

Inhibiting Date of Hearing: April 20, 2022

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY

Eduardo Garcia, Chair

AB 2889 (Wicks) – As Introduced February 18, 2022

SUBJECT: Wildfire mitigation plans: electrical infrastructure: undergrounding

SUMMARY: Requires electric investor-owned utilities (IOUs), as specified, to include, as part of their 2023 wildfire mitigation plan (WMP), a multiyear undergrounding plan covering at least 7 but no more than 10 years. The undergrounding plan shall include methodology for identifying and prioritizing circuits for undergrounding, targets for the undergrounding work, a workforce development plan, and a description of how the undergrounding will reduce the scope and extent of above-ground activities. Specifies that the undergrounding plan, once approved, will remain in effect for the duration of the period covered by the plan.

EXISTING LAW:

- 1) Requires each electrical corporation to annually prepare a WMP and to submit its plan to the Wildfire Safety Division (WSD, or its successor, the Office of Energy Infrastructure Safety, OEIS) for review and approval, as specified. Requires the WMP to include, among other things, a description of where and how the IOU considered undergrounding electrical distribution lines within high fire threat areas of its service territory, and identification of circuits that have frequently been deenergized and the measures taken, including undergrounding, to reduce the need for future deenergization. (Public Utilities Code § 8386)
- 2) Transfers all function of the WSD, effective July 1, 2021, to OEIS at the California Natural Resources Agency. (Government Code §§ 15470-15476, Public Utilities Code § 326)
- 3) Authorizes WSD/OEIS to approve, require modifications, or deny each IOU WMP within three months of submission. Specifies approved plans shall remain in effect until OEIS approves the IOU's subsequent plan. Requires OEIS to consult with the Office of the State Fire Marshal during the review and update of IOU WMPs. Requires OEIS-approved WMPs to be ratified by the CPUC. (Public Utilities Code § 8386.3)

FISCAL EFFECT: Unknown. This bill is keyed fiscal and will be referred to the Committee on Appropriations for its review.

BACKGROUND:

Wildfires and electric utility infrastructure – Electrical equipment, including downed power lines, arcing, and conductor contact with trees and grass, can act as ignition sources. In recent years, California has experienced a number of catastrophic wildfires, including several that were ignited by electrical utility infrastructure, including the 2007 Witch Fire in San Diego County, the 2015 Butte Fire, several of the 2017 fires, and the brutally deadly Camp Fire in 2018.

High Fire-Threat Districts – The CPUC’s efforts to map high-fire threat stem from the catastrophic wildfires caused by utility infrastructure in San Diego County in the 2000s. The CPUC mapping efforts combine the Tree Mortality Taskforce Map with CPUC/Cal FIRE Tier 2 and Tier 3 designations. Tier 2 fire-threat areas depict areas where there is an elevated risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 3 areas depict where there is an extreme risk from utility associated wildfires.

WMPs – Following the passage of SB 1028 (Hill, Chapter 598, Statutes of 2016), SB 901 (Dodd, Chapter 626, Statutes of 2018) and AB 1054 (Holden, Chapter 79, Statutes of 2019), electric IOUs are required to file WMPs with guidance by OEIS (formerly WSD). OEIS reviews and determines whether to approve these plans.¹ OEIS may also require modifications to the plans. The WMPs detail electric IOU responsibilities, actions, and resources to mitigate wildfires. These actions include plans to harden their system to prevent wildfire ignitions caused by utility infrastructure, such as widespread electric line replacement with covered conductors designed to lower wildfire ignition, pole replacement, and undergrounding. Upon OEIS approval, the CPUC must ratify the WMPs.

The costs borne from doing the work detailed in the WMP is not authorized upon WMP approval. Rather, IOUs must seek rate approval for planned work in their general rate case proceeding at the CPUC. Since 2015 the CPUC has required California’s large utilities—PG&E, San Diego Gas and Electric, and Southern California Edison (SCE)—to file a Risk Assessment Mitigation Phase (RAMP) proceeding in advance of their general rate cases. A RAMP proceeding examines a utility’s assessment of its key risks, including those posed by wildfires, and its proposals for mitigating those risks. The CPUC requires the utility to incorporate the results of its RAMP proceeding into its general rate case.

Undergrounding of electric facilities – Undergrounding is the process of replacing overhead lines that provide services such as electricity or communications with lines located underground. The undergrounding of electrical and communications lines is typically done for aesthetic or safety purposes in order to remove the visible overhead lines and poles or to reduce the risk of damage or fire from being exposed to the elements. The baseline expected lifespan of modern undergrounded lines is approximately 50 years.² However, in many cases, newer underground lines are expected to last longer because of engineering innovations like application of jacketed cable. Certain environmental conditions can impact the lifespan of underground lines and equipment including proximity to fault lines, flooding and saltwater intrusion, and groundwater quality.

Undergrounding is generally much more expensive relative to overhead infrastructure – on the order of 10 times or more. However, operating costs may be less assuming the undergrounding results in a less frequent need to repair damaged lines; the caveat being when repairs are

¹ Prior to WSD’s transfer to OEIS, WMP requirements were conducting within the CPUC’s proceeding R. 18-10-007. That proceeding closed in December 2021.

² Pg. 533, PG&E 2022 WMP.

necessary, maintenance of underground lines can be much more expensive or timely compared to overhead lines. Nonetheless, the costs for undergrounding lines can vary depending on the location of the lines. Based on a February 2020 CPUC Staff Report, *“the electric IOUs reported that undergrounding electric lines costs between \$2.6 million and \$6.1 million per mile which is far more expensive than other fire hardening measures such as replacing wooden poles with steel poles and installing covered conductors which the utilities report as costing \$480,000 per mile.”*³ Another impediment to undergrounding is project time. As reported in PG&E’s 2021 WMP, a typical undergrounding project can take 18-45 months; whereas, a typical overhead hardening project can be complete in 13-16 months.⁴

WMPs and undergrounding: PG&E’s 10,000 miles – Per statute, electric utilities must file WMPs with specified information about where they considered undergrounding electric lines to address wildfire risks. Historically, the IOUs have preferred other more cost-effective options over undergrounding, such as covered conductors or the replacement of wooden poles with fire-resistance materials. However, in recent WMPs the IOUs include some undergrounding work. For example, in its 2022 WMP, SCE notes that in 2021 they completed nearly 6 miles of undergrounding, and target an additional 11 miles for 2022.⁵

PG&E is the exception. In its 2022 WMP, PG&E became bullish in its undergrounding efforts, noting a “fundamental shift in our system hardening work and using undergrounding as the preferred option after line removal or remote grid, where appropriate.”⁶ This WMP change responds to the company’s July 2021 announcement of a multi-year effort to underground approximately 10,000 miles of power lines.⁷ In 2021, PG&E completed 73 miles of undergrounding; their new effort requires a more than doubling of the amount of undergrounding in 2022, with the goal to ramp up to 1,200 miles per year by 2026.

This 10,000 mile plan will not be without its challenges. Aside from cost (which is a significant consideration) and project time, other constraints to undergrounding include rights-of-way, public utility easements, private property crossings, space for necessary subsurface and pad-mounted equipment, and environmental restrictions. As PG&E noted in its 2021 WMP, *“...PG&E is often unable to construct underground [circuits] in the exact same path as the overhead...these easements are often required with customers and/or agencies without current agreements. This land rights acquisition process alone can take 6-18 months and requires the project to be at a fairly mature design stage prior to contacting property owners about the needed rights.”*⁸

³ Frost, Jonathan, “Undergrounding Proceeding (R. 17-05-010) Staff Proposal for Rule 20 Program Reform and Enhancements,” filed February 13, 2020, in R. 17-05-010, CPUC.

⁴ Pg. 550-551, PGE

⁵ Pg. 3, progress as of December 31, 2021; SCE “2022 Wildfire Mitigation Plan Update,” February 18, 2022.

⁶ Pg. 525, PG&E “2022 Wildfire Mitigation Plan Update,” February 25, 2022.

⁷ “PG&E Announces Major New Electric Infrastructure Safety Initiative to Protect Communities from Wildfire Threat,” July 21, 2021; PG&E Marketing & Communications.

⁸ Pg. pg. 551, PG&E 2021 WMP

Nevertheless, undergrounding currently presents the most reliable method for mitigating wildfire risk and reducing the need for deenergization operations. PG&E's 2022 WMP notes their desire to "bundle work into larger blocks, make changes to existing standards, reduce times, deploy new materials and equipment,...and partner on joint trench opportunities" in the hope that undergrounding will become cheaper and more streamlined over time.

COMMENTS:

- 1) *Author's Statement.* According to the author, "Climate change continues to increase the likelihood and severity of catastrophic wildfires. More than one quarter of the state is now classified as a high-fire threat district. Undergrounding can reduce the risks and likelihood of severe wildfire impacts on communities. While vegetation management programs help reduce fire risk temporarily, undergrounding power lines is a long-term and more effective risk mitigation solution that will reduce the ongoing annual costs. AB 2889 would support expanded undergrounding of electric distribution lines in California for the most at-risk utilities by providing a predictable path to regulatory approval for large-scale undergrounding projects."
- 2) *Which IOUs?* This bill applies to IOUs with "more than 50 percent of its service territory located in a high fire-threat district." According to CPUC, of the six IOUs in California five meet this threshold. Only SCE is excluded with 28% of its service territory in high fire-threat areas.⁹ *Given this conspicuous absence, and SCE's work on undergrounding to date, the committee may wish to amend this bill to strike the 50% requirement and instead have all IOUs file undergrounding plans.*
- 3) *Presuming the Outcome.* This bill requires IOUs to include as part of their 2023 WMP a multiyear undergrounding plan, covering at least 7 years and not more than 10 years, that includes a number of factors to consider as part of the undergrounding plan. While PG&E, as part of its 2022 WMP, has already filed its intentions for its multiyear undergrounding plan, its WMP still relies on weighing the various mitigation strategies against each other. As a result, PG&E's 2022 WMP selected only the most critical work (a limited amount) for undergrounding.¹⁰ OEIS has yet to approve the plan.

This bill, in selecting only an undergrounding plan be filed as part of the WMP, removes the consideration of any other mitigation strategy the IOU could take to reduce risk over the longer time period. This flips the WMP process. The WMP should have the reduction of risk as the starting point, with utilities running risk models to select which mitigation activities to prioritize; rather than pre-selecting the mitigation activity. The author notes that longer lead time strategies, such as undergrounding, may be disadvantaged in the annual WMP filings given the short time horizons of the WMPs. Statute does not prevent

⁹ Data request of the CPUC from April 18th, 2022.

¹⁰ In areas with high ignition risks and most likelihood for future deenergization; pg. 531, PG&E WMP.

an IOU from filing a decade-long WMP, only that the WMP must cover “at least a three-year period.” The need to consider strategies which maximize not only short-term but long-term benefits—to both risk reduction and ratepayer costs—seems apparent. However prescribing the outcome of the WMP beforehand may not be the ideal approach. *As a result, the author and committee may wish to amend this bill to have the utilities file a multiyear WMP, rather than one solely focused on undergrounding, and require the plan examine and compare multiple mitigation strategies over the years covered by the plan.*

- 4) *What about the Cost?* As noted above, cost considerations have been a major inhibiting factor to the selection of undergrounding as a wildfire mitigation strategy, with undergrounding typically priced in the millions of dollars per mile while other strategies are in the hundreds of thousands per mile. The supporters for this bill note these cost comparisons don't factor in the lifetime of projects, and that over a long enough time scale the reduced need for maintenance—particularly the elimination of vegetation management—inherent in undergrounding makes it economically beneficial. However, this bill is noticeably silent on cost considerations, making any plan produced pursuant to this bill unlikely to evaluate these long-term cost assumptions. *Given the rising electric rates experienced by California's IOU customers, the author and committee may wish to ensure any multiyear plan fully evaluates project costs, projected economic benefits over the duration of the plan, and any cost containment assumptions.*

A judicious cost evaluation is especially critical given many current wildfire mitigation strategies—such as vegetation management or line inspections—are operations and maintenance (O&M) expenses which are pass-through costs that do not earn the IOU any profit. Undergrounding, on the other hand, is a capital expenditure whose costs are recovered over a longer period of time, and earn profit for the IOU. The long recovery timeframe of capital expenditures helps to lessen bill shock, reducing the monthly cost customers see on a bill as compared to those same costs paid back over a shorter time period.

Because of the multiyear recovery timeframe for capital investments, the IOU costs on customer bills in any given year is a fraction of the total project costs. This fractional approach makes the untangling of annual costs arising from these capital expenditures a complicated process, and limits the transparency of the full costs that ratepayers will pay over time for a project like undergrounding. For example, if the utility were to spend \$1 billion in one year on wildfire mitigation costs that include both capital expenditures (e.g. undergrounding electric lines) and O&M costs (e.g. vegetation management) the rate impact in that first year would be far less than \$1 billion since only the O&M cost would be recovered in the first year, but the capital costs will be included in rates for many years

and will ultimately be higher than \$1 billion since the capital investment is recovered over time, likely with interest accruing, and includes the utility's profits.¹¹

- 5) *Additional amendments needed.* *The author and committee may wish to amend this bill to strike or modify some of the findings and declarations related to undergrounding cost assumptions.*

- 6) *Related Legislation.*

SB 884 (McGuire), among other provisions, requires the CPUC to establish an expedited undergrounding program for large electric IOUs to file undergrounding plans by July 1, 2023 that identifies projects and timelines for completing projects. Status: *pending hearing* in the Senate Committee on Governance and Finance.

- 7) *Prior Legislation.*

SB 1312 (McGuire, 2020) required a revision to an existing electric tariff in order to underground overhead electric lines in high fire threat areas. This bill also includes several provisions related to oversight requirements by the CPUC of electric IOUs' efforts to reduce their fire risk and use of proactive power shutoffs, including specified reporting, ability to assess fines and penalties, notification requirements, and require specified fire risk mitigation capital expenditures by the electric IOUs by prescribed dates. Status: Died – Assembly Committee on Utilities and Energy.

AB 111 (Committee on Budget), among its many provisions, established OEIS within the Natural Resources Agency and vested OEIS with all the duties, powers, and responsibilities of WSD following July 1, 2021. Status: Chapter 81, Statutes of 2019.

AB 1054 (Holden), among its many provisions, transferred the responsibility for review of wildfire mitigation plans from the CPUC to OEIS (temporarily located at the CPUC as WSD before moving to OEIS) and made modifications to the WMP review process. Status: Chapter 79, Statutes of 2019.

SB 70 (Nielsen) required each electrical corporation's WMP to include a description of where and how the electrical corporation considered undergrounding electrical distribution lines within those areas of its service territory identified to have the highest wildfire risk in a specified fire threat map. Status: Chapter 400, Statutes of 2019.

SB 584 (Moorlach, 2019) would have made changes to programs that help fund the replacement of overhead electrical infrastructure with underground electrical infrastructure in specified areas of the service territory of IOUs. Status: Held – Senate Committee on Appropriations.

¹¹ Pg. 18-19, CPUC, "Utility Costs and Affordability of the Grid of the Future: An Evaluation of Electric Costs, Rates, and Equity Issues Pursuant to P.U. Code Section 913.1," Submitted pursuant to SB 695 (Kehoe, Chapter 337, Statutes of 2009); February 2021

SB 901 (Dodd) among its many provisions, established the requirement that the WMPs of each electrical corporation meet a number of specified requirements. Status: Chapter 626, Statutes of 2018.

SB 1028 (Hill) required electric IOUs to file annual WMPs and requires the CPUC to review and comment on those plans. The bill also required POU and electrical cooperatives to determine their risk of catastrophic wildfire that can be caused by their electric lines and equipment and, if a risk exists, submit WMPs to their governing board for its approval. Status: Chapter 598, Statutes of 2016.

REGISTERED SUPPORT / OPPOSITION:**Support**

California Professional Firefighters
Midpeninsula Regional Open Space District
Pacific Gas and Electric Company
San Mateo County Economic Development Association (SAMCEDA)
Silicon Valley Leadership Group

Oppose Unless Amended

California Farm Bureau Federation

Analysis Prepared by: Laura Shybut / U. & E. / (916) 319-2083