

Company: San Diego Gas & Electric Company (U 902-E)
Proceeding: 2019 Tree Trimming Balancing Account
Application: A.20-07-____
Exhibit: SDG&E-01

SAN DIEGO GAS & ELECTRIC COMPANY
PREPARED DIRECT TESTIMONY OF
DON AKAU

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



July 1, 2020

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1 **PREPARED DIRECT TESTIMONY OF DON AKAU**
2 **ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

3
4 **I. INTRODUCTION**

5 My name is Don Akau. I am the Vegetation and Pole Integrity Manager at San Diego
6 Gas & Electric Company (“SDG&E”). My qualifications are attached to this testimony as
7 Section V of this testimony. My business address is 8315 Century Park, San Diego, CA 92123.

8 As Vegetation and Pole Integrity Manager, I am responsible for developing,
9 implementing and managing SDG&E’s Vegetation Management Program (“Program”). As the
10 Program Manager and a certified arborist, I strive to ensure public safety, compliance with all
11 rules and regulations and to preserve the health and safety of our Urban and Rural forested lands.
12 Trees and vegetation are critical to the balance of the ecosystem and I am proud to be an arborist
13 in a position to find positive solutions where trees and the utilities can co-exist in a sustainable
14 manner.

15 The purpose of my testimony is: (1) to describe SDG&E’s Vegetation Management
16 Program; (2) address SDG&E’s 2019 expenditures on vegetation management, specifically
17 spending associated with the Tree Trimming Balancing Account (“TTBA”); and (3) explain
18 why, despite prudent cost-management efforts, SDG&E’s 2019 expenditures recorded to the
19 TTBA exceeded the amount authorized in Decision (“D.”) 19-09-051 (“2019 GRC Decision”),
20 SDG&E’s 2019 General Rate Case (“GRC”).

21 Generally, SDG&E’s TTBA expenditures have increased as a result of enhanced
22 vegetation management practices with respect to wildfire mitigation and reduction of Public
23 Safety Power Shutoff (“PSPS”) events, including the identification and removal of more hazard
24 and reliability trees; enhanced audits in the High Fire Threat District (“HFTD”), resulting in
25 additional workloads and tree removal; and increased labor costs as a result of a surge in demand

1 for certified arborists and tree work statewide. SDG&E addressed the potential for increased
2 costs in its 2019 GRC and requested the two-way balancing account in lieu of forecasting
3 unpredictable cost increases.¹

4 In Section II, I describe SDG&E's Vegetation Management Program, applicable laws and
5 regulations, and changes to the Program as a result of the 2019 Wildfire Mitigation Plan and
6 other risk mitigation efforts. I also note that SDG&E's Vegetation Management Program has
7 successfully reduced tree-caused outages and enhanced reliability. In Section III, I discuss the
8 specific drivers of SDG&E's 2019 expenditures recorded to the TTBA. SDG&E submits that it
9 reasonably incurred the costs at issue in this Application because they arose from enhanced
10 wildfire mitigation activities intended to promote safety, and due to circumstances outside of
11 SDG&E's control, such as labor market changes. Further, SDG&E prudently managed its
12 spending on vegetation management through its use of long-term contracts, competitive pricing
13 for tree-trimming work, and internal audit practices.

14 **II. SDG&E'S VEGETATION MANAGEMENT PROGRAM**

15 The Vegetation Management Program is responsible for inspecting and maintaining an
16 inventory of approximately 460,000 trees that have the potential to encroach within the minimum
17 required compliance distance between vegetation and overhead power lines. The Program also
18 coordinates all vegetation management activities, which are primarily performed by third-party
19 contractors. SDG&E's tree inventory database and work management system are collectively
20 managed through the PowerWorkz system, a web-based application and database. Vegetation
21 management is integral to both reliability as well as wildfire prevention and mitigation efforts.
22 All trees in the database are monitored using known species growth rates, with additional

¹ See A.17-10-007, Second Revised SDG&E Direct Testimony of William H. Speer (May 7, 2018).

1 consideration given to the amount of rainfall occurring during periods affecting overall tree
2 growth, as well as past pruning practices. SDG&E also utilizes its vegetation management data,
3 including the tree inventory database, outage history, and meteorological data, to develop a
4 Vegetation Risk Index of the highest tree-risk areas of its service territory. The goal of this
5 initiative is to leverage data and intelligence to gain additional insights on how atmospheric
6 conditions impact the growth rates of certain species and to identify certain high-risk vegetation
7 areas.

8 Tree trimming work includes pruning healthy trees growing into overhead power lines as
9 well as the pruning or removal of dead, dying, diseased, or structurally unsound trees with the
10 potential to fall into overhead lines. SDG&E’s tree-trimming activities are covered by a two-
11 way balancing account, as approved by the Commission in the 2019 GRC Decision.²

12 SDG&E is responsible for compliance with General Order (“GO”) 95, Rule 35; Public
13 Resources Code, sections 4292 and 4293; and NERC FAC-003. These rules and regulations
14 mandate a minimum clearance between vegetation and SDG&E facilities. SDG&E’s Vegetation
15 Management Department sets the standards, guidelines, and processes for the overall Program to
16 comply with all applicable rules, laws and regulations. Additionally, the Department oversees
17 compliance with SDG&E’s Wildfire Mitigation Plans as approved by the Commission. The
18 Vegetation Management Department includes a staff of Team Leads, Area Foresters, Contract
19 Administrators, Quality Assurance Specialists, Technical Support, and Customer Service
20 Administration Staff.

21 SDG&E strives to be a leader in sustainable vegetation management. SDG&E has
22 routinely been recognized by the National Arbor Day Foundation as a “Tree Line USA” utility

² D.19-09-051 at 266-267.

1 company in recognition of “best practices” combining worker education and training, public
2 outreach, quality tree care, and system reliability. SDG&E’s vegetation management practices
3 have received numerous recognitions over the years from a variety of agencies, cities, schools,
4 and international organizations. The Program strives to engage all stakeholders in raising the bar
5 to promote public and employee safety. And the Program is also focused on sustainability,
6 leveraging its “Right Tree Right Place” program to improve the urban landscape, and using
7 opportunities to repurpose biomass and reduce the Program’s environmental footprint.

8 **A. General Inspection and Pruning Activities**

9 Generally, two types of work drive tree trimming program costs: (1) routine work and (2)
10 field memo and hazard tree work. Routine work includes the annual cycle pruning and removal
11 of trees. Pre-inspection contractors perform the overhead power line patrols which identify trees
12 to be pruned and removed. During pre-inspection activity, trees in proximity to SDG&E’s
13 powerlines are inspected and evaluated and field inspectors update the tree inventory database
14 accordingly. Each Program tree is visited at least once per cycle. The annual inspections include
15 routine maintenance and hazard tree assessments to verify that trees will remain compliant for
16 the duration of the cycle and/or are pruned to standards and clearances. Trees that will not
17 remain compliant or that have the potential to impact powerlines within the annual pruning cycle
18 are identified and assigned to the tree contractor to work. Routine tree pruning and removal is
19 typically done by a contractor and compensated on a contractually negotiated unit price basis.

20 Field memos include reactive and unscheduled tree pruning, including customer refusals,
21 hazard tree pruning and removal, environmentally and culturally sensitive pruning activities,
22 trees which require priority pruning, district requests, and customer safety checks. Emergency
23 pruning occurs when a tree requires immediate attention to clear an infraction or poses an
24 imminent threat to electrical facilities. Due to the varied nature of these orders, this type of work

1 is performed by contractors and compensated on a Time & Equipment (“T&E”) basis. While
2 T&E rates are contractually negotiated, these rates are typically higher than work completed on a
3 unit price basis, due to the complexity and non-routine nature of the projects. Generally, tree-
4 trimming unit price costs can start at approximately \$522 for a reliability trim when larger wood
5 is left onsite at the customer’s premise. With T&E pricing, rates to mitigate and trim larger trees
6 can be several thousand dollars, particularly when all wood is removed from the site. SDG&E
7 field personnel may only perform limited vegetation management activities if they are simple in
8 nature and can be done at the time of identification.

9 Where prudent and achievable, SDG&E prunes trees throughout its service territory to a
10 12-foot (or more) clearance, to remain compliant with all regulatory and internal minimum
11 requirements. The post pruning clearances obtained by the tree contractor are determined by
12 factors such as species, tree growth, wind sway, and proper pruning practices. Fast growing
13 species may require post-pruning clearances of at least 16-20 feet to remain compliant with
14 minimum requirements for the annual cycle.

15 Within the HFTD, SDG&E performs routine and non-routine hazard tree inspections
16 annually. These inspections are performed by International Society of Arboriculture Certified
17 Arborists and include a 360-degree assessment of every tree within the “strike zone” of the
18 conductors. The “strike zone” includes the area adjacent to powerlines both inside and outside of
19 the rights-of-way for trees that are tall enough to potentially strike the overhead facilities. As
20 addressed below, to achieve desired wildfire mitigation, SDG&E now aims to prune identified
21 tree species to a 25-foot clearance within the HFTD. The new clearance is a substantial increase
22 from previously implemented practices. On average, SDG&E prunes approximately 175,000
23 trees each year and removes approximately 8,500 non-compatible trees.

1 **B. Quality Assurance**

2 SDG&E has a quality control program to verify that all tree trimming is completed in
3 accordance with applicable laws, regulations, and the scope of work. Throughout the service
4 territory, an automated random sampling method is used to create audit work packages, and then
5 the auditor field reviews records for adherence to contract specifications, quality and compliance.
6 In conjunction with the post-prune audit, auditing activity includes a patrol of all spans of
7 overhead power lines for any trees that may have encroached the minimum clearance zones since
8 the last pre-inspection activity. This activity provides a higher level of compliance for the
9 duration of the annual cycle. In 2019, as an enhanced wildfire mitigation measure, and to verify
10 compliance in all areas of the HFTD, SDG&E performed 100% audit and patrol in the HFTD
11 areas.

12 SDG&E’s vegetation management activities have greatly reduced tree-caused outages
13 over the years. In the early 1990’s, prior to industry regulation, SDG&E encountered an average
14 of 400-500 tree caused outages annually. After establishing the Program, SDG&E experienced a
15 dramatic reduction in tree-related outages. SDG&E conducts a thorough investigation of all tree-
16 related outages and maintains an investigation database to track and record the events. The
17 information aids in preventing future occurrences and further refining the Program.

18 **III. SDG&E’S 2019 VEGETATION MANAGEMENT EXPENDITURES**

19 The 2019 GRC Decision granted SDG&E modification from a one-way to a two-way
20 balancing account for the TTBA, to account for unpredictable vegetation management costs in
21 response to weather and other conditions, enable SDG&E to respond to and mitigate wildfire

1 risk, and allow SDG&E to return excess funds not utilized to ratepayers.³ The 2019 GRC
2 Decision based the 2019 revenue requirement on a four-year average of historical tree-trimming
3 costs.⁴ The 2019 GRC Decision also required SDG&E to file a Tier 3 advice letter for recovery
4 of undercollections of tree trimming costs up to 35 percent, and to file an application for
5 undercollections in excess of 35% of the authorized revenue requirement.⁵ SDG&E's 2019
6 TTBA year-end balance recorded a \$10.4 million undercollection, which is more than 35% of the
7 authorized revenue requirement.⁶ Several cost drivers contributed to the undercollection, as
8 addressed below.

9 **A. Enhanced Vegetation Management**

10 In its 2019 Wildfire Mitigation Plan, SDG&E proposed enhancements to its current
11 vegetation practices related to inspections, patrols, and trimming in the HFTD. Specifically,
12 during the annually scheduled routine inspections, SDG&E increased the pre-inspection scope to
13 include all trees within the strike zone of transmission and distribution electric facilities.
14 Accordingly, in 2019 SDG&E assessed all trees tall enough to strike overhead lines for
15 hazardous conditions and reduced or removed trees to prevent line strikes from tree failure or
16 limb break outs. SDG&E also expanded mid-cycle patrols and inspection of vegetation in its
17 service area.

³ D.19-09-051 at 266-267 (“Costs were forecast using a four-year average because costs in 2012 were unusually high.”).

⁴ Costs between 2013-2016 formed the basis for the average.

⁵ D.19-09-051, Ordering Paragraph 8.b. at 778.

⁶ See prepared direct testimony of Claire Olegario for additional detail on the TTBA undercollection calculation.

1 Enhancements to the Vegetation Management Program included substantial expansion of
2 the post-prune clearances for trees in the SDG&E service territory. In the HFTD, the tree-trim
3 scope was also increased to achieve a 25-foot clearance post-prune, where feasible, between
4 trees and electric facilities. The 25-foot clearance expanded beyond legal and regulatory
5 requirements and particularly targeted high-risk, fast-growth species in the HFTD, such as
6 eucalyptus, pine, oak and sycamore. Both trees that could grow within the 25-foot clearance of
7 the power line or, alternatively, blow into the clearance area, were coded for trimming where
8 feasible. These expanded reliability trim clearances resulted in additional costs. On average,
9 between 2018 and 2019, costs increased an average of approximately \$64 per reliability tree
10 trim.

11 **B. Hazard Tree Removal**

12 The primary driver of the TTBA cost increases is associated with the removal of hazard
13 trees—trees tall enough to strike overhead electric lines in the event of a whole tree failure or
14 limb break. Historically, the vast majority of tree-related outages and ignitions involving
15 tree/line contact were the result of trees that dropped branches or failed onto power lines.
16 Hazard tree evaluation is a critical component of SDG&E’s Vegetation Management Program
17 operations in efforts to reduce tree-related outages and avoid fire ignitions. SDG&E utilizes
18 International Society of Arboriculture certified arborists to perform its hazard tree inspections.
19 These individuals also receive annual hazard tree inspection training to stay current with best
20 practices. SDG&E actively pursues the removal of non-compatible tree species with known
21 tendencies for branch or trunk failure, and trees that are dead, dying, or structurally defective.

22 In 2019, SDG&E inspectors performed enhanced hazard tree reviews with a particular
23 focus in the HFTD. Inspection activities included a review of hazard trees that presented a
24 reasonable and likely potential to strike power lines as a result of failure. Any tree that could

1 strike a line from a fall at ground level was inspected, with a specific focus on certain fast-
2 growth and high-risk tree species as identified in SDG&E's Vegetation Risk Index. SDG&E
3 also initiated off-cycle, additional patrols of high-risk species to remediate issues before they
4 became a danger. As a result of the enhanced hazard tree assessments, SDG&E identified,
5 removed, or trimmed a significantly larger number of hazard and reliability trees in 2019. In
6 2019, SDG&E identified and remediated approximately 9,538 hazard trees, compared to 5,512
7 trees identified in 2015.

8 Hazard tree removal and trimming presents substantial additional costs, many of which
9 are dependent upon the tree and remediation efforts involved. Costs can start at hundreds of
10 dollars, but typical tree removal costs in the tens of thousands. Removal of trees identified as
11 reliability or hazard trees is usually performed at T&E rates. Generally, tree removal involves a
12 flat removal fee to the contractor, in addition to hourly costs for labor. Large trees can take days
13 to remove and involve expensive specialized heavy equipment for worker safety and efficiencies.
14 Due to the size of most hazard trees, removal and trimming work can include the use of cranes,
15 100/125 aerial lifts for larger crews, whole tree chippers, prentice loaders, loaders, and transport
16 of roll-off bins. The additional equipment requires specialized crews and transportation as well.
17 Additionally, depending on the size or location of the tree, SDG&E contractors must implement
18 protocols to ensure the safety of both contractors and the public. In the HFTD—where the
19 majority of hazard tree work is completed—SDG&E requires third party fire suppression
20 resources on site for emergency and hazard tree work. After the tree is removed, SDG&E must
21 also remove debris and arrange for recycling or composting of wood. As such, costs can range as
22 high as \$30,000 for one tree removal.

1 For one of SDG&E's major contractors, routine tree trim rates for hazard or reliability
2 tree removal/trim increased 11% between 2018 and 2019. That percentage increase excludes
3 costs for lodging, overtime, and outsourced labor, as addressed below. These cost increases,
4 coupled with the larger number of hazard trees removed, resulted in a substantial portion of the
5 increased TTBA spending.

6 SDG&E also focused efforts on an aggressive hazard tree removal program and
7 campaign educating customers regarding "Right Tree-Right Place." This program encourages
8 sustainable tree removal and replacement, with the goal of modifying urban and rural forest areas
9 and reducing customer impact as a result of frequent tree-trimming visits. SDG&E offers free
10 tree replacements when an existing tree cannot be maintained safely near powerlines and should
11 be removed rather than trimmed.

12 As a result of the expanded post-prune clearance and enhanced vegetation management
13 plan, SDG&E has faced additional expenditures related to customer education as well as
14 customer refusal resolution efforts. Currently, there are approximately 1000 customer refusals in
15 the HFTD, resulting in increased costs to achieve resolution and compliance with SDG&E's
16 vegetation management programs.

17 Additionally, enhanced vegetation management programs have resulted in increased
18 biomass and recycling costs. Tree removal operations in sensitive environmental areas must be
19 reviewed in advance to determine protocols to protect species and habitats. With customer
20 consent, SDG&E will leave wood behind after tree removal, but only large pieces in excess of 6-
21 8 inches in diameter. Remaining wood is placed in a way to prevent erosion and maintain soil
22 integrity. In some instances, customers also request removal of all tree debris, which results in
23 additional chipping and recycling costs. SDG&E is working closely with composting and

1 recycling vendors to reduce its landfill footprint and the overall carbon footprint of tree
2 removals. SDG&E supports woodworking vendors through the lumber cycle, including Palomar
3 College, and has retained a vendor, Corona Enterprises, to address sustainability, tree salvage,
4 and wood working issues. SDG&E continues to work to find additional composting vendors to
5 reduce landfill use.

6 **C. Enhanced Audit**

7 Upon completion of the tree pruning and removal activity, a certified arborist performs a
8 quality assurance audit, typically on a random representative sample of the completed work, to
9 ensure compliance with the scoping requirements. During the audit, the certified arborist also
10 performs a cursory inspection of the powerlines within the Vegetation Management Area for any
11 trees that will not remain in compliance with applicable requirements until the next trim cycle.
12 The results are then reviewed with SDG&E and the contractor to determine if any additional
13 work is required. For 2019, SDG&E also enacted a complete line patrol during the audit and
14 100% audit of all hazard and reliability tree work in the HFTD to ensure compliance with all
15 vegetation management requirements. The estimated additional costs of these Off-Cycle Level 2
16 inspections in conjunction with Post-Trim Audits over 2019 were approximately \$197,000. In
17 addition to substantial increases in labor costs, the enhanced audit resulted in the trimming
18 and/or removal of an additional 417 trees, of which 227 were hazard or reliability trees.

19 **D. Labor and Equipment**

20 The implementation of the California utilities' Wildfire Mitigation Plans and increased
21 efforts at wildfire mitigation statewide has resulted in generally increased labor costs related to
22 vegetation management. All major California utilities are simultaneously implementing
23 enhanced vegetation management practices to mitigate fire risk, resulting in substantial increases
24 in demand for certified arborists and vegetation management labor. Due to labor constraints,

1 SDG&E has had to retain, train and ramp-up outside tree crews from other states to support the
2 increased workload in the HFTD. In order for these outsourced crews to work in the field, they
3 must be trained on SDG&E customer engagement protocols, notifications, refusal forms, fire
4 tools necessary to safely perform work, understanding of clearances necessary at time of trim
5 and/or removal, navigation, and use of SDG&E IT hardware and software. Currently SDG&E is
6 averaging 117 tree crews on property, an increase from the historical average of 80 crews. On
7 average, the cost of these outsourced crews, including per-diems, lodging, and overtime is
8 approximately \$60,000 per week. For one of SDG&E's major contractors, the increase in
9 overtime pay—at time and a half rates—over 2018 was approximately \$242,000. SDG&E
10 anticipates that these increased costs will continue and/or escalate as utilities across California
11 address vegetation management programs statewide.

12 For 2019, SDG&E also implemented two new safety positions, the general foreman for
13 safety and the on-site safety representative. While these positions are necessary for continued
14 job safety for vegetation management personnel, they also create cost increases over previous
15 years. The general foreman is paid \$41 hourly and the safety representative receives \$42 per
16 hour.

17 Exigent conditions also constrain vegetation management work and have resulted in cost
18 increases. Except in cases of emergency, all vegetation management work is stopped during Red
19 Flag Warning events. During elevated or extreme weather events that could lead to a designated
20 Red Flag Warning, SDG&E vegetation management contractors are kept informed of the
21 conditions, allowing them time to relocate crews into safe work areas. In instances of emergency
22 tree pruning during extreme fire conditions, additional fire equipment and/or professional fire
23 services are required to assist tree crews, resulting in additional cost. Additionally, SDG&E

1 must prepare and stage tree trimming crews during winter storms for emergency response.
2 During these emergency events, routine tree work is put on hold to attend to immediate needs in
3 SDG&E's service territory. This work must be made up with crews working overtime, with
4 associated costs, to maintain the routine work schedule throughout the service area.

5 **E. Cost Management**

6 SDG&E prioritizes cost-effectiveness and prudent cost management in its tree-trimming
7 and vegetation management activities. As with any work, customer and employee safety are
8 paramount. SDG&E has long-term contracts with reputable tree trimming companies, with
9 whom the company has long-standing relationships. The contracts are competitively negotiated
10 and based on available information. Accordingly, SDG&E believes that its vegetation
11 management contracts are competitive both for per-unit work as well as hourly rates. SDG&E
12 audits every contractor for compliance with negotiated scopes of work. In addition, vegetation
13 management contracts are vetted through internal supply management to evaluate cost-
14 effectiveness. As described in the prepared direct testimony of Ms. Olegario, SDG&E's ongoing
15 prudence in cost management and cost effectiveness has resulted in a history TTBA
16 overcollections over the past several years. These overcollections were returned to ratepayers.

17 The Vegetation Management Program is also routinely audited by its corporate parent,
18 Sempra Energy. Sempra Energy evaluates SDG&E's Vegetation Management Program
19 specifically to verify that the activities are performed in compliance with regulations and
20 SDG&E requirements. These audits make recommendations for improvement on all aspects of
21 the Vegetation Management Program to management when improvement is possible, and
22 monitors compliance with approved changes.

1 **IV. CONCLUSION**

2 In compliance with D.19-09-051, which requires SDG&E to request cost recovery
3 through an Application for TTBA undercollections above 35% of the revenue requirement,
4 SDG&E respectfully requests that the Commission authorize recovery of the 2019
5 undercollected TTBA balance.

1 **V. WITNESS QUALIFICATIONS**

2 My name is Don Akau. I am the Vegetation and Pole Integrity Manager at San Diego Gas
3 and Electric Company (“SDG&E”). I am responsible for developing, implementing and
4 managing SDG&E’s Vegetation Management Program, overseeing pre-inspection, tree
5 trimming, pole brushing, wood pole inspection and quality assurance (audits), to ensure
6 compliance with the various responsible regulatory agencies, SDG&E internal requirements, and
7 applicable law. I have held this position since May 2007.

8 I have been a Certified Arborist and Utility Specialist since 1995. I joined SDG&E’s
9 Vegetation Management department in 1999 as a Forester, and then I became Vegetation
10 Program Manager since 2007. Prior to joining SDG&E, I was employed by Davey Tree for
11 approximately 10 years, and my last position there was as general foreman.

12 I have previously prepared testimony submitted to the California Public Utilities
13 Commission.