SENATE COMMITTEE ON ENERGY, UTILITIES AND COMMUNICATIONS
Senator Steven Bradford, Chair
2023 - 2024 Regular

Bill No:	SB 1003	**Hearing Date:**	3/19/2024
Author:	Dodd		
Version:	3/7/2024 Amended		
Urgency:	No	**Fiscal:**	Yes
Consultant:	Nidia Bautista		

SUBJECT: Electrical corporations: wildfire mitigation plans

DIGEST: This bill requires electrical corporations to take into account both the amount of wildfire risk reduction for the cost-effectiveness and time value of the proposed mitigation measure within the utility's wildfire mitigation plan.

ANALYSIS:

Existing law:

1) Establishes and vests the California Public Utilities Commission (CPUC) with regulatory authority over public utilities, including electrical corporations. (Article XII of the California Constitution)

2) Requires, by January 1, 2020, the CPUC to establish the Wildfire Safety Division (WSD) to oversee and enforce electrical corporations' compliance with wildfire safety. Requires, effective July 1, 2021, that all functions of the WSD within the CPUC are transferred to the Office of Energy Infrastructure Safety (OEIS). (Public Utilities Code §326)

3) Establishes the OEIS within the Natural Resources Agency which, as of July 1, 2021, houses the WSD to review the wildfire mitigation plans (WMPs) of electrical corporations and oversee and enforce electrical corporations' compliance with wildfire safety. Requires the OEIS to adopt guidelines setting forth the requirements, format, timing, and any other matters required to exercise its powers, perform its duties, and meet its responsibilities. (Government Code §§15740 *et seq.* and 15475.6, Public Utilities Code §§326 and 8385)

4) Requires electrical corporations to construct, maintain, and operate their electrical lines and equipment in a manner that will minimize the risk of

catastrophic wildfire posed by those electrical lines and equipment. (Public Utilities Code §8386(a))

5) Requires electrical corporations to annually prepare and submit their WMP to the OEIS for review and approval. Requires the WMPs to include a description of preventive strategies and programs to minimize the risk of catastrophic wildfire, including consideration of dynamic climate change risk, a description of the metrics used to evaluate the plan's performance and underlying assumptions for the use of those metrics, and a list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the electrical corporation's service territory. (Public Utilities Code §8386(b))

6) Requires electrical corporations to include in their WMPs where and how they considered undergrounding electric utility lines as part of their plan to mitigate wildfire risks. (Public Utilities Code §8386(c)(15))

7) Requires the CPUC to establish an expedited utility distribution infrastructure undergrounding program, and authorizes only those electrical corporations with 250,000 or more customer accounts within the state to participate in the program. Provides these electrical corporations to submit a 10-year plan for undergrounding electrical distribution lines that includes cost comparisons to above ground hardening options, among its many requirements. (Public Utilities Code §8388.5)

This bill:

1) Makes several findings and declarations related to: wildfire risks posed by infrastructure owned by electrical corporations, wildfire mitigation as a cost driver on electric utility bills, and the need to account for time value and cost-effectiveness in relation to wildfire mitigation measures.

2) Requires electrical corporations to take into account the need to minimize risks of its electrical lines and equipment causing catastrophic wildfires as soon as possible and the amount of risk addressed for the cost of the proposed mitigation.

3) Revises the requirements of the WMP to, among other things:

   a) Requires the preventative strategies and programs to also include consideration of the cost effectiveness calculated consistent with the CPUC's requirements and the relative reduction of exposure to wildfire risk

caused by variations in implementation timelines for the preventive strategies and programs.

b) Requires the description of the performance metrics to include a description of how cost-effectiveness and variations in implementation timelines for different elements of the plan are incorporated.

c) Requires the list to also include particular risks and risk drivers associated with the speed in which wildfire risk mitigation measures can and will be deployed by the electrical corporation.

d) Requires the presentation of certain cost-effectiveness measures adopted by the CPUC.

e) Requires the electrical corporation, for each undergrounding location, to demonstrate that undergrounding is the most appropriate hardening mitigation measure.

Background

Electric utility-related wildfires. Wildfire represents the single most significant risk for all of California's investor-owned electric utilities (IOUs), according to the CPUC. Electrical equipment, including downed power lines, arcing, and conductor contact with trees and grass, can act as an ignition source. The risks for wildfires has increased with extended drought conditions, bark beetle infestation that has increased tree mortalities, extreme heat and high wind events, along with increased encroachment of development into forested and high-fire threat areas. In response to a number of catastrophic and deadly wildfires ignited by electric utility infrastructure, including the Camp Fire (2018), the state has passed many statutes to require electric utilities to mitigate the risk of their equipment igniting wildfires. Additionally, electric utilities bear the property liability costs from wildfires ignited by their equipment through the application of inverse condemnation.

Addressing safety risks from energy utility operations. The CPUC oversees the development of the risk framework each IOU uses as basis for analyzing their risks. The risk framework includes a Risk-Assessment and Mitigation Phase (RAMP) whereby CPUC staff scrutinize energy IOU safety-risk threat assessments along with associated proposed mitigation plans and estimated costs and spending requests. The risk reports are submitted to the CPUC on a four-year cycle basis to inform applications and approval of system-wide IOU operating and capital spending. In addition to the RAMP filings, the Safety Model Assessment Proceeding (S-MAP) is a parallel rulemaking track at the CPUC to continually refine and improve the RAMP and its associated mandates. The S-MAP

continuously updates utility risk-related requirements and provides interpretations to support California utilities' capacity building to respond to new and growing risks and makes use of the latest risk-modeling science. RAMP and S-MAP efforts inform each energy IOUs' general rate case (GRC) and help the CPUC (and stakeholders) assess whether the utilities are properly directing resources to wildfire and safety risks.

Wildfire mitigation plans. In addition to the RAMP and S-MAP processes, the state has created a separate state agency, the OEIS, and a special process to review wildfire-related risks via electric IOU WMPs. Electric IOUs are required to annually file WMPs with guidance by OEIS, which reviews and determines whether to approve these plans and ensures compliance with guidance and statute. Under this framework, the OEIS is responsible for reviewing, approving or denying and overseeing compliance with WMPs, while the CPUC evaluates the reasonableness of costs associated with implementation of the WMPs for purposes of cost recovery and has enforcement authority with regard to electric IOUs' performance of their WMPs and utility-caused wildfire.

Pacific Gas & Electric (PG&E) announces effort to underground 10,000 miles of electric lines. In July 2021, within days of disclosing to the CPUC that their equipment may have ignited the Dixie Fire that was then-burning in Northern California, PG&E announced a safety initiative to protect communities from the threat of wildfire by converting 10,000 miles of power lines underground in areas with high-fire risk. PG&E's public statements acknowledge a shift in their perspective given the growing costs and risks of wildfires. While the utility did not release a detailed plan, including how costs would be paid, they noted the intent to underground 1,000 miles per year over 10 years and a desire to work with all stakeholders to develop a plan.

PG&E recent WMPs. PG&E has provided additional detail on their intentions and efforts to underground 10,000 miles of electric lines in their most recent WMPs. PG&E noted the 10,000 miles would be for distribution electric lines (generally, the lower voltage lines that connect electric service in streets to homes and business in communities, as opposed to the higher voltage transmission lines which generally connect from electric generating resources). PG&E further stated that undergrounding overhead lines reduces ignition risk by approximately 99 percent and "is the best long-term solution for keeping customers and communities safe." PG&E acknowledged various criteria for consideration of undergrounding infrastructure, and stated undergrounding as a "preferred option after [electric] line removal or remote grid, where appropriate."

SB 884 (McGuire, Chapter 819, Statutes of 2022). SB 884 requires the CPUC to establish a program for expediting the undergrounding of large electric IOUs distribution infrastructure. Electric IOUs with 250,000 or more customer accounts (only PG&E, Southern California Edison (SCE) and San Diego Gas & Electric (SDG&E)) may participate in the program. Electric IOUs wishing to participate in the program must first submit their 10-year plan to OEIS for review who must approve or deny the plan within nine months [as of the writing of the analysis: OEIS has not adopted guidelines for their review]. If OEIS approves the plan, the electric IOU submits an application to the CPUC for conditional approval of the plan's costs. This month, the CPUC adopted guidelines for the new undergrounding expedited program, which includes a three-phase process requiring a review of the plan by OEIS and a second review by the CPUC. The electric IOU must compare the costs and benefits of undergrounding to alternative system hardening and risk mitigation measures. The plan must provide information about how forecasted costs are anticipated to decline over time due to efficiencies and economies of scale. The plan must also include a methodology that demonstrates how any avoided costs might be translated into savings for ratepayers.

Wildfire mitigation as significant driver of costs in electric utility bills. The CPUC in its most recent SB 695 Utility Cost Report has noted that wildfire-related costs are a key driver putting upward pressure on customers' electric rates. The CPUC has stated that over the next several years, wildfire risk mitigation costs are projected to continue their upward trend. In a recent study by the Energy Institute at Haas "Risk-Cost Tradeoffs in Power Sector Wildfire Prevention", the authors note that in 2023 WMPs, California electric IOUs proposed investing over nine billion dollars annually to reduce wildfire ignition risk. PG&E's recent GRC included authorization to underground up to 1200 miles of electric distribution lines. This contributed to the overall rate increases that customers are experiencing this year, roughly $35 per month more for the average utility bill, with another rate increase just approved for a portion of the utility's wildfire-related expenses, and the expectation that more are on the horizon.

Comments

Costs to underground electric utility infrastructure. While the electric utilities incorporate undergrounding efforts in their WMPs, it is a strategy that had been utilized for very few of their electric circuit lines, largely due to costs in comparison to other mitigation options, and the long-lead time for undergrounding projects. As a result, generally, electric utilities are incorporating other wildfire mitigation efforts that are can be more cost-effective, including covered conductor, sectionalizing circuit lines, vegetation management, and operational controls such

as fast-trips and public safety power shutoffs. However, PG&E has been vocal about advancing the need to underground 10,000 distribution electric lines in combination with some of the other measures.

According to data gathered from electric IOUs, and analyzed by the CPUC, converting overhead distribution infrastructure to underground can be 10 times more expensive than installing new distribution overhead lines and undergrounding of electric distribution lines can be eight times more expensive than insulating (covering) the conductors (wires) to prevent them from igniting when contacting vegetation and other foreign objects. Per the data collected from PG&E, SCE and SDG&E, the costs for undergrounding existing overhead distribution infrastructure can range between $1.85 million to $6.072 million per mile.

Per the data collected by the CPUC, installing new overhead distribution infrastructure is much less expensive. On average, installing new overhead distribution infrastructure costs between $634,000-$760,000 per mile, according to the electric utilities' Rule 21 interconnection unit cost guides. For transmission, the cost for constructing new overhead transmission ranges from $1 million to $11 million per mile and $6 million to $100 million per mile to convert existing overhead transmission to underground. PG&E has shared that their undergrounding efforts are averaging under $3 million per mile and overhead upgrades are averaging just over $1 million.

Tradeoffs abound! Supporters of this bill contend that increasing electric utility bills and the contributing costs of wildfire mitigation necessitate a review of WMP measures that take into consideration the time horizon by when they will be implemented and the cost-effectiveness of these measures. The supporters contend that waiting several years for undergrounding projects does not reduce the risk of wildfire ignitions quickly enough and comes with too high a price tag as compared to other measures that can be deployed sooner. In this regard, there are no shortage of tradeoffs, as deploying some of these measures could result in some continued level of wildfire ignition risk for the long-term, though it may come with a lower price tag overall for ratepayers, and the risk of outages with the use of operational controls. The Energy Institute at Hass report on wildfire mitigation prevention measures notes that undergrounding powerlines, despite the higher investment cost, is more cost effective than pruning and removing vegetation. However, new operational controls, especially the use of "fast-trip" settings is significantly more cost effective than other strategies. The OEIS has proposed some level of review on interim measures that may be needed for mitigation measures that can not be implemented within a year. Additionally, OEIS reports an intention to incorporate cost-effectiveness criteria, in line with the CPUC's updated cost-benefit approach

within the RAMP and S-MAP processes. The changes to this bill are intended to ensure that such considerations are required as part of the annual WMP process, without prescribing particular strategies.

Ratepayer impacts. As noted above, efforts to underground electrical infrastructure can be costly. However, the risk of utility equipment igniting fires can also pose costs on utility customers given the associated liability and potential impacts to the borrowing costs to the utility. With the growing risks of fires and the expenses associated with other strategies, including the costs of ongoing vegetation management, electric utilities are reassessing these costs and calculations. In the case of PG&E, the utility contends that undergrounding 10,000 miles of electric distribution utility lines will help to better mitigate the risks for the long-term. This bill intends to require the electric IOUs to consider how cost-effectiveness and the time by when a measure will be implemented within its WMPs impacts the electric IOU's wildfire risk reduction efforts. The author and supporters of this bill contend that such an approach will better ensure that costs to ratepayers are better managed and more judiciously targeted.

Need for amendments. The author and committee may wish to amend the bill as follows:

- Add language in Section 8386 (c)(3) to reference the CPUC's cost-effectiveness measures adopted within the safety model assessment proceedings.
- Delete the word "hardening" in Section 8386(c)(15) to ensure the utilities provide a comparison of all mitigation alternatives, not solely those related to hardening.
- Make clarifying amendments to the findings and declarations.
- Make clarifying amendments to Section 8386 (a).

Prior/Related Legislation

SB 884 (McGuire, Chapter 819, Statutes of 2022) required the CPUC to establish an expedited electric utility distribution infrastructure undergrounding program for large electrical corporations. Required the OEIS to approve or deny the plan within nine months and requires additional actions and reports.

SB 533 (Stern, Chapter 244, Statutes of 2021) required electrical corporations, as part of their WMPs, to identify circuits that have frequently been deenergized to mitigate the risk of wildfire and the measures taken to reduce the need for future deenergization of those circuits.

SB 70 (Nielsen, Chapter 400, Statutes of 2019) required each electrical corporation's WMP to additionally 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.

AB 1054 (Holden, Chapter 79, Statutes of 2019) included numerous provisions related to addressing wildfires caused by electric utility infrastructure, including: bolstering safety oversight and processes, such as required updates to each electric corporation's WMPs, recasting recovery of costs from damages to third-parties, including the authorization for an electrical corporation and ratepayer jointly funded Wildfire Fund to address future damages, and changes to provisions concerning the workforce of a change of ownership of a full or portion of an electrical or gas corporation.

AB 111 (Committee on Budget, Chapter 81, Statutes of 2019) created OEIS within the Natural Resources Agency, under the supervision of a director appointed by the Governor, to oversee electrical corporations' wildfire mitigation plans.

SB 901 (Dodd, Chapter 626, Statutes of 2018) addressed numerous issues concerning wildfire prevention, response and recovery, including funding for mutual aid, fuel reduction and forestry policies, WMPs by electric utilities, and cost recovery by electric corporations of wildfire-related damages.

SB 1028 (Hill, Chapter 598, Statutes of 2016) required electric CPUC-regulated utilities to file annual wildfire mitigation plans and requires the CPUC to review and comment on those plans.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: Yes

SUPPORT:

The Utility Reform Network, Sponsor
California Farm Bureau
Planning and Conservation League

OPPOSITION:

None received

ARGUMENTS IN SUPPORT: According to the author:

SB 1003 would direct the Office of Electrical Infrastructure Safety (OEIS) to consider the timeliness of [electric] investor owned utility (IOU) electrical infrastructure upgrades when reviewing [electric] IOU wildfire mitigation plans (WMPs), to ensure that the maximum amount of risk from utility sparked wildfires is reduced in the shortest amount of time.

While PG&E contends that undergrounding cable is the safest way to reduce the risk of igniting new wildfires, there are alternatives such as insulating existing utility cable. Insulating wires costs an estimated $800,000 per mile, compared to $3 million per mile for undergrounding and may be as effective in preventing wildfire ignitions as undergrounding, and achievable in far less time.

While the current [electric] IOU wildfire mitigation plan review process does assess the amount of wildfire risk reduction from different strategies, relative to cost, it does not consider the speed with which different strategies can be delivered. Safety today has a different value than safety in 3 or 10 years. Failure to take this factor into account may result in today's utility customers paying higher electric utility rates without commensurate benefit from wildfire risk reduction.

-- END --