AMENDMENT TO SAN DIEGO GAS & ELECTRIC COMPANY SUBREGIONAL NATURAL COMMUNITY CONSERVATION PLAN AND CALIFORNIA ENDANGERED SPECIES ACT AND NATURAL COMMUNITIES CONSERVATION PLANNING ACT MANAGEMENT AUTHORIZATION REGARDING WILDFIRE SAFETY ACTIVITIES

This amendment (Amendment), by and between San Diego Gas & Electric (SDG&E) and the California Department of Fish and Wildlife (CDFW) for the San Diego Gas & Electric Subregional Natural Community Conservation Plan and Habitat Conservation Plan ("NCCP" or the "Plan") and solely by CDFW for the California Endangered Species Act and Natural Communities Conservation Planning Act Management Authorization for implementation of San Diego Gas and Electric Company Subregional Natural Community Conservation Plan, Tracking No. 2835-1995-79-5 (Management Authorization), is made with reference to the following Recitals.

Recitals

I. DEFINED TERMS

1. All initially capitalized terms used in this Amendment and not otherwise defined herein shall have the meaning set forth in the San Diego Gas & Electric Company Subregional Natural Community Conservation Plan Implementing Agreement/CESA Memorandum of Understanding (IA).

II. NCCP AND AMENDMENT BACKGROUND

2. The California Natural Community Conservation Planning Act (NCCPA) allows CDFW to authorize, by permit, the incidental take of any species, including but not limited to species listed as endangered, threatened, or candidate species under the California Endangered Species Act (CESA), where the conservation and management of the species is provided for in a natural community conservation plan approved by CDFW.[1] An approved Natural Community Conservation Plan identifies and provides for the regional or areawide protection and perpetuation of natural wildlife diversity, while allowing compatible and appropriate development and growth.

3. Under Section 10 of federal Endangered Species Act (ESA), USFWS may issue a permit authorizing the incidental take of federally listed endangered or threatened species during otherwise lawful activities if certain statutory requirements are met by the applicant and such take will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. To obtain a federal incidental take permit, the applicant must submit a habitat conservation plan describing, among other things, the steps the applicant will take to minimize and mitigate to the maximum extent practicable the impact of such "taking."

4. In the mid-1990s, SDG&E, in collaboration with USFWS and CDFW, prepared the San Diego Gas & Electric Subregional Natural Community Conservation Plan and Habitat Conservation Plan. The NCCP covers 2,245,800 acres of SDG&E's service area and was designed to avoid, minimize, and mitigate impacts to 110 Covered Species and their habitats while allowing

[1] Fish & G. Code, § 2800 et seq.

SDG&E to install, maintain, operate, and repair its existing gas and electric system and undertake anticipated expansion of that system. The NCCP includes more than 60 operational protocols that SDG&E implements for its Activities, including pre-activity surveys, to avoid impacting Covered Species and their habitat. These protocols are primarily based upon impact avoidance and minimization, recognizing that adjustments in the planning and execution of operation and maintenance and new construction activities can greatly reduce impacts to Covered Species and their habitat.

5. In December 1995, USFWS and CDFW approved the NCCP. Concurrent with that approval, on December 18, 1995, USFWS, CDFW, and SDG&E entered into the IA, and CDFW approved the Management Authorization. The IA defines the parties' roles and responsibilities with respect to the NCCP and governs NCCP implementation. The Management Authorization provides SDG&E state authorization to incidentally take Covered Species provided SDG&E complies with the terms of the Management Authorization, the NCCP, and the IA, including implementation of all avoidance, minimization, and mitigation measures outlined in the NCCP. The Management Authorization's take authorization is limited to take associated with up to a total of 400 acres of habitat modification caused by Activities before requiring a Plan amendment.[2]

6. Activities in the NCCP include activities SDG&E undertakes on and around its existing infrastructure to reduce wildfire risk and enhance grid resilience. These activities, described in more detail in Attachment A to Exhibit 1, which is attached hereto and incorporated herein by reference, include the following activities designed to reduce wildfire risk:

a. Overhead (grid) hardening;

b. Strategic undergrounding;

c. Covered conductor;

d. Pole replacement and inspections;

e. Vegetation management in High Fire Threat Districts;

f. Pole brushing; and

g. Wildfire fuels management.

These activities are collectively referred to herein as "Wildfire Safety Activities." The Wildfire Safety Activities are NCCP Activities pursuant to the following NCCP sections:

a. 2.1.1.5—Equipment Repair and Replacement;

b. 2.1.1.8—Tree Trimming;

c. 2.1.2—Underground Facilities;

[2] NCCP at 16.

d. 2.1.3.8—Other Ground Disturbance, Fire Control Areas;

e. 2.1.3.9—Vegetation Control; and

f. 2.1.4.3—Substations and Regulator Stations, Fire Control Areas.

7. SDG&E has performed its work in accordance with the NCCP since 1995.

8. SDG&E's Wildfire Safety Activities, and associated habitat impacts, have increased in scope and frequency since 2007 in response to the increased risk and occurrence of wildfires in California. As further described in Exhibit 1, Attachment A, fifteen of the twenty largest wildfires in California recorded history have occurred since 2000 fire risk is anticipated to remain high due to climate change and recent drought in California.[3] SDG&E's service area is predominantly in Tier 2 and Tier 3 High Fire Threat Districts, California Public Utility District designations for areas where there is an elevated or extreme risk for destructive utility-associated wildfires. SDG&E has responded to this risk by increasing activities to reduce the risk of catastrophic wildfires caused by SDG&E electric infrastructure, including hardening its system to make it more fire safe.

9. SDG&E's increased Wildfire Safety Activities have resulted in greater habitat impacts from Activities than was anticipated when the NCCP was enacted in 1995. Continuing these activities in the coming months and years will result in SDG&E impacting more habitat than was originally authorized in the Management Authorization in 1995.

10. SDG&E, USFWS, and CDFW have been working diligently and cooperatively to develop a long-term amendment to allow SDG&E Activities, including Wildfire Safety Activities, to continue under the NCCP for the next 30 years. This long-term amendment will increase the amount of habitat SDG&E is permitted to impact under the NCCP. It will also continue and improve upon the avoidance, minimization, and mitigation measures SDG&E is required to implement for its Activities, resulting in improved conservation for Covered Species.

11. Due to ongoing discussions and environmental review under the California Environmental Quality Act, the long-term amendment, if approved, will not be issued before the 2021, and likely 2022, fire season.

12. As shown in Exhibit 1, Attachment A, SDG&E estimates that fewer than 10 acres of habitat impacts remain from the original 400 acres authorized under the Management Authorization. SDG&E anticipates this acreage likely will not suffice to account for potential impacts from Wildfire Safety Activities through the current and upcoming fire seasons.

13. SDG&E seeks to adopt this short-term Amendment to the NCCP, and requests an accompanying Management Authorization amendment, to authorize a small number of additional acres of habitat impacts associated solely with Wildfire Safety Activities. This Amendment will allow SDG&E to continue Wildfire Safety Activities while SDG&E and CDFW work on the long-term amendment described in Recital 10. This Amendment is limited to impacts from Wildfire

[3] https://wildlife.ca.gov/Science-Institute/Wildfire-Impacts (last visited May 28, 2021).

Safety Activities and requires SDG&E conduct such activities in accordance with current NCCP avoidance, minimization, and mitigation requirements.

14. As further described in Exhibit 1, Attachment A, SDG&E represents that it does not anticipate "take" of CESA-listed species individuals from Wildfire Safety Activities carried out under this Amendment. SDG&E is seeking this Amendment and associated take coverage under the NCCP both for regulatory certainty as well as to continue operating under the NCCP Act and the conservation benefits that flow therefrom.

15. SDG&E and CDFW agree it is critical that SDG&E continue its Wildfire Safety Activities in this and upcoming years in light of California's historic 2021 fire season and ongoing drought, which are described in more detail in Exhibit 1, Attachment A. This Amendment provides SDG&E the authorization necessary to continue those activities in the near term, and subject to the NCCP's avoidance, minimization, and mitigation measures, while SDG&E and CDFW work on the long-term amendment.

NOW THEREFORE, the parties agree to the following NCCP amendment:

Terms and Conditions

A. The following portions of the NCCP are amended as follows:

1. The first sentence of the second paragraph on page iv is amended to read: "Since the future cannot be accurately predicted, the Plan allows for up to 400 acres of impacts in natural areas, **and an additional 20 acres of impacts exclusively associated with Wildfire Safety Activities** before requiring a Plan amendment. "Wildfire Safety Activities" include the following activities designed to reduce wildfire risk:

    a. Overhead (grid) hardening;

    b. Strategic undergrounding;

    c. Covered conductor;

    d. Pole replacement and inspections;

    e. Vegetation management in High Fire Threat Districts;

    f. Pole brushing; and

    g. Wildfire fuels management.

    These activities are NCCP Activities pursuant to the following NCCP sections:

    a. 2.1.1.5—Equipment Repair and Replacement;

    b. 2.1.1.8—Tree Trimming;

    c. 2.1.2—Underground Facilities;

d. 2.1.3.8—Other Ground Disturbance, Fire Control Areas;

e. 2.1.3.9—Vegetation Control;

f. 2.1.4.3—Substations and Regulator Stations, Fire Control Areas."

2. The first sentence of the fourth paragraph on page 16 is amended to read: "Since the future cannot be accurately predicted, the Plan allows for up to 400 acres of impacts in natural areas, **and an additional 20 acres of impacts exclusively associated with Wildfire Safety Activities** before requiring a Plan amendment."

B. All other terms and conditions of the NCCP shall remain in full force and effect.

C. This amendment to the NCCP is effective on the date of its execution by the CDFW and SDG&E.

D. Modifications to this amendment to the NCCP must be in writing and signed by both parties.

IN WITNESS THEREOF, the Parties have executed this Amendment on the dates set forth below.

SAN DIEGO GAS & ELECTRIC

Date: 1/28/2022

By: /s/ Brittany A. Syz

Brittany A. Syz
Director of Environmental Services and Sustainability

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Date: 2/17/2022

By: /s/ Chad Dibble

Chad Dibble
Deputy Director, Ecosystem Conservation Division

NOW THEREFORE, CDFW amends the Management Authorization as follows:

Terms and Conditions

The following portions of the Management Authorization are amended as follows:

a. The first sentence of the second paragraph on page 1 is amended to read: "The Plan will modify up to 400 acres **and 20 additional acres during Wildfire Safety Activities**, **as defined in the SDG&E Plan,** portions of which are known or potential habitat for one-hundred and ten (110) species of concern."

b. The first full sentence on page 6 is amended to read: "The SDG&E Plan will result in a combined permanent loss of 400 acres **and 20 additional acres during Wildfire Safety Activities** over a 55-year period."

c. The sixth full sentence on page 6 is amended to read: "Adverse effects on listed endangered species in the SDG&E Plan area include the loss of up to 400 acres, which includes an estimated permanent loss of 124 acres of habitat, **and 20 additional acres during Wildfire Safety Activities**."

B. All other terms and conditions of the Management Authorization shall remain in full force and effect.

C. This amendment to the Management Authorization is effective on the date of its execution by CDFW.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Date: 2/17/2022

By: /s/ Chad Dibble

Chad Dibble
Deputy Director, Ecosystem Conservation Division

EXHIBIT 1

Brittany Applestein Syz
Director – Environmental
Services & Sustainability

8326 Century Park Court
San Diego, CA, 92123

tel: 858-654-1513
cell: 415-370-5548
email: BSyz@sdge.com

November 2, 2021

VIA E-MAIL

Edmund J. Pert
Regional Manager, South Coast Region
California Department of Fish & Wildlife
3883 Ruffin Road
San Diego, CA 92123
ed.pert@wildlife.ca.gov

Dear Ed,

As the California Department of Fish and Wildlife (CDFW) knows well, catastrophic wildfires are an immediate threat to California, which, since the 1980s, have dramatically increased in size and intensity. CDFW's Science Institute reports that 15 of the 20 largest wildfires in California history have occurred since 2000, and ten of the most costly and destructive fires to life and property in the state have occurred since 2015. Five of the six largest wildfires ever recorded occurred in 2020 alone. The 2020 August Complex Fire, which burned over one million acres, was the largest wildfire in California history up to that point.

While California's 2020 wildfire season was unprecedented in scale and scope, 2021 is on pace to surpass or has already surpassed it. Fires have burned more than 2,000,000 acres in California; in recent weeks, the U.S. Forest Service (USFS) closed all national forests in California; and just this month, CDFW, finding that "[f]ire danger is extreme in California currently," closed 34 properties within or immediately adjacent to USFS boundaries due to extreme fire conditions.

San Diego Gas & Electric (SDG&E) is an investor-owned utility that provides energy service to 3.6 million people in San Diego, southern Orange County, and a portion of Riverside County. Critically, approximately 64% of our service area is in "High Fire Threat Districts" (HFTD), which are those areas "where there is an elevated risk for destructive utility associated wildfires," and others "where there is an extreme risk for destructive utility associated wildfires."

For more than a decade, we have devoted significant resources to maintaining our electric distribution and transmission line system to prevent wildfires. We believe that our fire safety work has helped reduce the risk of catastrophic wildfires in our service area, like the 2007 Witch Fire that burned more than 240,000 acres, forced the evacuation of more than 500,000 people, and caused over $1 billion in damages.

As we've also discussed, our extraordinary fire safety activities since 2007 have been on a scale that neither SDG&E or CDFW anticipated in 1995, when CDFW and the U.S. Fish & Wildlife Service (FWS) approved our Subregional Natural Community Conservation Plan and Habitat Conservation Plan (NCCP). To continue our vital safety efforts in the coming months and decades, we will therefore need to impact more acres of habitat than originally authorized in the NCCP. To that end, SDG&E, FWS, and CDFW have been working diligently and cooperatively to develop a long-term amendment to allow SDG&E to continue operating under in an environmentally sensitive manner for the next 30 years. We fully anticipate that our long-term amendment will continue, modernize, and improve upon the conservation strategy that SDG&E has successfully implemented for more than twenty years.

We also recognize that the parties need additional time to develop the long-term amendment and undertake appropriate environmental review associated with it. Because we anticipate that finalizing the long-term NCCP amendment and your environmental review of it will extend beyond this and upcoming fire seasons and the emergency work we do to mitigate immediate fire hazards, we respectfully ask you to approve the enclosed short-term, narrowly targeted amendment to the NCCP to allow SDG&E to continue its critical wildfire safety work while the parties continue working on the long-term amendment.

This short-term amendment authorizes only a minimally appropriate number of additional acres of habitat impacts associated *solely* with our continuing wildfire safety activities. We undertake these activities, discussed in Attachment A hereto, on and around our existing infrastructure to reduce wildfire risk and enhance grid resilience. These activities are included as "Covered Activities" in the NCCP and are collectively referred to herein (including Attachment A) as "Wildfire Safety Activities." *See* Attachment A. These activities are included in our *Wildfire Mitigation Plan* (as updated) (WMP) or our *Application of San Diego Gas & Electric Company (U 902 M) To Submit Its 2021 Risk Assessment and Mitigation Phase Report* (RAMP), which are undertaken to mitigate the risk of wildfire. Notably, CDFW does not authorize our Wildfire Safety Activities, but rather incidental take associated with a fixed amount of habitat modification resulting from Wildfire Safety Activities performed in accordance with the NCCP.

/ / /

/ / /

We look forward to further building on our partnership and to your expeditious approval of the attached wildfire safety amendment so that we may continue our critical fire safety work without delay.

Sincerely,

Brittany Applestein Syz

Brittany Applestein Syz
Director – Environmental Services & Sustainability

Attachment

ec: Valerie Termini
CDFW Chief Deputy Director
valerie.termini@wildlife.ca.gov

Steven Ingram
Assistant Chief Counsel
Office of the General Counsel
Steven.Ingram@wildlife.ca.gov

David Woodsmall
CDFW Counsel
Office of the General Counsel
david.woodsmall@wildlife.ca.gov

ATTACHMENT A

I. FIRE RISK BACKGROUND

Catastrophic wildfires are an immediate threat to California, which, since the 1980s, have significantly increased in size and intensity.[1] The 2019 wildfire season had elevated wildfire activity in California; California's 2020 wildfire season was unprecedented in scale and scope; and weather models for 2021 suggest California will be dry with temperatures above normal.

The California Legislature found that "[t]he increased risk of catastrophic wildfires poses an immediate threat to communities and properties throughout the state;"[2] "[w]ith increased risk of catastrophic wildfires, the electrical corporations' exposure to financial liability resulting from wildfires that were caused by utility equipment has created increased costs to ratepayers;"[3] and "[t]he state has dramatically increased investment in wildfire prevention and response, which must be matched by increased efforts of the electrical corporations."[4]

California Department of Fish and Wildlife (CDFW)'s Science Institute reports that 15 of the 20 largest wildfires in California history have occurred since 2000, and ten of the most costly and destructive fires to life and property in the state have occurred since 2015.[5] Five of the six largest wildfires ever recorded occurring in 2020 alone.

Atypically large patches of high-severity fire[6] such as these hinder the ability of an ecosystem to recover, potentially undermining conservation of native biodiversity by long-term or permanent loss of native vegetation, expansion of non-native, invasive species, and long-term or permanent loss of essential habitat for native fauna.[7] The "devastating effects of recent wildfires," CDFW has concluded, "have highlighted the need for California to reevaluate wildfire risk management and direct greater efforts toward wildfire resilience."[8]

Although almost all of California's diverse ecosystems are fire-dependent or fire-adapted, decades of management actions, such as wildland fire suppression, human expansion into wildlands, and climate change, have altered these regimes, producing an imbalance between wildfire and ecosystem interactions.[9] The removal of natural fire from an ecosystem can lead to excess fuel buildup and changes in vegetation composition, which can increase the risk of uncharacteristically large high-severity fires.[10]

Increases in uncharacteristically large wildfires can exacerbate impacts on both ecosystems and human communities.[11] Expanded areas of high-severity fire can impact tree regeneration, soil

---

[1] https://wildlife.ca.gov/Science-Institute/Wildfire-Impacts (last visited Sept. 20, 2021).
[2] Assembly Bill (AB) 1054 (2019-2020), Section 1(a)(1), available at: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB1054.
[3] *Id*. at Section 1(a)(2).
[4] *Id*. at Section 2(a).
[5] https://wildlife.ca.gov/Science-Institute/Wildfire-Impacts (last visited Sept. 20, 2021).
[6] Fire severity refers to the ecosystem impacts of a fire, and an individual fire may have a range of fire severity. *Id.*
[7] *Id*.
[8] *Id*.
[9] *Id*.
[10] *Id*.
[11] *Id*.

erosion, and water quality.[12] Communities continue to be impacted directly, through destructive fires in the Wildland-Urban Interface (i.e., areas where homes are built near or among lands prone to wildland fire), and indirectly, through poor air quality over large areas of the state.[13]

Changes in fuels, climate, and ignition patterns affect wildfire behavior, and climate change is just one factor that can exacerbate those changes.[14] In addition to increasing the length of the wildfire season, climate change is amplifying drought frequency and severity.[15] Drought causes moisture stress in vegetation, which leads to higher susceptibility to wildfire.[16]

Although California has received abundant precipitation in recent years, this rainfall does not necessarily erase the effects that years of severe drought have had on vegetation.[17] Since vegetation may still be recovering from moisture stress during drought conditions, the high susceptibility to wildfire persists despite the greater amount of precipitation.[18]

The California Department of Forestry and Fire Protection reports that the 2020 August Complex Fire burned over one million acres, making it at that point the largest wildfire in California history.[19] Five of the six largest fires in California history occurred in 2020.[20] These wildfires caused deaths and destroyed property and natural resources.[21]

II. UTILITY REGULATION

The California Public Utilities Commission (CPUC) has authority over construction for utility purposes carried out by public utilities subject to its jurisdiction. The California Constitution gives the state legislature "plenary power … to confer … authority and jurisdiction upon the [CPUC]…." Cal. Const. Art. XII, § 5. The state legislature in turn has granted broad authority to the CPUC to regulate utilities.

Under California Constitution, article XII, section 3, a private utility corporation such as SDG&E is considered a public utility subject to control by the legislature. Article XII, section 8 of the California Constitution states: "A city, county, or other public body may not regulate matters over which the Legislature grants regulatory power to the [CPUC]." Regulation of public utilities by the CPUC is generally authorized by section 701, which states: "The [CPUC] may supervise and regulate every public utility in the State and may do all things, whether specifically designated in this part or in addition thereto, which are necessary and convenient in the exercise of such power and jurisdiction." Public Utilities (PU) Code § 701. It can make orders governing the services,

---

[12] *Id.*
[13] *Id.*
[14] *Id.*
[15] *Id.*
[16] *Id.*
[17] *Id.*
[18] *Id.*
[19] *See Application of San Diego Gas & Electric Company (U 902 M) To Submit Its 2021 Risk Assessment and Mitigation Phase Report* (RAMP) at 1-3; available at: https://www.sdge.com/sites/default/files/regulatory/A.21-05-___%20Application%20and%20Report%20of%20SDG%26E%20RAMP%202021.pdf.
[20] *Id.*
[21] *Id.*

equipment, physical property, and safety devices used by public utilities. PU Code §§ 761, 762, 768.

PU Code Section 768 states:

> The [CPUC] may, after a hearing, require every public utility to construct, maintain, and operate its line, plant, system, equipment, apparatus, tracks, and premises in a manner so as to promote and safeguard the health and safety of its employees, passengers, customers, and the public. The [CPUC] may prescribe, among other things, the installation, use, maintenance, and operation of appropriate safety or other devices or appliances, including interlocking and other protective devices at grade crossings or junctions and block or other systems of signaling. The [CPUC] may establish uniform or other standards of construction and equipment, and require the performance of any other act which the health or safety of its employees, passengers, customers, or the public may demand….

If a project involves construction of electrical facilities by an investor-owned utility (IOU), it is governed by CPUC General Order (GO) 131-D. GO 131-D sets forth a tiered permitting regime for electric generation facilities, electric transmission and distribution line facilities, substations, and other electrical facilities, and establishes that local discretionary authority over such projects is preempted.

Under GO 131-D, a certificate of public convenience and necessity (CPCN) is required for generation facilities over 50 megawatts and, unless the project falls within one of the exemptions specified in Section III(A), major transmission line facilities over 200 kilovolts (kV). A permit to construct (PTC) is required for power line facilities between 50 and 200 kV, new substations over 50 kV, or "upgraded" substations, as defined, except for projects covered by one of the exemptions specified in Section III(B), which are generally required to provide notice of exempt construction (NOC) and submit an advice letter with the CPUC. Substation "modification" projects, defined as work at existing substations that do not increase the existing high-side voltage of the substation or go beyond the existing utility-owned parcel, and "distribution line projects" below 50 kV do not require a CPCN, PTC, or NOC.

Section III.C of GO 131-D states that the construction of electric distribution (under 50 kV) line facilities "does not require the issuance of a CPCN or permit by [the CPUC] nor discretionary permits or approvals by local governments."

Operation and maintenance for distribution facilities is specified by PU Codes 4292 and 4293; CPUC GO 95, Rule 35; CPUC GO 128, and CPUC GO 165, among others. Operation and maintenance for transmission facilities is dictated by the inspection and maintenance requirements prescribed in the Transmission Owner Maintenance Practices Agreements between SDG&E and the California Independent System Operator.

III. SDG&E AND ITS SERVICE AREA

SDG&E is an IOU regulated by the CPUC. We provide energy service to 3.6 million people through 1.4 million electric meters and 873,000 natural gas meters in San Diego, southern Orange County in California, and Riverside County (Moreno Compressor Station only).[22] SDG&E's system includes 134 distribution substations, 1,035 distribution circuits, 225,697 poles, 10,558 miles of underground systems, 6,527 miles of overhead systems, and various other components of distribution equipment.[23]

SDG&E's service area is predominantly in "High Fire Threat Districts" (HFTD). The HFTD, established by CPUC Decision D.17-12-024, is an area within SDG&E's service area that has a greater potential for wildfires.[24] The HFTD represents approximately 64% of SDG&E's service area; it consists of Tier 2 areas, "where there is an elevated risk for destructive utility associated wildfires," and Tier 3 areas, "where there is an extreme risk for destructive utility associated wildfires."[25]

SDG&E focuses significant resources toward maintaining its electric distribution and transmission line system to prevent wildfires. This fire safety work aims to reduce the risk of catastrophic wildfire, like the 2007 Witch Fire that burned more than 240,000 acres, forced the evacuation of more than 500,000 people, and caused over $1 billion in damages.

SDG&E has more than 8,000 miles of overhead power lines in its service area, over half of which are in HFTDs. *See* Figure 1.

SDG&E's service area experiences Santa Ana winds that have been directly linked to some of the largest and most destructive wildfires in Southern California. Santa Ana winds, coupled with other weather conditions, dry fuels, and the impacts of climate change, have increased the risk of catastrophic wildfires in its service area.[26]

Similarly, because of the hottest summer on record, well below normal rainfall, and nine Red Flag Warnings[27] issued for the SDG&E service area, the risk of catastrophic wildfires in SDG&E's service area was likewise significant in 2020. In SDG&E's service area, the most significant fire

---

[22] https://www.sdge.com/more-information/our-company/about-us#:~:text=SDG%26E%20is%20a%20regulated%20public,area%20spans%204%2C100%20square%20miles (last visited Sept. 21, 2021).

[23] Direct testimony of William H. Speer, May 7, 2018, at WHS-1. Available at: https://www.sdge.com/sites/default/files/regulatory/SDGE-15-2R%20Speer%20Revised%20Prepared%20Direct%20Testimony_Helitanker.pdf.

[24] RAMP at 1-3.

[25] *Id*.

[26] *Id*. at 1-2.

[27] The National Oceanic and Atmospheric Administration's National Weather Service issues Red Flag Warnings for weather events that "may result in extreme fire behavior that will occur within 24 hours." https://www.fire.ca.gov/programs/communications/red-flag-warnings-fire-weather-watches/ (last visited Sept. 21, 2021).

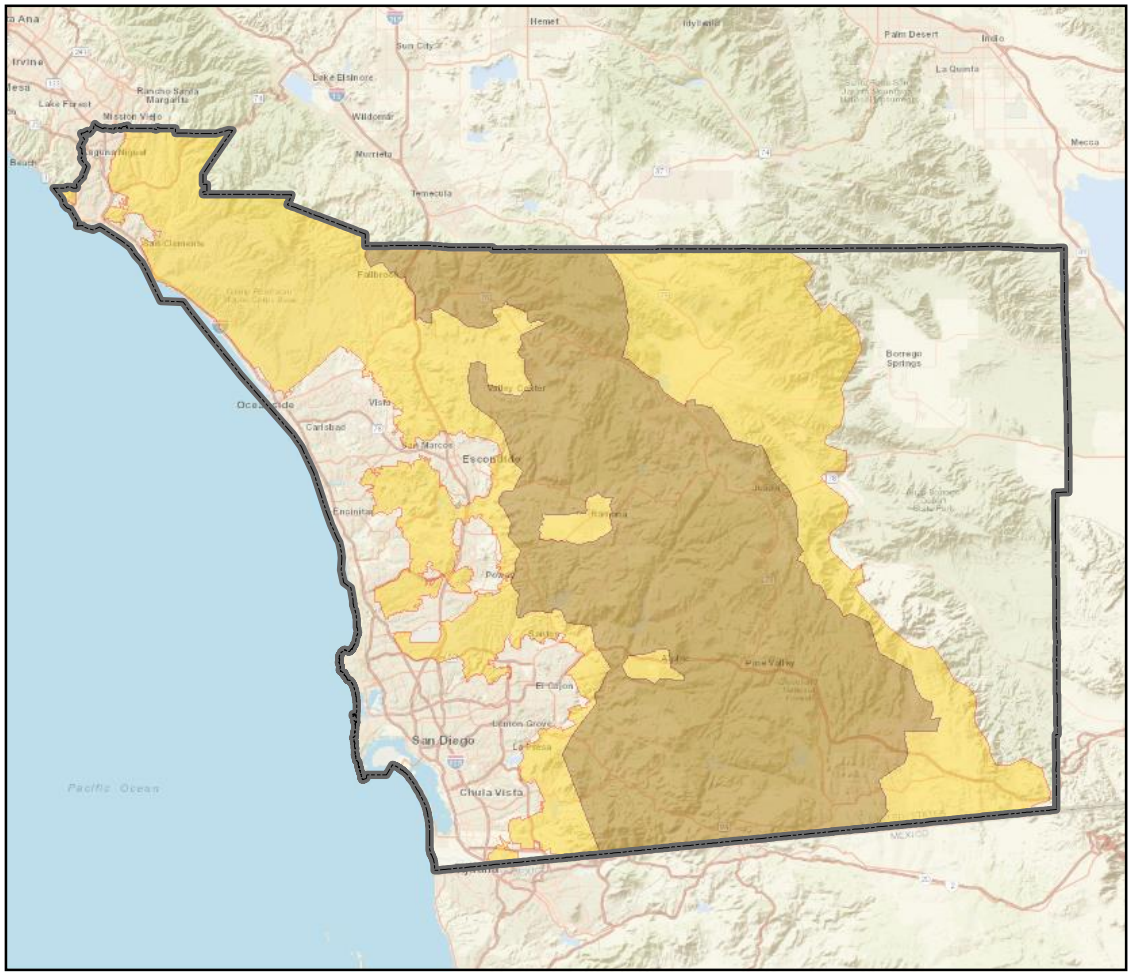

Figure 1. SDG&E service area and High Fire Threat Districts (Tier-3, brown; Tier-2, yellow).

of 2020 was the Valley Fire, which burned 16,390 acres, caused significant property damage, and interrupted electric service after burning 119 wood poles.[28]

While the ignition of the Valley Fire and many of the other major fires of 2020 were not linked to utility equipment, these fires and their consequences nevertheless reinforce the continued importance of taking action to mitigate the risk of climate change-driven catastrophic wildfires in California, including potential utility-caused wildfires.[29]

SDG&E focuses its emergency preparedness and response activities on reducing the likelihood of wildfire.[30] Although wildfire risk is not limited to the HFTD, it is primarily within Tier 2 and Tier 3 areas.[31] Roughly 61% of the ignition consequences are estimated to be in Tier 3, 36% in Tier 2,

[28] RAMP at 1-3.
[29] *Id.*
[30] *See id*. at 1-8.
[31] *Id*. at 1-3.

and 3% in non-HFTD; SDG&E therefore targets and prioritizes Wildfire Safety Activities in the HFTD.[32]

IV. WILDFIRE SAFETY ACTIVITIES

SDG&E's efforts to reduce the risk of wildfire and enhance grid resilience began over a decade ago after San Diego experienced some of the most destructive wildfires in the county's history.[33] Initially, this involved establishing a company-wide fire-awareness culture and prioritizing safe work practices. SDG&E hired subject matter experts in firefighting, fire science, and meteorology who have developed and implemented programs to enhance situational awareness, which increases SDG&E's ability to monitor and understand the wildfire environment.[34] This level of understanding led to changes in operational procedures to reduce the potential for ignitions associated with utility infrastructure during periods of elevated fire potential.

SDG&E performs a variety of activities to prevent wildfires.[35] To reduce the risk of catastrophic wildfires caused by electric power lines, SDG&E has and continues to take steps to harden its system to make it more fire safe, particularly in the HFTDs (Tiers 2 and 3), pursuant to its *Wildfire Mitigation Plan* (WMP) (as updated), which CPUC approved May 30, 2019.[36] For example, under its updated WMP, SDG&E is:

- Performing grid hardening, including
    - Strategically undergrounding lines in fire prone locations,
    - Installing covered conductors, an insulated cover as opposed to traditional bare wires,
    - Undertaking traditional hardening by replacing wood poles with steel poles and replacing existing wire with stronger wire;
- Implementing a pilot fuels management program to reduce and remove wildland fuel accumulations;
- Maintaining and expanding its weather network of 220 stations-the largest such private system in the country-that provide temperature, humidity, and wind speed readings every 30 seconds;

---

[32] *Id*.
[33] *See* https://www.sdge.com/sites/default/files/regulatory/SDG%26E%202021%20WMP%20Update%2002-05-2021.pdf.
[34] RAMP at 1-4.
[35] RAMP at 1-14.
[36] The CPUC decision approving SDG&E's 2019 WMP is available at: http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M298/K908/298908547.PDF.
SDG&E's 2020 WMP Update is available at: https://www.sdge.com/sites/default/files/regulatory/SDG%26E%202021%20WMP%20Update%2002-05-2021.pdf.

- Installing and operating over 100 high-definition cameras to improve fire detection;
- Inspecting and repairing overhead lines, emphasizing lines in the HFTD; and
- Manning a year-round aerial firefighting program to support state and local agencies, including the nation's largest water-dropping helicopter.

A. Overhead (Grid) Hardening

SDG&E operates and maintains nearly 3,500 miles of overhead distribution circuit miles within the HFTD and has already hardened approximately 850 miles or 25%. This infrastructure was originally designed to meet CPUC GO 95 requirements of an 8 pounds per square foot (psf) or 55 mile per hour (mph) transverse wind load.[37]

As SDG&E's weather network and understanding of risk grew, SDG&E learned that winds reach 85 mph to 111 mph in certain areas throughout the HFTD portion of its service area during extreme Santa Ana conditions.[38]

SDG&E's grid hardening initiatives, which focus on wildfire risk, began after the 2007 fires in its service area. SDG&E has completed grid hardening on over 400 miles of transmission lines and approximately 850 miles of distribution lines. SDG&E's current grid hardening programs are a set of controls and mitigations that directly address the goals of the wildfire mitigations plans, in the form of reducing wildfires caused by utility equipment and minimizing the societal impacts to customers from mitigations such as Public Safety Power Shutoffs (PSPS).[39]

SDG&E has several controls and mitigations including overhead hardening and strategic undergrounding that have demonstrated a measured reduction in risk events on utility equipment, reducing the opportunities for wildfire ignitions.

SDG&E has three main hardening programs: traditional hardening, which has been SDG&E's most historically utilized mitigation; strategic undergrounding; and covered conductor. In 2020, SDG&E completed overhead hardening of 48.8 miles of transmission and 157.6 miles of distribution; installed two miles of covered conductor; and completed 29.1 miles of strategic underground work in the HFTD. To continue to reduce wildfire risk, SDG&E expects to expand the scope of undergrounding work in the HFTD.[40]

SDG&E conducted research to understand the effectiveness of overhead electric distribution hardening at reducing the occurrence of overhead faults.[41] Ignitions were reduced by 47% on the overhead hardened system; undergrounding was 99% effective in avoiding risk events (less than

---

[37] WMP Update at 215.
[38] *Id*.
[39] According to the CPUC, "Utilities may temporarily turn off power to specific areas to reduce the risk of fires caused by electric infrastructure. This action is called a Public Safety Power Shutoff (PSPS) or 'de-energization.'" *See* https://www.cpuc.ca.gov/psps/ (last visited Sept. 21, 2021).
[40] WMP Update at *xiv*.
[41] *Id*. at 192.

1% of SDG&E's historical ignitions have been caused by vehicle contacts with pad mounted equipment on the underground system).[42]

1. Overhead distribution hardening

SDG&E's Distribution Overhead System Hardening program combines SDG&E's overhead hardening programs, formerly known as Fire Risk Mitigation (FiRM), Pole Risk Mitigation Engineering (PRiME), and Wire Safety Enhancement (WiSE) into one program.[43] The overhead scope includes the replacement of wood with steel poles and replacement of conductor with high strength conductor.[44]

In 2020, SDG&E measured the effectiveness of bare conductor hardening and found that it reduced risk events by 47%.[45] SDG&E completed nearly 100 miles of bare conductor overhead system hardening in 2020, with 42 miles in Tier 3 of the HFTD, 54 miles in Tier 2 of the HFTD, and 4 miles in the wildland urban interface.[46] SDG&E plans to harden 100 more miles of bare conductor in 2021 and will begin ramping down bare conductor mileage in 2022.[47] SDG&E is transitioning to the other hardening alternatives beginning in 2022 to mitigate wildfire risk.[48]

2. Overhead transmission hardening

SDG&E has nearly 1,000 circuit miles of overhead transmission that traverse the HFTD.[49] It has been hardening its transmission system within the HFTD since 2007, focusing on the areas with the highest risk, starting with Tier 3 and moving then into Tier 2.[50] Approximately 80% of the transmission system within the HFTD, currently meets SDG&E's hardened design and construction standards.[51] Approximately 200 miles of transmission infrastructure remains to be fully hardened.[52]

To address the remaining infrastructure, SDG&E's overhead transmission hardening program uses enhanced design criteria, steel poles over wood poles, high strength conductor, and increased conductor spacing in the HFTD to reduce the chance of risk events and ignitions.[53] In 2020, SDG&E studied 17 transmission lines totaling 190 miles in the HFTD.[54]

---

[42] *Id*.
[43] RAMP at 1-41.
[44] *Id*. at 1-42.
[45] *Id*.
[46] *Id*. at 1-43.
[47] *Id*.
[48] *Id*.
[49] *Id*.
[50] *Id*.
[51] *Id*.
[52] *Id*.
[53] *Id*.
[54] *Id*.

SDG&E reviewed 20 years of reliability performance from 2000 to 2019 and compared overhead risk events per operating year per 100 miles before and after overhead transmission hardening; it found an 83% reduction in risk events on hardened infrastructure.[55]

On the Cleveland National Forest (CNF), SDG&E and the U.S. Forest Service collaborated to determine which sections of the electric system should be upgraded.[56] Like overhead transmission hardening, because of the known local wind conditions, the grid hardening activities were designed to handle the higher wind speeds and utilize increased wire spacing to decrease the likelihood of wire-to-wire contact or arcing as the result of contact by flying debris.[57]

The CNF projects include the hardening of facilities and select undergrounding of several existing 12 kV and 69 kV electric facilities spread throughout an approximately 880 square-mile area in the eastern portion of San Diego County located in the HFTD.[58] At the end of 2020, SDG&E hardened a total of 98 miles of transmission, 107 miles of overhead distribution and installed 16.6 miles of distribution underground.[59] In 2020 specifically, the CNF project converted 12.5 miles of existing overhead distribution to 14.3 miles of underground cable, hardened 29 miles of electric transmission, and 45.5 miles of overhead distribution.[60] All transmission lines that were identified on this project have been completed and can withstand winds of either 85 mph or 111 mph based upon the known local wind conditions.[61] Less than 10 miles of overhead distribution remains to be fire hardened within CNF and the project is planned to be completed in 2021.[62]

Upon completion of the CNF project, SDG&E will have at least one hardened transmission line into every substation within the HFTD.[63] This reduces the risk of ignitions caused by SDG&E's transmission system in the areas of greatest consequence.[64] In addition to the transmission hardening performed by the CNF project, SDG&E completed construction on approximately 21.6 miles of transmission and 9.4 miles of distribution underbuilt on transmission lines in 2020.[65] These projects were completed in the communities of Kearny Mesa, Otay Mesa, and portions of lines located on Camp Pendleton.[66]

In 2021 and 2022, SDG&E plans to harden additional transmission mileage within the HFTD, including its last remaining miles in Tier 3 of the HFTD.[67] The transmission lines hardened in accordance with this strategy are driven by Federal Energy Regulatory Commission (FERC)-

[55] *Id*.
[56] RAMP at 1-44.
[57] *Id*.
[58] *Id*.
[59] *Id*. at 1-45.
[60] *Id*.
[61] *Id*.
[62] *Id*.
[63] *Id*. at 1-43.
[64] *Id*.
[65] *Id*. at 1-44.
[66] *Id*.
[67] *Id*.

jurisdictional projects, given that hardening efforts address the 69 kV transmission system and the associated 12 kV distribution system located in the HFTD.[68]

By the end of 2022, SDG&E plans to have hardened 100% of transmission lines traversing the Tier 3 HFTD, and approximately 85% of the HFTD overall.[69] SDG&E intends to complete this long-term strategy of grid hardening its transmission system within the HFTD by 2026.[70] Projects for the remaining unhardened lines have been identified and have started the process of being scoped and approved.[71]

B. Strategic undergrounding of electric lines and/or equipment to reduce wildfire risk

Strategic undergrounding nearly eliminates wildfire risk for the areas where overhead system is converted to underground and eliminates the need and impacts of PSPS for customers fed by underground systems. SDG&E seeks to deploy undergrounding in areas where wildfire risk is very high as well as in areas where substantial PSPS reductions can be gained through a minimal installation of underground electric system.[72]

In 2020, SDG&E installed 29.1 miles of underground cable (including 13.3 miles from the CNF project) and intends to install approximately 25 miles of underground within the HFTD in 2021; these installations are focused on the HFTDs.[73]

Over the next ten years, SDG&E plans to significantly increase its strategic undergrounding scope to over 100 miles per year to reduce wildfire risk and PSPS event impacts. Another benefit of undergrounding that is yet to be quantified is the reduced scope of vegetation management needed in undergrounded areas. The strategic underground initiative will continue to evolve as SDG&E gains a better understanding of the costs and constraints involved.[74]

C. Covered conductor

SDG&E intends to install covered conductor in the HFTD.[75] In 2020, SDG&E completed its first covered conductor installation, hardening approximately 1.9 miles of line.[76] SDG&E aims to harden 20 miles of covered conductor in 2021, 60 miles of covered conductor in 2022, and 100 miles in both 2023 and 2024.[77]

---

[68] *Id*.
[69] *Id*.
[70] *Id*.
[71] *Id*.
[72] RAMP at 1-41.
[73] WMP Update at 217.
[74] *Id*. at 16.
[75] *Id*. at 193.
[76] *Id*.
[77] *https://www.sdge.com/sites/default/files/regulatory/SDGE_RAMP_Risk-1_Wildfire_5-14-21.pdf* at 1-94.

D. Other Fire-Safety Hardening Activities

1. Pole Replacements

SDG&E's Pole Replacement and Reinforcement program replaces deteriorated wood distribution poles, as well as other asset-related components identified through SDG&E's various inspection programs to reduce the risk of ignitions.[78] Pole replacements associated with deteriorated structures found on these intrusive inspections reduce the risk of ignitions by preventing wood pole failures.[79] In addition, replaced poles are constructed to SDG&E's improved site-specific design criteria, (e.g., wood poles will be replaced with steel poles that meet the known local wind conditions of a particular area).[80] For poles identified for replacement in Tier 3 of the HFTD, SDG&E intends to accelerate the replacement (including the design, engineering, and construction of the new structures) faster than the six-month time frame required by the CPUC's General Orders.[81]

SDG&E plans to continue its mandated and enhanced inspection programs over the next 10 years.[82] Regular inspections and subsequent remediations are a critical piece of preventing potential equipment failures, faults, and ignitions.[83] Expected structure replacement forecasts are adjusted annually based on the latest inspection data results, and the location and number of assets contained in specific inspection cycles.[84]

2. Routine annual pole inspections

CPUC GO 165 requires any pole 15 years of age or older to be inspected "intrusive[ly]."[85] The form of the intrusive inspection is normally a small excavation of previously disturbed dirt about the pole base and/or a sound and bore of the pole at ground-line.[86] Treatment is applied at this time in the form of ground-line pastes and/or internal pastes.[87]

Rule 31.2 of GO 95 states that "Supply Lines shall be inspected in compliance with the requirements of General Order 165." Rule 81 of GO 95 states that in Tiers 2 and 3 of the High Fire-Threat District, "detailed" inspections of (i) Communication Lines located on Joint Use Poles that contain Supply Circuits and (ii) Communication Lines attached to a pole that is within three spans of a Joint Use Pole with Supply Circuits, must occur once every 10 or 5 years, respectively.

---

[78] WMP Update at 194.
[79] *Id*. at 195.
[80] *Id*.
[81] *Id*.
[82] *Id*. at 196.
[83] *Id*.
[84] *Id*.
[85] Section III.A of GO 165 defines "[i]ntrusive" inspection as "one involving movement of soil, taking samples for analysis, and/or using more sophisticated diagnostic tools beyond visual inspections or instrument reading." https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M209/K552/209552704.pdf (last visited Sept. 21, 2021).
[86] RAMP at 1-46.
[87] *Id*.

"Detailed Inspection" is defined as "a careful visual inspection of Communication facilities and structures using inspection tools such as binoculars and measuring devices, as appropriate."

SDG&E performs wood pole inspections on a 10-year (average) cycle on all wood poles throughout SDG&E's service area.[88] This program mitigates the risk of a pole failing due to internal degradation prior to SDG&E identifying the issue and replacing the pole.[89] A pole failure can lead to a fault on the system and a potential ignition.[90] Each pole is inspected visually and if conditions warrant, "intrusive[ly]."[91] The 10-year cycle fulfills the requirements of GO 165: (1) all wood poles over 15 years of age are intrusively inspected within 10 years; and (2) all poles which previously passed intrusive inspection are to be inspected intrusively again on a 20-year cycle.[92]

Depending on the cavities found, or the amount of rot found, an estimate of the remaining pole strength is determined utilizing industry-wide standards.[93] Depending on the severity of the deterioration, the pole either passes, must be reinforced with a steel truss to provide it another five to ten years of useful life or replaced.[94]

In 2020, SDG&E performed approximately 14,000 wood pole inspections in the HFTD; the number of poles inspected in the HFTD varies year-to-year, as the inspection cycle begins to move in other areas of the service area.[95] SDG&E does not currently plan on modifying or enhancing this program.

E. Vegetation Management in HFTD

Vegetation around electric distribution lines and equipment poses potential risks for safety, wildfire, compliance, and reliability.[96] To address these risks, SDG&E developed and executes a robust and detailed schedule and scope for its vegetation inspection activities.[97]

SDG&E's vegetation management program involves several components including: tracking and maintaining a database of inventory trees and poles, routine and enhanced patrolling, pruning and removing hazardous trees, replacing unsafe trees with more situationally compatible species, pole brushing, and training first responders in electrical and fire awareness.[98]

SDG&E divides its service area into 133 distinct zones known as Vegetation Management Areas (VMA).[99] Activities in each VMA include pre- inspection, audit of pre-inspection work, tree

[88] RAMP at 1-53.
[89] *Id*. at 1-52.
[90] *Id*.
[91] *Id*.
[92] *Id*.
[93] *Id*.
[94] *Id*.
[95] *Id*.
[96] RAMP at 1-60.
[97] *Id*.
[98] *Id*. at 1-61.
[99] *Id*.

pruning and removal, pole brushing, post-trim, and brushing audits.[100] Patrol activities generally include routine inspections and off-cycle, incremental/enhanced inspections throughout the service area.[101] During the pre-inspection activity, trees in proximity to SDG&E's power lines are inspected and evaluated and the tree condition in the database (discussed below) is updated accordingly.[102] Each tree is visited and inspected annually.[103]

The annual inspections include routine maintenance and hazard tree assessments to verify that trees will remain compliant for the duration of the cycle and/or pruned according to standards and clearances.[104] SDG&E identifies trees that have the potential to impact power lines within the annual pruning cycle and assign them to the tree contractor to work.[105] If a tree requires urgent work, the inspector can issue the job to the tree contractor for priority completion.[106] Emergency pruning may occur where a tree requires immediate attention because it poses an imminent threat to electrical facilities.[107]

SDG&E's enhanced vegetation management strategy aims to minimize or eliminate the likelihood of vegetation encroachment near power lines or tree/line contact from wind sway, branch breakout, or tree/root failure.[108] SDG&E follows the industry standard of directional pruning to achieve this goal.[109] If a tree cannot be mitigated by pruning, SDG&E may determine that complete removal is necessary.[110] This course may be followed in situations where continued pruning is detrimental to the tree, the remaining tree poses a threat, or its growth potential cannot be managed for the duration of the annual cycle.[111]

While tree trimming is a mandated activity pursuant to CPUC GO 95, Rule 35, Public Resources Code 4293, and North American Electric Reliability Corporation (NERC) FAC003-4, SDG&E's program voluntarily goes beyond these requirements to enhance safety, especially in the HFTD.[112]

SDG&E maintains an electronic tree database that tracks the inspection, trimming, and auditing activity of its nearly 457,000 inventory trees.[113] An inventory tree is one that could encroach the minimum required clearance or otherwise impact the electrical facilities within three-years of the inspection date.[114] The database includes tree information including species, height, diameter, growth rate, clearance, and other characteristics.[115] This history provides tree inspectors with

---

[100] *Id*.
[101] *Id*.
[102] *Id*.
[103] *Id*.
[104] *Id*.
[105] *Id*.
[106] *Id*.
[107] *Id*.
[108] *Id*.
[109] *Id*.
[110] *Id*.
[111] *Id*.
[112] RAMP at 2-17.
[113] RAMP at 1-62.
[114] *Id*.
[115] *Id*.

relevant information to determine which trees require work for the annual cycle.[116] The tree inventory database is updated daily, reflecting trees that are added to or removed from the system.[117] Approximately 240,000 of the 455,000 inventory trees are within the HFTD.[118]

SDG&E's vegetation management program strategy and schedule are centered around annual routine and enhanced inspections.[119] Routine operations are driven by regulatory requirements by following an annual master schedule that includes pre-inspection activities, trimming, auditing, and pole brushing.[120] Within the HFTD, SDG&E performs separately scheduled routine and non-routine hazard tree inspections annually.[121] These off-cycle inspections provide a second assessment of all trees during the annual cycle.[122] The inspections are performed by ISA Certified Arborists and include a 360-degree assessment of every tree within the "strike zone" of the conductors.[123] The strike zone includes the area adjacent to power lines both inside and outside the rights-of-way for trees that are tall enough to potentially strike the overhead facilities.[124] SDG&E completes work identified during the non- routine inspections prior to the start of the peak fire season (September 1).[125]

During routine and off-cycle inspections in the HFTD, SDG&E also pursues enhanced clearances on its targeted species, including eucalyptus, palm, oak, pine, and sycamore.[126] When determining targeted species, SDG&E considered factors such as growth rate and characteristics, failure potential, outage frequency history, and other environmental factors.[127] Species alone does not necessarily trigger the need for enhanced trimming.[128] Many of these trees, such as eucalyptus and sycamore, are fast-growing and have the propensity to shed branches during windy conditions.[129]

SDG&E schedules its enhanced tree inspections within the HFTD to coincide with the post-trim QA/QC activity.[130] The enhanced inspection activity occurs approximately six months after the routine inspection activity.[131] This inspection frequency enables a second look at trees within the annual cycle to ensure conditions have not changed that may result in a tree/line conflict.[132]

---

[116] *Id*.
[117] SDG&E employs a contracted workforce of International Society of Arboriculture (ISA) Certified Arborists trained in species identification, characteristics, and hazard assessment. RAMP at 1-62.
[118] *Id*. at 1-69.
[119] *Id*. at 1-62.
[120] *Id*.
[121] *Id*.
[122] *Id*.
[123] *Id*.
[124] *Id*.
[125] *Id*.
[126] *Id*.
[127] *Id*.
[128] *Id*.
[129] *Id*.
[130] *Id*. at 1-63.
[131] *Id*.
[132] *Id*.

In areas of the HFTD where the annual, routine pre-inspection activity occurs in the Fall (September-December), SDG&E performs the enhanced tree inspection activity in the Spring and Summer, in advance of seasonal Santa Ana wind conditions.[133] The protocol and scope for both routine and enhanced inspections within the HFTD includes a visual inspection of all trees that have the potential to strike the electrical facilities if the tree were to fail at ground level.[134] The visual inspection includes a 360-degree hazard assessment of trees from ground level to canopy height to determine tree health, structural integrity, and environmental conditions.[135] Where appropriate, sounding techniques or root examination may also be conducted.[136]

SDG&E tree contractors follow American National Standards Institute (ANSI) A300 industry tree standards and "directional pruning" techniques which foster the health of a tree while maximizing clearance and extending the pruning cycle.[137] Tree branches that overhang electrical conductors may be considered a risk.[138] SDG&E removes all overhanging branches on its distribution and transmission lines.[139]

Where achievable, SDG&E prunes trees to a clearance of 12 feet (or greater) from power lines.[140] The post-pruning clearances obtained by the tree contractor are determined by factors such as species, tree growth, wind sway, and proper pruning practices.[141] On average, SDG&E annually prunes approximately 175,000 trees and removes approximately 8,500 non-compatible trees.[142] In 2019, SDG&E pruned 167,588 trees and removed 9,936 trees; in 2020, SDG&E pruned 221,500 trees and removed 12,985 trees.[143]

Tree removal includes the chipping of all material and removal of debris.[144] Large wood (> 6-8-inch diameter) generated from tree removal work is generally left onsite with the property owner's acknowledgment on the signed tree removal authorization document.[145] Any large debris left on slopes is positioned to prevent movement of the material by gravity.[146] All debris associated with pruning and removal operations is removed from watercourses to prevent flooding or degradation of water quality.[147] Tree removal operations that may occur in sensitive environmental areas are reviewed to determine protocols that must be followed to protect species and habitat.[148]

---

[133] *Id*.
[134] *Id*. at 1-63.
[135] *Id*.
[136] *Id*.
[137] *Id*.
[138] *Id*.
[139] *Id*.
[140] *Id*.
[141] *Id*.
[142] *Id*. at 1-64.
[143] *Id*.
[144] *Id*.
[145] *Id*.
[146] *Id*.
[147] *Id*.
[148] *Id*.

SDG&E also supports and follows its "Right Tree-Right Place" initiative to replace incompatible trees with trees that are safe to grow near power lines.[149] This program supports tree health, prevents outages and ignitions, and minimizes customer impact because of frequent tree trimming.[150]

F. Pole Brushing

Pole brushing is a fire prevention measure involving the removal of vegetation at the base of poles that carry specific types of electrical hardware that could cause sparking or molten material to fall to the ground.[151] The clearance requirements in Public Resources Code Section 4292 require the removal of all vegetation down to bare mineral soil within a 10-foot radius from the outer circumference of subject poles located within the boundary of the State Responsibility Area (SRA).[152] The requirement also includes the removal of live vegetation up to eight vertical feet, and the removal of dead vegetation up to conductor level within the clearance cylinder.[153]

Pole brushing follows a specific multi-activity, annual schedule.[154] The number of subject poles fluctuates minimally year-to-year.[155] SDG&E performs an environmental review in advance of all new pole brushing activities to assess impacts to protected species and habitat.[156] SDG&E annually audits its vegetation management.[157]

In 2020, SDG&E replaced approximately 3,176 fuses and 1,857 hot line clamps attached to poles within the HFTD.[158] This will reduce the risk of equipment-related ignitions and will potentially reduce the number of poles that are subject to pole brushing requirements in Public Resources Code Section 4292.[159]

In 2021 SDG&E plans to continue the effort of replacing fuses and hot line clamps attached to poles within the HFTD.[160] This will continue to reduce the risk of equipment-related ignitions and will potentially reduce the number of poles that are subject to pole brushing requirements in Public Resources Code Section.[161]

---

[149] *Id*.
[150] *Id*.
[151] RAMP at 1-70.
[152] *Id*.
[153] *Id*.
[154] *Id*.
[155] *Id*.
[156] *Id*.
[157] *Id*.
[158] RAMP at 1-71.
[159] *Id*.
[160] *Id*.
[161] *Id*.

SDG&E performs required pole brushing activities on subject poles located within the SRA per Public Resources Code Section 4292.[162] The SRA where Public Resources Code Section 4292 applies does not align completely with the HFTD boundary.[163]

As an extra precautionary measure, SDG&E brushes about 2,000 additional poles located outside SRA where Public Resources Code Section 4292 does not apply.[164] These poles are in areas of potentially flammable vegetation, on steep slopes, and/or adjacent to areas where a fire may propagate.[165]

SDG&E performs three separately scheduled pole brush activities annually including mechanical brushing, chemical application, and re-clearing.[166] Mechanical pole brushing includes clearing all vegetation around the base of the pole down to bare mineral soil for a radius of ten feet from the outer circumference of the pole; removing all live vegetation within the cylinder up to a height of eight feet above ground; removing all dead vegetation up to the height of the conductors.[167] Mechanical brushing is typically performed in the spring months.[168]

On poles where environmentally safe and with customer consent, contractors will apply an Environmental Protection Agency (EPA) approved herbicide, the chemical application.[169] SDG&E treats approximately 10,000 poles with the pre-emergent herbicide to minimize vegetative re-growth and reduce overall maintenance costs.[170] Chemical application is typically done just before the rain season (during the fall and winter months) so the chemical is activated and effective.[171] Not all subject poles can be treated with herbicide due to environmental constraints including, *inter alia*, species/habitat protection, site slope, proximity to water, or proximity to trees.[172]

Reclearing, a second mechanical activity, is performed on poles that do not allow chemical application to remove vegetation that has grown into, or blown into, the required clearance area since the last maintenance activity.[173] The need to revisit a subject pole multiple times is not uncommon due to leaf litter cast or blown into the cleared area and vegetation regrowth that cannot controlled by mechanical or herbicide treatments.[174]

---

[162] *Id*.
[163] *Id*.
[164] *Id*.
[165] *Id*.
[166] RAMP at 1-72.
[167] *Id*.
[168] *Id*.
[169] *Id*.
[170] *Id*.
[171] *Id*.
[172] *Id*.
[173] *Id*.
[174] *Id*.

G. Wildfire Fuels Management

Accumulation of wildland fuels in proximity to electrical infrastructure (wires, poles, equipment) poses a risk of damage to these facilities during wildland fires.[175] Wildland fuels also pose a risk of ignition resulting from electric equipment failure if left unabated.[176]

Fuel management reduces fire fuel load around distribution and transmission lines, which may in turn reduce the intensity of wildfires that traverse facility easements and rights-of-way (ROWs). To reduce fire risk to infrastructure, SDG&E has implemented a pilot program to conduct fuel management activities inside and adjacent to its ROWs. These fuel reduction activities reduce wildfire fuel loads in the vicinity of rural communities within HFTDs, which are the most vulnerable areas subject to wildfires in San Diego County.

In order of priority, fuel management activities focus on: (1) removing nonnative vegetation, especially fire-promoting species, (2) removing dead/down woody vegetation, and (3) thinning select native vegetation with a focus on preserving habitat value and native species diversity.

SDG&E's pilot program included an ecology-based approach that benefits the overall ecological value of the surrounding vegetation communities while removing dead/down woody vegetation that provides fuel for wildfire. Any thinning of select native vegetation, if needed, focuses on preserving habitat value and native species diversity. Specifically, to ensure that native plant diversity does not change between the pre-treatment and post-treatment, SDG&E only targeted commonly occurring or dominant native species within a given vegetation community for thinning.

In 2020, SDG&E thinned and trimmed ground vegetation at the base of distribution and some transmission poles for a radius of 50 feet from the pole. SDG&E performed this fuel modification activity on 300 poles in 2020 and completed maintenance on 314 poles that were cleared in 2019.[177]

V. NCCP BACKGROUND AND RELEVANT PROVISIONS

Since 1995, SDG&E has performed its work in accordance with the NCCP, which it developed in collaboration with the U.S. Fish & Wildlife Service (FWS) and CDFW. FWS's permit and CDFW's management authorization issued with the NCCP authorized incidental take associated with up to 400 acres of habitat modification from SDG&E activities.

In the mid-1990s, SDG&E prepared its NCCP pursuant to California's Natural Community Conservation Plan Act[178] and federal Endangered Species Act. In developing its NCCP, SDG&E

---

[175] RAMP at 1-65-66.
[176] *Id*.
[177] WMP Update at 20.
[178] Section 2835 of the California Fish and Game Code allows CDFW to authorize incidental take in an NCCP for those species identified in the plan. An "NCCP identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity." *See* CDFW, Natural Community Conservation Planning, available at: https://www.wildlife.ca.gov/Conservation/Planning/NCCP. The California Endangered Species Act (CESA) prohibits the "take" of protected species without permission. CESA applies to listed

collaborated with FWS and CDFW. The NCCP covers 2,245,800 acres of SDG&E's service area, and was expressly designed to avoid and minimize impacts to 110 Covered Species and their habitats while allowing SDG&E to install, maintain, operate, and repair its existing gas and electric system and undertake typical expansion of the electric grid (Covered Activities).

The NCCP includes more than 60 operational protocols that SDG&E implements for its Covered Activities, including pre-activity surveys to avoid occupied habitat. These protocols are primarily based upon impact avoidance and minimization and recognize that minor adjustments during planning and execution of activities can often yield major benefits to Covered Species and their Habitat. In all, the NCCP aims to preserve intact the biological and physical resources comprising sensitive habitats (ecosystems) to the greatest extent possible and afford all species within managed habitats greater protections than before. NCCP at 11.

CDFW approved the NCCP in 1995, determining that it would "mitigate[ ] impacts to endangered species," and that, with implementation of NCCP-prescribed mitigation, "protect [covered] species from further degradation" by "minimiz[ing] and mitigat[ing] the impacts of the taking of the enumerated species (including, without limitation, the modification of their habitat)."[179] Permits and authorizations issued by the wildlife agencies with the NCCP authorized incidental take associated with up to a total of 400 acres of habitat modification over 55 years of Covered Activities.

The NCCP has improved efficiency, decreased regulatory burdens, and allowed SDG&E to promptly undertake vital fire-safety activities without undue delay. It has also protected, conserved, and enhanced the unique qualities that make San Diego so desirable.

Covered Activities in the NCCP include those that comprise Wildfire Safety Activities. For instance, Covered Activities include equipment repair and replacement, *see* NCCP § 2.1.1.5 at 19, undergrounding facilities, *id*. § 2.1.2 at 20, *id*., and other fire-safety related work like vegetation management, clearing, and pole brushing:

> 2.1.1.8 Tree Trimming Tree trimming plays a critical role in maintaining reliable electrical power. Tree limb contact with electrical lines is … a source of possible ignition and as such a potential fire hazard.

NCCP at 20.

---

species as well as candidate species that are the subject of a listing petition. Fish & G. Code, § 2080; Cal. Code Regs., tit. 14, § 783.1. CESA defines "take" as to "[h]unt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Fish & G. Code, § 86. For a project to be exempt from CESA's take prohibition, the project proponent must obtain authorization for take that is "incidental to" (and not the purpose of) an otherwise lawful activity being proposed.

[179] SDG&E HCP/NCCP Management Authorization at 11-12, available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=115862&inline.

> 2.1.3.8 Fire Control Areas A clearing of 10 feet in any direction, measured horizontally, from the outer circumference of any pole or tower is needed for construction and is required by law to be maintained for fire protection after construction. This clearing forms an imaginary cylindrical space surrounding each pole or tower. At ground level, all flammable materials that will propagate fire are removed. Within such 10' radius and to height of to 8' from the ground, dead or dying trees or foliage, or the dead, diseased, or dying limbs or foliage are removed. Where such trimming results in the removal of more than 50% of any such tree or foliage to meet fire safety requirements, such tree or foliage is entirely removed. These fire control measures can aid in the prevention of fire caused by arcing and can protect the Facilities from failure due to a fire in a surrounding area. Areas cleared of vegetation are also required around gas line valve complexes and cathodic test stations for fire protection.
>
> 2.1.3.9 Vegetation Control Vegetation must be controlled on access roads, road shoulders, drainage structures, around transformers, buildings, fuel tanks, switch and transformer yards, substations, regulator stations, and other Facilities. Vegetation is controlled to … prevent fires ….
>
> 2.1.4.3 Fire Control Areas Brush management around substations and regulator stations consisting of a 30'-wide fire break free from natural vegetation is desirable. Fire-control clearances are maintained on a yearly basis.

NCCP at 24-26.

Recognizing that a long-term planning document like the NCCP cannot perfectly predict the future, the NCCP and its accompanying Implementing Agreement (entered by and among SDG&E, FWS, and CDFW), allowed amendments. For instance, the NCCP expressly provides that "Since the future cannot be accurately predicted, the Plan allows for up to 400 acres of impacts in natural areas before requiring a Plan amendment." NCCP at vi; *see also*, Implementing Agreement § 12 (allowing amendments by mutual agreement).

VI. POTENTIAL HABITAT MODIFICATION FROM WILDFIRE SAFETY ACTIVITIES

Annual forecasts of pertinent WMP activities associated with Wildfire Safety Activities for 2021-2024 are listed in Table 1. To conservatively estimate the amount of habitat that may be affected by Wildfire Safety Activities from 2021-24, SDG&E relied on historical data and experience from more than 25 years of experience implementing the NCCP. For these activities, SDG&E first

relied on standard impact assumptions to estimate and forecast potential annual impact estimates that could occur in natural areas.

Among other things, impacts from traditional hardening and covered conductor activities are largely associated with ground disturbance from replacing or installing steel poles. With pole installation or replacements, impact footprints are small. Full project descriptions are unknown this far in advance for these types of activities. For example, it is unknown if there would be impacts from 1) using access roads, 2) from using certain types of equipment, 3) utilizing certain construction techniques, or 4) requiring additional habitat impacts associated with vegetation management.

Like the pole replacements associated with traditional hardening and covered conductor activities, Strategic Undergrounding (SUG) in 2021 through 2024 is in various phases of conceptual design, early stages of routing, and early stages of impact analysis. Forecasted impacts from this program if no consideration were given to avoiding or otherwise minimizing impacts would therefore similarly be large and will decrease when the full suite of NCCP avoidance and minimization measures are designed into individual projects.

Based on SDG&E's experience with completed SUG projects, existing linear corridors such as roads are utilized to the maximum extent feasible, allowing many potential impacts to natural areas to be avoided altogether. As the forecasts for SUG work increases over the next three years, however, it may become more challenging to avoid and minimize all impacts given the challenges associated with routing existing overhead lines to new locations that are not always directly below the current overhead position. To complicate early reviews and impacts analyses, impacts associated with staging yards are unknown and not well understood until final designs are complete and construction plans are prepared.

Given these factors, SDG&E first calculated the maximum potential impact from Wildfire Safety Activities if SDG&E were to give no consideration to avoiding or otherwise minimizing any of these impacts. But SDG&E further recognized that there is no reasonable chance all these impacts would occur, because the NCCP expressly prioritizes avoiding all impacts and focuses on minimizing impacts to the maximum extent practicable. SDG&E begins developing avoidance and minimization measures once initial engineering designs are known and typically reduces impacts significantly through planning, design, and implementation of the NCCP's avoidance and minimization measures.

SDG&E has more than 25 years of historical data related to impacts associated with similar activities that had been fully designed and implemented using the NCCP's avoidance strategy and Operational Protocols. Thus, although the precise level of reduction is difficult to quantify at present because of the lack of initial engineering designs, based on these data and more than two decades implementing the NCCP, SDG&E reasonably concluded the impacts associated with Wildfire Safety Activities from 2021-2024 would be reduced by a similar measure to historical impacts (approximately 80-90% reduction). This yielded a range of reasonable potential impacts, the high-end of which is found in the *Subtotal* row in Table 1.

As reported in its 2020 NCCP Annual Report Letter (Mar. 31, 2021), SDG&E estimated that fewer than 10 acres of habitat impacts remain from the original 400 acres included under the NCCP. As shown above, this acreage likely will not suffice to account for potential impacts from Wildfire Safety Activities through the current and upcoming fire seasons.

Table 1. Wildfire Safety Activity Impact Range 2021-2024 (based on assumption impacts will be avoided and minimized to an extent comparable to historical data and experience).

Wildfire Mitigation Plan Program	2021 Forecast (miles)	2021 Impacts (acres)	2022 Forecast (miles)	2022 Impacts (acres)	2023 Forecast (miles)	2023 Impacts (acres)	2024 Forecast (miles)	2024 Impacts (acres)	Assumptions
ESH – Traditional Hardening	100	0.31	5.00	0.02	0.00	0.00	0.00	0.00	Assume 20 poles per mile with standard impacts at 34 sq. ft. per pole.
ESH - Covered Conductor	20	0.06	60.00	0.19	100.00	0.31	100.00	0.31	With heavier conductor, assume all poles are rquired to be replaced. Assume 20 poles per mile with standard impacts at 34 sq. ft. per pole.
ESH - Strategic Undergrounding (linear)	25	3.64	80.00	11.64	125.00	18.18	150.00	21.82	6 foot wide trench x 1 mile = 31,680 sq. ft./mile. Assume 80% of impacts to natural areas/habitat along roads can be avoided through design.
ESH - Strategic Undergrounding (Staging yards)	0	1.25	0.00	4.00	0.00	6.25	0.00	7.50	0.25 acres/mile
DIAR Program (drone inspection)	60	0.06	60.00	0.19	60.00	0.19	0.00	0.00	Assumption has been that 30% of all DIAR inspected poles require replacement.
Subtotal	205	5.32	205.00	16.03	285.00	24.93	250.00	29.63	
80-90% Range	_	**2.66 - 5.32**	_	**8.01 - 16.0**	_	**12.5 - 25.0**	_	**14.8 - 29.6**	Assumes ca. 80-90 reduction of potential impacts

Table 2. 2020 NCCP Annual Report Letter, NCCP Habitat Impact Balance (acres)

NCCP Habitat Impact Balance (acres)	
2019 Ending Habitat Impact Balance	107.591
2020 Reported Habitat Impacts	-2.049
Attachment 3 – Projects Pending Post Construction Reports	-91.425
2021 Anticipated Habitat Impacts for Scheduled Projects	-4.49
2021 Habitat Impact Balance	9.627

SDG&E has successfully implemented the NCCP's avoidance strategy and Operational Protocols for more than 25 years. As a result, while SDG&E has "take" authorization for 110 Covered Species in our service area, our activities have resulted in 5 documented instances of "take" of an individual CESA-listed wildlife species over that time.

SDG&E will continue to conduct its Wildfire Safety Activities in accordance with existing NCCP Operational Protocols detailed in Section 7.1 and previously adopted and implemented successfully over more than 25 years of NCCP. Accordingly, SDG&E does not anticipate "take" of CESA-listed species from its Wildfire Safety Activities. Out of an abundance of caution, SDG&E is seeking take coverage under this NCCP both for regulatory certain as well as to continue operating under the NCCP Act and the conservation benefits that flow therefrom.

Impacts from Wildfire Safety Activities are anticipated to be like those associated with other operation and maintenance of the existing system. They will likely occur gradually and in small amounts in linear corridors across SDG&E's service area. Wildfire Safety Activities will also be bound by the NCCP's strict operational protocols designed to protect wildlife, plants, and habitat.

SDG&E will continue to conduct its Wildfire Safety Activities in an environmentally sensitive manner in accordance with existing NCCP Operational Protocols detailed in Section 7.1 and previously adopted and implemented successfully over more than 25 years of NCCP. Select Operational Protocols include:

- Conducting pre-activity surveys for activities occurring off access roads in natural areas. The environmental surveyor will also determine the extent of habitat and flag habitat boundaries that must be avoided.

- Designing maintenance, repair, and construction activities to minimize new disturbance, erosion, and off-site degradation from accelerated sedimentation.

- Conducting continued monitoring as recommended in the pre-activity survey report, and removing all habitat flagging from the construction site.

- Inspecting supplies or equipment to prevent wildlife entrapment or injury.

- Allowing underlying fee owners to dedicate property on either side of a utility right-of-way to conservation purposes.

- Preventing or minimizing wildfires by exercising care when driving and by not parking vehicles where catalytic converters can ignite dry vegetation. Using shields, protective mats, and other fire prevention methods during grinding and welding to prevent or minimize the potential for fire. NCCP at 104.

We need to continue our Wildfire Safety Activities to prevent or mitigate fires, including through hardening work and vegetation management near powerlines. Allowing this critical fire-safety work to proceed without interruption will enhance operational certainty. Notably, our work will also protect plant and animal species; by clearing flammable invasive species that often colonize chaparral strands recovering from fire, Wildfire Safety Activities may help ensure that resilient native chaparral ecosystems are preserved.[180]

[180] *See, e.g.* U.S. Department of Agriculture Forest Service, "Fire Effects on California Chaparral Systems: An Overview," (July 30, 1990); available at: https://www.fs.fed.us/psw/publications/barro/psw_1991_barro001.pdf.

> [W]hen fire wipes out native chaparral and scrub, they can be replaced by the non-native plants that accelerate fires and may serve no useful purpose, providing neither sustenance or habitat to wildlife. The shallow-rooted plants don't hold soils well, adding to the threat of erosion in burned areas.[181]

In addition, invasive weeds and grasses that colonize, and crowd out native plants do not have deep roots, accelerating erosion and leading to more frequent wildfires.[182] Invasive weeds can also regenerate every year and carry a fire every year.[183] Clearing such vegetation will decrease the risk for repeated fires before native plants may regenerate.

EPA has recognized that proper vegetation management is "vitally important" to the surrounding land, because how vegetation is managed "can impact the surrounding land by causing wildfires, fragmenting wildlife habitat, and introducing invasive and exotic species."[184] Integrated vegetation management in the electoral power infrastructure ROW, as SDG&E undertakes, "can create natural, diverse, and sustaining ecosystems" that may reduce wildlife habitat fragmentation and increase plant diversity.[185]

Moreover, EPA, the U.S. Department of the Interior, and the U.S. Forest Service entered a Memorandum of Understanding with the Edison Electrical Institute and the Utility Arborist Association on Vegetation Management for Powerline Rights-of-Way,[186] which states:

> Utility companies must manage vegetation in powerline ROWs on Federal lands to prevent power outages, wildfires, and the spread of invasive species and to protect human health, property, and natural and cultural resources…. There have been catastrophic wildfires across multiple states caused by interaction of vegetation with powerlines and other facilities within powerline ROWs…. The spread of invasive plants, as well as other flammable native vegetation, can increase fuel loads, creating dangerous fire conditions that can threaten powerlines and other facilities … Properly maintained vegetation … can prevent the spread of

---

[181] CalMatters.org, "California blooms again after last year's fires-but it's not all good," (Feb. 28, 2019); available at: https://calmatters.org/environment/2019/02/californias-charred-hills-bloom-again-not-all-good/.

[182] CBS News, "Fires' Long-Term Impact On Environment," (Oct. 15, 2007); available at: https://www.cbsnews.com/news/fires-long-term-impact-on-environment/.

[183] *Id.*

[184] *See* U.S. Environmental Protection Agency, "Benefits of Integrated Vegetation Management (IVM) on Rights-of-Way." Available at: https://www.epa.gov/pesp/benefits-integrated-vegetation-management-ivm-rights-way (last visited Sept. 21, 2021).

[185] *Id.*

[186] Available at: https://www.epa.gov/sites/production/files/2016-11/documents/signed_2016_vegetation_mou_between_industry_and_federal_land_management_agencies.pdf.

> invasive species, provide habitat for pollinators, and act as an effective firebreak for the control and suppression of wildfire.[187]

Chaparral serves as a home to many animal species. Larger, more severe, and more frequent fires results in a decreased return of complex layers of habitat, rendering species unable to find suitable habitat.[188] Protection against more frequent fires, as well as invasive species, to allow chaparral to flourish in turn preserves wildlife habitat.

SDG&E's Wildfire Safety Activities, including the clearing of invasive, fire-prone plant species, are unlikely to directly take CESA listed species and will likely result in a net benefit upon the environment. Nonetheless, SDG&E is seeking take coverage under this NCCP both for regulatory certain as well as to continue operating under the NCCP Act and the conservation benefits that flow therefrom.

As noted above, under this narrow amendment, SDG&E will continue to conduct its Wildfire Safety Activities in accordance with existing NCCP Operational Protocols detailed in Section 7.1 and previously adopted and implemented successfully over more than 25 years of NCCP. Moreover, if SDG&E secures an amended HCP from FWS prior to receiving a long-term NCCP amendment, the parties agree that SDG&E should conduct Covered Activities, including Wildfire Safety Activities, in accordance with all Operational and Species-Specific Protocols that are included therein. For these reasons, we are confident that our Wildfire Safety Activities, including the clearing of invasive, fire-prone plant species, coupled with its proven conservation strategy, will likely result in a net benefit upon the environment.

---

[187] *Id*. at 5.

[188] *See* Audubon California, "Fire and birds," (Aug. 15, 2018), available at: https://ca.audubon.org/news/fire-and-birds-0; see also: CBS News, "Fires' Long-Term Impact On Environment," *supra*, ("Small birds, rabbits and other animals dependent on California's rapidly disappearing native vegetation will struggle to maintain a foothold, while some endangered species will find themselves locked into increasingly imperiled islands of refuge.").