



Susan Wengraf  
Councilmember District 6

CONSENT CALENDAR  
November 9, 2021

To: Honorable Mayor and Members of the City Council

From: Councilmember Wengraf (Author), Councilmember Taplin (Co-Sponsor) and Councilmember Hahn (Co-Sponsor)

Subject: PG&E's Safety Initiative: 10,000 Miles of Undergrounding Power Lines

RECOMMENDATION

Adopt a resolution and send a letter to the PG&E CEO and Board of Directors recommending that Berkeley's evacuation routes and the two established but yet to be completed Underground Utility Districts in Berkeley's Very High Fire Hazard Severity Zone be considered in the 10,000-mile promise to underground utilities.

FINANCIAL IMPLICATIONS

None.

BACKGROUND

On July 21, 2021, Pacific Gas and Electric Company's CEO, Patti Poppe, announced a major new multi-year Electric Infrastructure Safety Initiative to protect communities from wildfire threat by undergrounding 10,000 miles of power lines in the Highest Fire Threat Districts.

A 2019 AP News Analysis identified Berkeley Hills Zip Code 94708 as being within the worst 1% in the state when it comes to population-to-evacuation-route ratios. The Town of Paradise is also in the worst 1% category. Berkeley and Paradise share that terrible distinction with just 31 other Zip Codes in California, out of 1,741 Zip Codes in the state.

Berkeley has a history with wildfire. In 1923, a wildfire swept through north Berkeley, ultimately destroying approximately 600 homes, including churches, schools, libraries, and student living quarters. In 1980, a fire in Berkeley's Wildcat Canyon destroyed 5 homes and then, on October 17, 1991, a fierce and destructive wildfire consumed southeast Berkeley and Oakland, claiming 25 lives and reducing approximately 3,000 structures to ashes.

Berkeley is also at extreme risk for a devastating earthquake on the Hayward Fault, which cuts right through Berkeley's very high fire hazard severity zone; when fire ensues, it will cause even further destruction to life, property and further challenge the City's resiliency.

We are recommending PG&E commit a tiny part of their 10,000 miles of undergrounding to Berkeley's evacuation routes and previously formed Undergrounding Districts 48 and 35A in order to mitigate wildfire risk caused by equipment or earthquakes and improve safety for all residents in Berkeley. This can be done via the following three steps:

1. Underground Berkeley's 15.1 miles of evacuation routes throughout the city as identified in the Study to Underground Utility Wires in Berkeley, Phase 3 Report<sup>1</sup> released in February 2020.
  - a. Evacuation routes include sections of Dwight Way, Marin Ave, Grizzly Peak Blvd, Ashby Ave, Cedar Street, Hopkins Street, Gilman Street, Spruce Street, Rose Street, Oxford Street, Claremont Ave and Alcatraz Ave. (see map in attachments)
2. Undergrounding of Underground Utility District No. 35A [Vistamont (Woodmont)] (UUD 35A) which the City of Berkeley created more than 27 years ago and is still waiting for PG&E to start. This area sits in the Wildland Urban Interface and is in the CALFIRE designated VHFHSZ.
3. Underground Utility District No. 48 [Grizzly Peak/Summit] (UUD 48). PG&E has projected a start date of February 2022.
  - a. The City Council established UUD 48 & UUD 35A in April and May 1993 respectively and is still waiting for PG&E to implement their agreement.

It is the City's intent to have a cooperative and efficient permitting process for undergrounding projects, given our mutual desire and interest in these undergrounding projects.

On December 16, 2014, City Council made a referral to the Public Works Commission, the Disaster and Fire Safety Commission, and the Transportation Commission, to "develop a comprehensive plan for funding of the undergrounding of utility wires on all major arterial and collector streets in Berkeley." Representatives from those Commissions formed an Undergrounding Subcommittee, who, together with Public Works staff, developed a four-phase approach to meet that goal. [Link to the Conceptual Study.](#)

### ENVIRONMENTAL SUSTAINABILITY

Undergrounding utility wires will prevent the wildfires caused by equipment and downed utility wires and poles. Undergrounding ensures that fallen utility poles will not impede emergency vehicles from responding in a disaster and will allow for safer evacuation in the event of a fire or earthquake. Last year's California wildfires caused greenhouse

---

<sup>1</sup> [https://www.cityofberkeley.info/uploadedFiles/Public\\_Works/Level\\_3\\_-\\_General/Underground%20Phase%203%20Study%20\(2020\).pdf](https://www.cityofberkeley.info/uploadedFiles/Public_Works/Level_3_-_General/Underground%20Phase%203%20Study%20(2020).pdf)

emissions similar to that of 24 million passenger vehicles driven for one year, according to the EPA's Greenhouse Gas Equivalencies Calculator.

CONTACT PERSON

Councilmember Wengraf

Council District 6

510-981-7160

Attachments:

1: Resolution

2: Letter to PG&E CEO & Board

3: Map of Proposed Undergrounding Along Major Evacuation Routes

4: [PG&E Announcement of Plans to Underground 10K Miles](#)

5: AP News Analysis

RESOLUTION NO. ##,###-N.S.

PG&E'S SAFETY INITIATIVE: 10,000 MILES OF UNDERGROUNDING

WHEREAS, On July 21, 2021 Pacific Gas and Electric Company's CEO, Patti Poppe, announced a new multi-year Electric Infrastructure Safety Initiative to protect communities from wildfire threat by undergrounding 10,000 miles of power lines in the Highest Fire Threat Districts; and

WHEREAS, A 2019 AP News Analysis identified Berkeley Hills Zip Code 94708 as being within the worst 1% in the state when it comes to population-to-evacuation route ratios; and

WHEREAS, The Town of Paradise is also in the worst 1% category. Berkeley and Paradise share that terrible distinction with just 31 other Zip Codes in California, out of 1,741 Zip Codes in the state; and

WHEREAS, Berkeley has a history with wildfire, including the 1923 wildfire that swept through north Berkeley destroying approximately 600 homes and structures, the 1980 fire in Berkeley's Wildcat Canyon that destroyed five homes and the 1991 fire that consumed southeast Berkeley and Oakland, claiming 25 lives and reducing approximately 3,000 structures to ashes; and

WHEREAS, Berkeley is also at extreme risk for a devastating earthquake on the Hayward Fault, which cuts right through Berkeley's very high fire hazard severity zone; when fire ensues, it will cause even further destruction to life, property and further challenge the City's resiliency; and

WHEREAS, The City Council recommends PG&E commit a tiny part of their 10,000 miles of undergrounding to Berkeley's evacuation routes and previously formed Undergrounding Districts 48 and 35A in order to mitigate wildfire risk caused by equipment or earthquakes and improve safety for all residents in Berkeley.

WHEREAS, It is the intent of the City of Berkeley to have a cooperative and efficient permitting process for undergrounding projects, given our mutual desire and interest in these undergrounding projects.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that it send a letter to the PG&E CEO and Board of Directors, with a copy to the CPUC, recommending that Berkeley's evacuation routes and the two established but yet to be completed Underground Utility Districts in Berkeley's Very High Fire Hazard Severity Zone be considered in the 10,000-mile promise to underground utilities.

November 9, 2021

Patricia Poppe  
CEO, Pacific Gas & Electric  
c/o Brian M. Wong  
Vice President, Corporate Secretary  
77 Beale Street, 24th Floor  
Mail Code B24W  
San Francisco, CA 94105

**RE: PG&E's Safety Initiative: 10,000 Miles of Undergrounding Power Lines**

Dear CEO Patti Poppe,

On behalf of the Berkeley City Council, I want to commend PG&E on its Safety Initiative to Underground 10,000 miles of power lines to protect communities from wildfire threat. I also want to recommend that PG&E commit a tiny part of those 10,000 miles of undergrounding to Berkeley's evacuation routes and the two established but yet to be completed Underground Utility Districts in Berkeley's Very High Fire Hazard Severity Zone.

A 2019 AP News Analysis identified Berkeley Hills Zip Code 94708 as being within the worst 1% in the state when it comes to population-to-evacuation-route ratios. The Town of Paradise is also in the worst 1% category. Berkeley and Paradise share that terrible distinction with just 31 other Zip Codes in California, out of 1,741 Zip Codes in the state.

Berkeley has a history with wildfire. In 1923, a wildfire swept through north Berkeley, ultimately destroying approximately 600 homes and structures. In 1980, a fire in Berkeley's Wildcat Canyon destroyed 5 homes and then, on October 17, 1991, a fierce and destructive wildfire consumed southeast Berkeley and Oakland, claiming 25 lives and reducing approximately 3,000 structures to ashes.

Berkeley is also at extreme risk for a devastating earthquake on the Hayward Fault, which cuts right through Berkeley's very high fire hazard severity zone; when fire ensues, it will cause even further destruction to life, property and further challenge the City's resiliency.

Undergrounding Berkeley's 15.1 miles of evacuation routes throughout the city, and UUD 48 and UUD 35A will reduce the threat of wildfire and improve safety for all residents in Berkeley and neighboring jurisdictions as well.

The City of Berkeley is intent on having a cooperative and efficient permitting process for undergrounding projects, given our mutual desire and interest in these undergrounding projects.

I urge you to include Berkeley's evacuation routes and two established UUDs in PG&E's 10,000-mile promise to underground utilities.

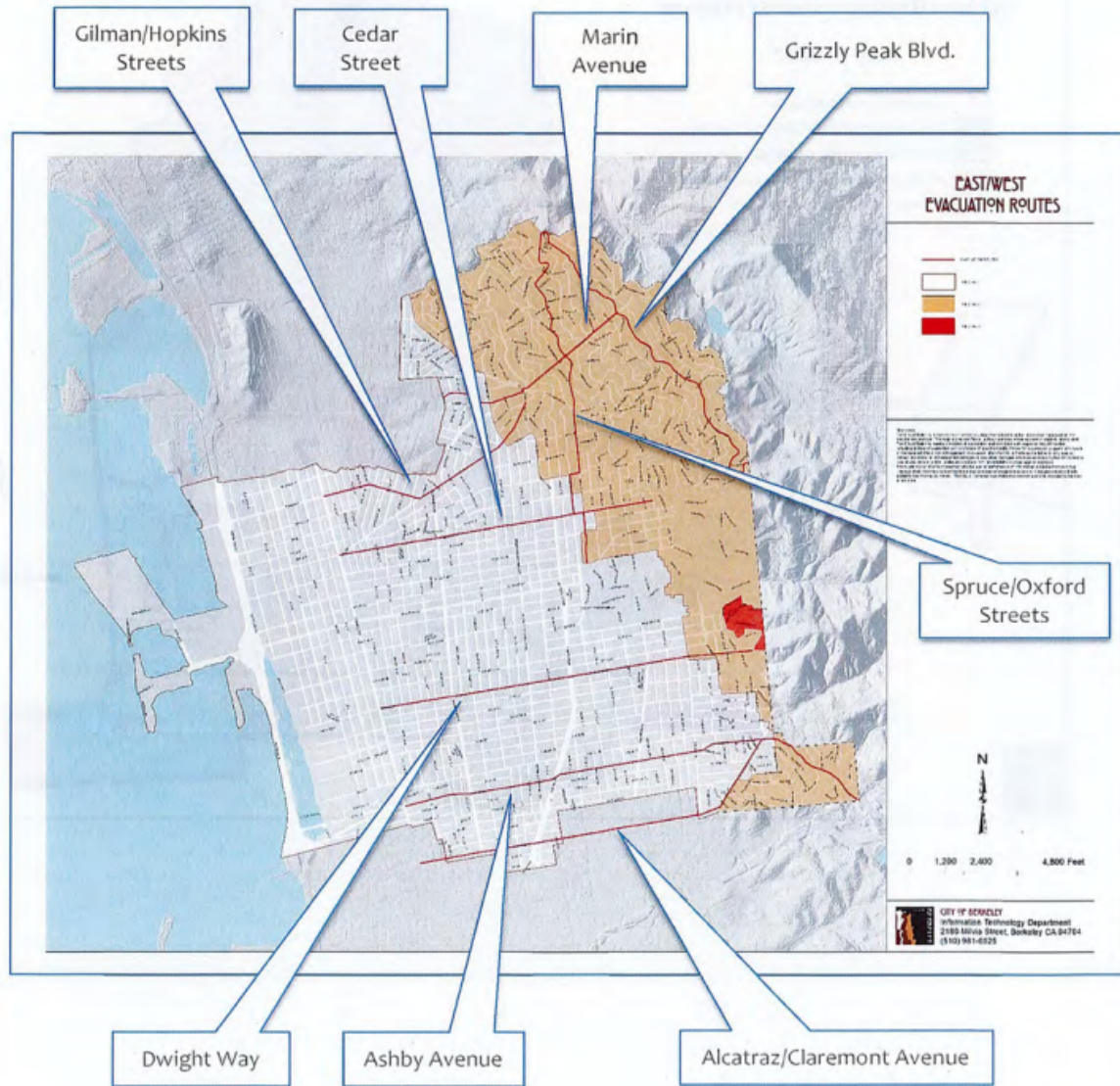
I thank you for your leadership on PG&E's Safety Initiative.

Sincerely,

Susan Wengraf  
Councilmember, North East Berkeley Hills  
City of Berkeley

CC: CPUC  
PG&E Board Members:  
Rajat Bahri  
Cheryl Campbell  
Kerry Cooper  
Jessica Denecour  
Admiral Mark Ferguson  
Robert Flexon  
W. Craig Fugate  
Arno Harris  
Michael Niggli  
Dean Seavers  
William Smith  
Benjamin Wilson

Map of Proposed Undergrounding Along Major Evacuation Routes



## **PG&E Announces Major New Electric Infrastructure Safety Initiative to Protect Communities from Wildfire Threat; Undergrounding 10,000 Miles of Power Lines in Highest Fire-Threat Areas**

---

### **Initiative Builds on Recent Successful Projects Using Undergrounding to Harden the Electric System and Mitigate Wildfire Risk**

**Release Date:** July 21, 2021

**Contact:** PG&E External Communications (415) 973-5930

**CHICO, Calif.** — Pacific Gas and Electric Company (PG&E) today announced a major new initiative to expand the undergrounding of electric distribution power lines in High Fire Threat Districts (HFTD) to further harden its system and help prevent wildfires. The new infrastructure safety initiative, announced today in Butte County by PG&E Corporation CEO Patti Poppe, is a multi-year effort to underground approximately 10,000 miles of power lines.

PG&E's commitment represents the largest effort in the U.S. to underground power lines as a wildfire risk reduction measure.

"We want what all of our customers want: a safe and resilient energy system. We have taken a stand that catastrophic wildfires shall stop. We will partner with the best and the brightest to bring that stand to life. We will demand excellence of ourselves. We will gladly partner with policymakers and state and local leaders to map a path we can all believe in," Poppe said.

In addition to significantly reducing wildfire risk, undergrounding also benefits customers by lessening the need for Public Safety Power Shutoffs, which are called as a last resort during dry, windy conditions to reduce the risk of vegetation contacting live power lines and sparking a wildfire. Undergrounding also eases the need for vegetation management efforts, leaving more of California's trees untouched.

Today, PG&E maintains more than 25,000 miles of overhead distribution power lines in the highest fire-threat areas (Tier 2, Tier 3 and Zone 1)—which is more than 30% of its total distribution overhead system.

10,000 miles of PG&E lines represents approximately the distance of 11 round trips from Chico to Los Angeles or almost half way around the world. The exact number of projects or miles undergrounded each year through PG&E's new expanded undergrounding program will evolve as PG&E performs further project scoping and inspections, estimating and engineering review.

#### **Public Engagement with Stakeholders to Guide New Undergrounding Plan**

PG&E will engage customers and stakeholders as it develops a plan and reviews potential additional undergrounding sites based on a variety of factors, including local municipal planning and



safety considerations. Engineering an underground electric system requires designing the system around existing water, natural gas and drainage systems, as well as planning for future road widening. PG&E intends to work closely with customers and local, state, federal, tribal and regulatory officials throughout this new safety initiative.

#### **Learning from Projects to Inform Expanded Undergrounding Effort**

In the past, undergrounding has been done on a select, case-by-case basis, and largely for reasons other than wildfire risk reduction. Thanks to breakthroughs PG&E has achieved on undergrounding projects in recent years, undergrounding can now play a much more prominent role in PG&E's ongoing efforts to harden the electric grid.

Following the devastating October 2017 Northern California wildfires and the 2018 Camp Fire, PG&E began to evaluate placing overhead power lines underground as a wildfire safety measure, and to better understand the construction and cost requirements associated with undergrounding for system hardening purposes. These demonstration projects were part of PG&E's Community Wildfire Safety Program (CWSP) and included the following:

- From 2018-2020, PG&E completed multiple demonstration projects aimed at converting overhead power lines to underground in high fire-threat areas of Alameda, Contra Costa, Nevada, and Sonoma counties.
- As a part of the rebuild efforts following the October 2017 Northern California wildfires, PG&E completed undergrounding eight miles of power lines in the Larkfield Estates and Mark West Estates communities in Sonoma County in 2018.
- In 2019, PG&E announced it would rebuild all its power lines underground in the Town of Paradise as it helps the community recover from the Camp Fire. The company is also rebuilding power lines underground within the 2020 North Complex Fire footprint in Butte County.

Through these demonstration projects and rebuild efforts, PG&E has been able to refine the construction and cost requirements associated with targeted undergrounding, enabling the acceleration and expansion of undergrounding projects. Learnings include:

- Implementing new planning systems and strategies and using new materials and new equipment to make undergrounding more cost effective.
- Building strong partnerships with material suppliers and contractors to accelerate undergrounding efforts.
- Partnering with natural gas projects as well as phone and internet providers to joint trench and share costs, where possible.
- Using new technology and construction methods to increase trench production.
- Bundling work into larger blocks to take advantage of economies of scale.
- Testing new cable and conduit materials to accelerate undergrounding work processes.

#### **Ongoing PG&E Wildfire Mitigation and Resiliency Efforts**

In addition to significantly expanding its undergrounding, PG&E's ongoing safety work to enhance grid resilience and address the growing threat of severe weather and wildfires continues on a risk-based and data-driven basis, as outlined in PG&E's [2021 Wildfire Mitigation Plan \(WMP\)](#).

This includes:

- Installing stronger poles and covered power lines
- Deploying [remote grids](#) and [community microgrids](#)
- Targeted sectionalizing and grid reconfiguration
- [Investing in centralized data analytics](#) to reduce risk
- Conducting enhanced vegetation management
- [Scaling the deployment of emerging technologies](#) to proactively mitigate wildfire risk

Learn more about PG&E's wildfire safety efforts by visiting [pge.com/wildfiresafety](https://pge.com/wildfiresafety).  
To watch a recording of today's announcement, visit [PG&E's YouTube channel](#).

## AP NEWS

**How we analyzed California's wildfire evacuation routes**

By EVAN WYLOGE

April 27, 2019



In this April 17, 2019, photo, a pedestrian crosses Washington St. one of the few roads leading into and out of the Gold Rush community of Sonora, Calif. Residents of Paradise, Calif., who were forced to flee from the Camp Fire, became caught in a nightmare traffic jam on narrow winding roads as they tried to evacuate the area. Sonora faces the same kind of issues of too few escape lanes for too many people in vehicles. The 2018 catastrophe illuminated the grim reality that road systems throughout the state are not designed to handle a sudden evacuation. (AP Photo/Rich Pedroncelli)

REDDING, Calif. (AP) — How many roads are enough to get out?

That's the question we wondered after watching tragedy unfold in Paradise, California, last year during the Camp Fire.

Paradise had five two-lane roads and one four-lane road leading out of town. But the fire forced officials to close three of those routes, further clogging the remaining roads.

Did Paradise have an unusually high ratio of residents to [escape routes](#) ? Or were other California communities in a similar situation?

A USA Today-California Network analysis of California communities and [evacuation routes](#) shows that some areas in the state are far outside the norm when it comes to the number of lanes of roadway available for the size of the population.

This is a shorthand method of evaluating the efficacy of egress routes, according to emergency planning experts.

To evaluate exit routes for Californians living in areas at risk of a fire-related evacuation, [we combined and analyzed data](#) from the U.S. Census Bureau, Cal Fire and OpenStreetMap.

We took 2010 census block-level populations, combined with Cal Fire's "Fire Hazard Severity Zone" maps, and aggregated those to ZIP codes, then applied more current population estimates. Next, we spatially joined those areas with the fire risk map. That provided a current population risk breakdown for each ZIP code, based on area and estimated population.

We added OpenStreetMap data to each ZIP code, so we could see which roads cross into or out of the area. Combining the ZIP code population and fire risk data with the standard number of lanes for every major roadway allowed us to come up with a set of ZIP codes that have the greatest number of people living in the highest-risk areas and hypothetically trying to use the fewest number of lanes to leave in any direction or to areas at less risk for fire.

What does this tell us?

In short, the analysis gives an estimate of how many people there are for every lane of major road leaving an area.

When we looked at all ZIP codes in California that have people living in a very high fire risk zone, we found, on average, 134 residents living in the riskiest areas for each lane of [traffic going either direction](#) .

Only one out of 20 ZIP codes has more than 313 people living in the [riskiest areas](#) for each lane of traffic. Paradise had more than 1,000, putting it in the worst 1%. But some areas, such as Oak Park in Ventura County, South [Lake Tahoe](#) in El Dorado County or the Palos Verdes Peninsula in Los Angeles County, have two, three or even five times the number of people living in the highest-risk zones, per lane of major roadway out, compared to Paradise.

---

Here are the ZIP codes the analysis identified as being roughly within the worst 1% in the state when it comes to population-to-evacuation-route ratios:

SOUTHERN CALIFORNIA:

90042: Highland Park and Eagle Rock in Los Angeles County

90272: Pacific Palisades in Los Angeles County

90274: Rolling Hills in Los Angeles County

90275: Rancho Palos Verdes in Los Angeles County

91935: Jamul and surrounding areas in San Diego County

92065: Ramona and surrounding areas in San Diego County

92131: Scripps Ranch in San Diego County

91320: From Newbury Park to Dos Vientos Ranch in western Thousand Oaks in Ventura County

91377: Oak Park, an unincorporated community in Ventura County

93021: Moorpark in Ventura County

92548: Homeland and areas northwest of Homeland in Riverside County

92584: Menifee in Riverside County

92314: Big Bear, Minnelusa and Sugarloaf (92386) in San Bernardino County

CENTRAL CALIFORNIA:

93924: Carmel Valley and Jamesburg in Monterey County

NORTHERN CALIFORNIA:

95954: Magalia in Butte County

95969: Paradise in Butte County

96150: South Lake Tahoe and surrounding areas in El Dorado County

95634: Georgetown and surrounding areas in El Dorado County

94508: Angwin in Napa County

94708: Cragmont, Kensington and La Loma Park in northeastern Berkeley in Alameda County

95422: Clearlake in Lake County

95451: Kelseyville in Lake County

95631: Foresthill and surrounding areas in Placer County

95666: Pioneer, Barton and Buckhorn in Amador County