ARENA
ROSEVILLE
SACRAMENTO COUNTY
SAN BENITO COUNTY
SAN BRUNO
SAN JOAQUIN
SAN JUAN BAUTISTA
SARATOGA
SHASTA LAKE
SIERRA COUNTY
SISKIYOU COUNTY
SOLEDAD
SUTTER CREEK
TEHAMA
WHEATLAND
WILLIAMS

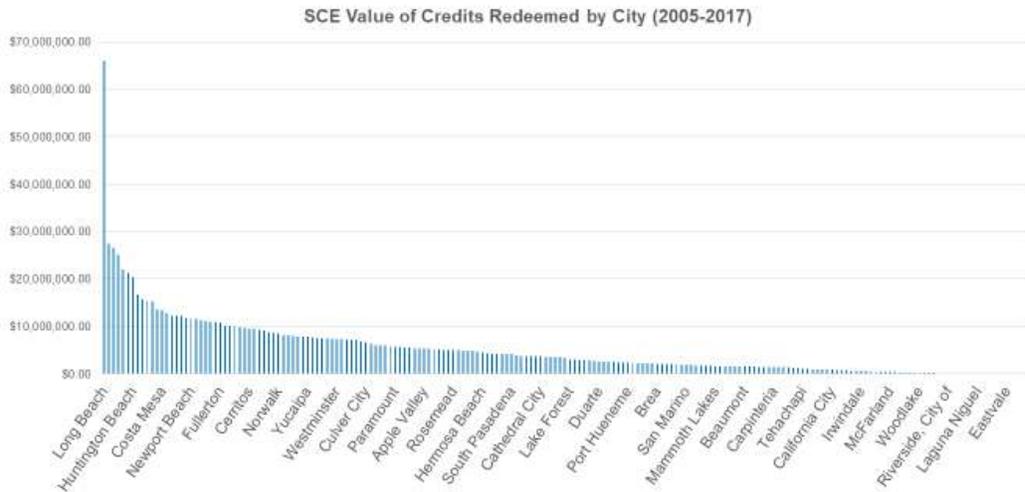
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Undergrounding Proceeding (R.17-05-010) Staff Proposal



V. Community Rule 20A Work Credits Redeemed (Cont.)



SCE Communities that Have not Completed a Project Since 2005

- Aliso Viejo
- Anaheim
- Banning
- Calabasas
- Colton
- Eastvale
- Glendale
- Goleta
- Grand Terrace
- Jurupa Valley
- Laguna Hills
- Laguna Niguel
- Laguna Woods
- Los Angeles, City of
- Menifee
- Pasadena
- Rancho Santa Margarita
- Riverside, City of
- Unincorporated Imperial
- Unincorporated Madera
- Unincorporated San Diego
- Unincorporated Tuolome
- Wildomar
- Yucca Valley



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VI. Work Credit Debt

- 58 communities across the State have work credit debt and are unable to participate in the program.
- Communities with highest levels of work credit debt shown to the right.

Community	Utility	2019 Allocation	2019 Balance	Years in Work Credit Debt
Chino Hills	SCE	\$ 10,204	\$ (893,909)	87.6
Napa County	PG&E	\$ 152,605	\$ (11,331,024)	74.3
Firebaugh	PG&E	\$ 17,599	\$ (989,237)	56.2
Anderson	PG&E	\$ 40,122	\$ (2,016,864)	50.3
San Marcos	SDG&E	\$ 6,200.00	\$ (296,131.00)	47.8
Riverbank	PG&E	\$ 35,243	\$ (1,653,339)	46.9
La Canada-Flintridge	SCE	\$ 76,772	\$ (3,465,161)	45.1
Belvedere	PG&E	\$ 6,036	\$ (262,373)	43.5
Angels Camp	PG&E	\$ 16,682	\$ (624,828)	37.5
Hillsborough	PG&E	\$ 28,109	\$ (861,117)	30.6
Manhattan Beach	SCE	\$ 167,484	\$ (4,028,934)	24.1
Laguna Hills	SDG&E	\$ 1,833.00	\$ (38,559.00)	21.0
Campbell	PG&E	\$ 162,665	\$ (2,911,057)	17.9
Fowler	PG&E	\$ 16,848	\$ (269,867)	16.0
Brea	SCE	\$ 76,795	\$ (1,222,996)	15.9
San Francisco	PG&E	\$ 2,970,435	\$ (42,687,251)	14.4
Atwater	PG&E	\$ 68,848	\$ (875,490)	12.7
Mill Valley	PG&E	\$ 61,858	\$ (674,340)	10.9
Inwindale	SCE	\$ 10,237	\$ (103,365)	10.1
Malibu	SCE	\$ 39,702	\$ (381,408)	9.6

(Source: IOU R.17-05-010 Data Request Responses and 2019 Allocation Reports)



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VII. Rule 20A Program Cost to Residential Customers

1. PG&E: Estimated at \$9.46 per customer in 2017.

2017 revenue requirement for projects installed from 1968 through 2017:

Total plant additions (1968 through 2017): \$1.4 billion
 2017 Rate Base: \$428 million (plant in service less accumulated depreciation and deferred taxes)
 2017 Revenue Requirement: \$90.8 million

Total number of customers: 5.47 million
 2017 Revenue Requirement per customer (average): \$16.60

Revenue Requirement allocated to residential class: \$45.4 million (before CARE reallocation)
 Number of residential customers: 4.80 million
 2017 Revenue Requirement per residential customer (average): \$9.46

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VII. Rule 20A Program Cost to Residential Customers (Cont.)

2. SDG&E:

Year	Annual cost to average residential customer	Annual gross cost to residential customers	Annual cost to average customer	Annual gross cost to customers
Date	Nominal \$	Nominal \$	Nominal \$	Nominal \$
2017	\$12.65	\$18,785,658.00	\$16.86	\$25,047,544.00

Note: Approximately 72-77% of residential customers contribute to Rule 20A project funds within each municipality. This ratio was applied to the allocations for each year to calculate the average annual residential costs shown here.

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VII. Rule 20A Program Cost to Residential Customers (Cont.)

3. SCE:

(IX.) SCE Cost of Rule 20 A Program per Residential Customer								
Year	Monthly cost per average residential customer	Annual cost per average residential customer	Number of Residential Electrical Meters	Annual gross cost to residential customers (as SCE reported to Jonathan)	Percent of Total Annual Cost that annual gross cost to residential customers represents (Column G/I shown as a %)	Total Annual cost (from Completion Reports, Line 5)	Total residential customers	Total non-residential customers (e.g. C&I customers)
Date	Nominal \$	Nominal \$		Nominal \$	Nominal \$	Nominal \$	Number	Number
2017	\$0.66	\$7.92	4,397,153	\$ 34,825,452	226%	\$ 15,414,956	4,397,153	679,897

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Thank You!



**Jonathan Frost
CPUC
jf6@cpuc.ca.gov
415-703-5412**

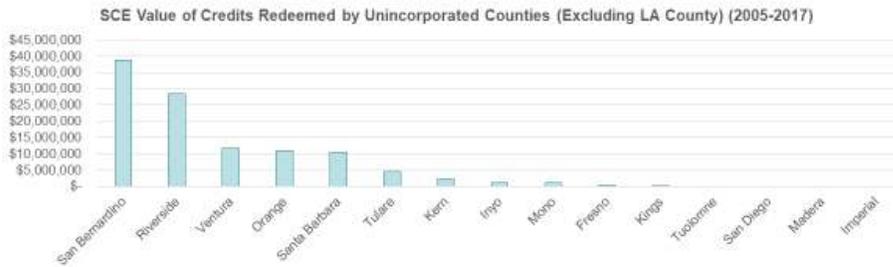
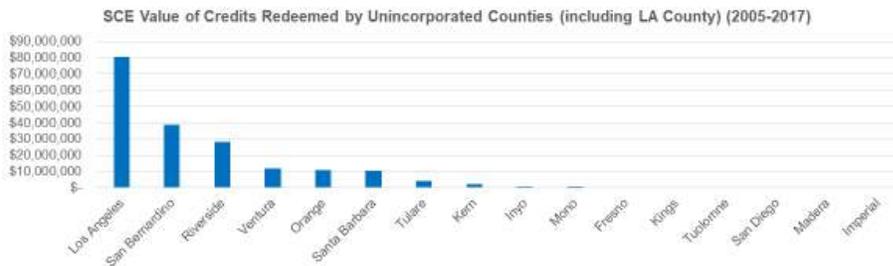
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Additional Slides

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VI. Rule 20A Program Cost to Residential Customers

2. SDG&E:

(IX.) SDG&E Cost of Rule 20 A Program for Residential Customers

Year	Annual cost to average residential customer	Annual gross cost to residential customers	Annual cost to average customer	Annual gross cost to customers
Date	Nominal \$	Nominal \$	Nominal \$	Nominal \$
2017	\$12.65	\$18,785,658.00	\$16.86	\$25,047,544.00
2016	\$13.15	\$19,533,081.00	\$17.53	\$26,044,108.00
2015	\$12.22	\$18,292,628.25	\$16.29	\$24,390,171.00
2014	\$11.41	\$16,952,933.25	\$15.21	\$22,603,911.00
2013	\$12.65	\$18,470,869.50	\$16.87	\$24,627,826.00
2012	\$12.23	\$17,846,808.75	\$16.30	\$23,795,745.00
2011	\$12.17	\$17,758,015.50	\$16.22	\$23,677,354.00
2010	\$12.88	\$18,027,976.50	\$17.17	\$24,037,302.00
2009	\$12.11	\$16,521,804.00	\$16.14	\$22,029,072.00
2008	\$12.49	\$17,046,691.50	\$16.65	\$22,728,922.00
2007	\$11.42	\$15,463,686.00	\$15.22	\$20,618,248.00
2006	\$10.79	\$14,018,151.75	\$14.38	\$18,690,869.00
2005	\$11.19	\$14,542,416.75	\$14.92	\$19,389,889.00

Note: Approximately 72-77% of residential customers contribute to Rule 20A project funds within each municipality. This ratio was applied to the allocations for each year to calculate the average annual residential costs shown here.



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VI. Rule 20A Program Cost to Residential Customers

3. SCE:

(IX.) SCE Cost of Rule 20 A Program per Residential Customer

Year	Monthly cost per average residential customer	Annual cost per average residential customer	Number of Residential Electrical Meters	Annual gross cost to residential customers (as SCE reported to Jonathan)	Percent of Total Annual Cost that annual gross cost to residential customers represents (Column G/I shown as a %)	Total Annual cost (from Completion Reports, Line 5)	Total residential customers	Total non-residential customers (e.g. C&I customers)
Date	Nominal \$	Nominal \$		Nominal \$	Nominal \$	Nominal \$	Number	Number
2018	\$0.63	\$7.56	4,426,025	\$ 33,460,749	137%	\$ 24,434,672	4,426,025	682,097
2017	\$0.66	\$7.92	4,397,153	\$ 34,825,452	226%	\$ 15,414,956	4,397,153	679,897
2016	\$0.77	\$9.24	4,367,483	\$ 40,355,543	119%	\$ 33,912,667	4,367,483	678,111
2015	\$0.77	\$9.22	4,338,761	\$ 40,013,241	92%	\$ 43,490,570	4,338,761	675,456
2014	\$0.79	\$9.48	4,312,953	\$ 40,891,033	174%	\$ 23,519,929	4,312,953	673,511
2013	\$0.77	\$9.22	4,287,273	\$ 39,540,673	189%	\$ 20,963,967	4,287,273	672,595
2012	\$0.77	\$9.18	4,261,598	\$ 39,137,990	112%	\$ 35,029,268	4,261,598	670,834
2011	\$0.76	\$9.17	4,242,791	\$ 38,925,105	70%	\$ 55,219,092	4,242,791	670,207
2010	\$0.81	\$9.68	4,225,677	\$ 40,923,407	582%	\$ 7,034,856	4,225,677	668,693
2009	\$0.75	\$9.04	4,201,161	\$ 37,971,235	675%	\$ 5,622,122	4,201,161	666,828
2008	\$0.74	\$8.88	4,184,346	\$ 37,155,291	82%	\$ 45,563,006	4,184,346	665,087
2007	\$0.72	\$8.70	4,170,974	\$ 36,276,835	85%	\$ 42,704,093	4,170,974	664,199
2006	\$0.68	\$8.14	4,141,709	\$ 33,732,953	84%	\$ 40,347,742	4,141,709	656,743
2005	\$0.65	\$7.80	4,081,885	\$ 31,819,323	66%	\$ 48,058,889	4,081,885	646,974



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(End of Attachment A)