BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Implement Electric Utility Wildfire Mitigation Plans Pursuant to Senate Bill 901 (2018).	Rulemaking 18-10-007 (Filed October 25, 2018)

COMMENTS OF PERIMETER SOLUTIONS ON 2020 WILDFIRE MITIGATION PLANS

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I. INTRODUCTION

Perimeter Solutions[1] is the global leader in the production of fire retardants and firefighting foams, along with a wide range of services for managing wildland, industrial, municipal, and military fires. Perimeter Solutions is the only company with fire retardant products qualified for use by the US Forest Service (USFS).

In particular, Perimeter Solutions makes a long-term fire retardant product, called PHOS-CHEK®, which is currently being used by U.S. utility companies, primarily in the western states, to pre-treat electric power poles to prevent ignition by sparks and for treating vegetation around poles and along power lines to provide long-term protection of utility equipment from wildfire damage. The use of fire retardant products like PHOS-CHEK® can help prevent wildfires caused by utility equipment and maintain utility equipment during wildfire events in order to ensure electricity remains available for fire fighters and other first responders, emergency and critical care facilities, water and wastewater treatment facilities and communities threatened by wildfires. The use of long-term fire retardants also can reduce the need for utility PSPS events.

As PG&E describes, the objective of its Wildfire Mitigation Plan (WMP) for 2020 and beyond is to "is to reduce the risk and consequences of wildfires associated with utility electrical equipment, and thereby avoid catastrophic wildfires across central and northern California. PG&E is investing in many wildfire mitigation measures including enhanced vegetation

[1] https://perimeter-solutions.com/; https://phoschek.com/ground-applied-retardant/.

management, asset inspection and repair . . . [and] system hardening . . . ."[2] To accomplish this, PG&E is focusing on three key areas: "reducing the potential for fires to be started by electrical equipment, reducing the potential for fires to spread, and minimizing the frequency, scope and duration of PSPS events.[3]

Unfortunately, neither PG&E, SCE nor SDG&E mention or discuss the use of fire-retardant products to increase the fire resiliency of their regular or enhanced vegetation management programs as part of their 2020 Wildfire Mitigation Plans (WMPs). Further, only SCE states that it is actively investigating and considering the use of fire-resistant "wrap/barriers," like PHOS-CHEK®, on wood poles to reduce the risk of ignition, "enhance the resiliency of SCE's infrastructure," "significantly increase the likelihood of a wood pole surviving a wildfire" and "lower costs."[4]

Perimeter Solutions provides these comments on PG&E, SCE and SDG&E's 2020 WMPs, with particular focus on PG&E's WMP, to inform the Commission about the short-term and long-term, cost-effective benefits of treating new and existing utility power poles and vegetation around power poles and along distribution and transmission line corridors in fire risk areas with a fire-retardant product like PHOS-CHEK® and to recommend that the utilities be required to include the use of cost-effective fire-retardant products for these purposes in their WMPs.

II. DISCUSSION

1. Enhanced Vegetation Management should include vegetation treatment with a long-term fire retardant as a simple and cost-effective method of enhancing the reduction of ignition risks, reducing damage caused by wildfires, and providing fire resiliency in areas where vegetation removal is not practical.

PG&E states that it intends to use Enhanced Vegetative Management (EVM) on approximately 1,800 line miles in 2020 and to "allow PG&E to most effectively manage

[2] PG&E 2020 WMP, p.4-1.
[3] PG&E 2020 WMP, p.2-3
[4] SCE 2020 WMP, pp. 53 and 112. PG&E and SDG&E's 2020 WMPs do not discuss a similar use of fire retardant products for wood poles.

resources."[5] As PG&E describes, "[b]y evaluating PG&E's experience implementing wildfire mitigation measures, incorporating feedback from customers, communities, and industry experts, and building upon PG&E's programs, PG&E will continue to enhance and improve PG&E's wildfire mitigation programs to better prevent wildfires from occurring and protect the public."[6]

Perimeter Solutions supports PG&E's EVM efforts, but notes that PG&E does not mention or discuss the benefits of using long-term fire retardant products for EVM purposes (nor do SCE or SDG&E). Although PG&E describes EVM as "addressing vegetation that poses a higher potential for wildfire risk in high fire-threat areas," which the application of fire-retardant products can reduce, PG&E indicates that the sole goal of its EVM program is to "reduce the risk of trees, limbs and branches contacting power lines and equipment to help keep our customers and communities safe."[7]

However, PG&E should also consider other, less-work intensive and lower cost alternatives in addition to trimming and removing "trees, limbs and branches" as part of its "approach to managing wildfire risk."[8] For example, in describing how it performs a risk analysis of a single, specific risk like wildfire, PG&E says it "focuses narrowly on the mitigations that benefit (reduce) that risk, either by reducing likelihood of an event or by reducing consequences of an event. Therefore, mitigations identified to reduce wildfire risk may or may not also benefit other risks that have safety and/or reliability impacts, such as asset failure."[9] Reducing the risk of vegetation ignition certainly is a reduction of the "consequences of an event" that requires looking at more options other than simply trimming and removing trees and branches, which is a costly and time-intensive process. The use of long-term fire retardant products to reduce the impacts of wildfires on utility equipment should be considered another option to reduce the "consequences of a wildfire event," especially when the application of fire-retardant products may be less expensive and can be used in areas where the efficacy of tree trimming and removal is difficult or simply not practical.

[5] PG&E 2020 WMP, p.2-3, 2-4.
[6] PG&E 2020 WMP, p.2-4.
[7] PG&E 2020 WMP, p.5-175.
[8] PG&E 2020 WMP, p.5-4, section 5.1.A.
[9] PG&E 2020 WMP, p.5-4, section 5.1.A.

The use of fire retardant materials by utilities for fire prevention is not new. While fire retardant materials, like Perimeter Solution's PHOS-CHEK®, are currently available and have been tested and used by PG&E in very limited applications, PG&E needs to expand its use of fire retardant materials in order to "mitigate ignition risk and associated potential impact on public safety"[10] in the most cost-effective way.

Further, there are short-term and long-term benefits of using long-term fire retardant materials. Fire-retardant materials are easier and quicker to apply to vegetation along distribution and transmission corridors than the time-consuming and more dangerous process of trimming and removing trees and vegetation. This means that in the short term, vegetation ignition and wildfire spread risks can be reduced faster and to a greater degree using fire retardant materials in conjunction with tree and vegetation removal. In addition, as described, fire retardant materials can be applied to vegetation in places where vegetation removal may be difficult or impractical through aerial application. As the appellation "long-term" fire retardant material implies, the benefits of using long-term fire retardant materials continue beyond the initial application, under certain weather conditions, providing ongoing ignition reduction and allowing utilities to better focus their necessary tree and vegetation removal efforts on the most critical areas.

Finally, the use of long-term fire retardant materials can help reduce the need for PSPS events. Long-term fire retardant can be applied to Tier 3, high risk areas, as identified by PG&E, and in areas where PG&E has equipment that is older and/or in need of maintenance. With the application of long-term fire retardant, the equipment can "fail safely" and mitigate the risk of ignition and wildfire spread without large scale power outages. In addition, the use of fire retardant materials on vegetation along transmission and distribution lines could certainly reduce the risk that the vegetation could start a wildfire requiring the lines to be deenergized, which, while possibly preventing "the ignition of a potentially catastrophic wildfire . . . has major consequences for communities and customers."

[10] PG&E 2020 WMP, p.5-10.

2. Vegetation treatment around transmission lines, right of ways and around electrical equipment can slow or stop the spread of a fire caused by an ignition. In addition, treatment along ingress and egress routes in high threat areas, can protect escape routes for communities and ensure first responder ability to access affected communities.

As PG&E describes, "reducing fire spread" is a key element of its WMP. To do this, PG&E needs to "act proactively to reduce fire ignitions and respond quickly to slow the spread of a fire once it starts."[11] However, while PG&E says it has "developed a suite of fire spread modeling tools to understand potential wildfire risks and paths," nothing in PG&E's 2020 WMP indicates or discusses the use of long-term fire retardant materials as a means to reduce fire spread.[12] In fact, PG&E's only mention of the use of fire retardants to reduce fire spread is only after a fire has started, as part of its in-house fire protection services design of "custom built pumps capable of applying fire retardant."[13] The use of fire retardants to reduce the likelihood of vegetation ignition and fire spread should occur before a fire occurs, not simply to fight a fire after it has started and begun to spread.

Long-term fire retardant materials can reduce the risk of vegetation ignition and should be included as part of PG&E's analysis of ways to reduce wildfire risks and paths. While reducing the risk of vegetation ignition along distribution and transmission line corridors and around utility electrical equipment can slow or stop the spread of a wildlife caused by utility equipment or wires or other sources, the expanded use of fire retardant materials on vegetation along ingress and egress routes in high fire threat areas has benefits as well, especially for areas with a limited number of such routes. As recent wildfires have demonstrated, ensuring that ingress and egress routes remain open are essential for fire fighters, first responders and emergency personnel to reach impacted communities and necessary to allow residents to leave impacted areas as needed.

3. The use of long-term fire retardants as pre-treatment for utility power poles to prevent ignition can help protect utility equipment from wildfire damage and to prevent the spread of wildfires.

[11] PG&E 2020 WMP, p. Executive Summary-11.
[12] PG&E 2020 WMP, p. Executive Summary-12.
[13] PG&E 2020 WMP, p.5-103.

As described earlier, SCE already is considering the use of fire-resistant "wrap/barriers" on wood-poles to reduce the risk of ignition, enhance resiliency and "significantly increase the likelihood of a wood pole surviving a wildfire.[14] As SCE describes, a "wrap/barrier" is created by applying "surface treatments, such as wrapping an intumescent shield around the pole."[15] Not only can the application of a fire retardant surface treatment, such as Perimeter Solutions' PHOS-CHEK®, provide a long-term fire resistant shield around utility wood poles, but as SCE notes, the use of such "wrap/barriers" on its wood poles can be "a cost-effective alternative to installing fire-resistant composite poles" which "will allow SCE to lower costs while meeting the need of hardening its grid."[16] PG&E (and SDG&E) should do likewise.

PG&E lists system hardening as one of the "Macro Trends Impacting Ignition Probability and Wildfire Consequences Within PG&E's Control," which involves "[i]dentifying the most effective hardening and system resilience mitigation combinations to compliment enhanced vegetation management practices."[17] PG&E notes that system hardening, in combination with EVM, was identified to mitigate 79% of historical ignitions.[18] The use of long-term fire retardants for EVM and pretreatment of power poles for system hardening can only increase the benefits of both, and do so in a cost-effective and a quick and easy to implement manner.

In PG&Es "Description of Programs to Reduce Ignition Probability and Wildfire Consequence," PG&E provides "a detailed description and approximate timeline of each, whether already implemented or planned, to minimize the risk of its equipment or facilities causing wildfires."[19] This includes a description of the "utility's prioritization approach/methodology to determine spending and deployment of human and other resources, . . . how the utility plans to demonstrate over time whether each component of the initiatives is effective and, if not, how the utility plans to evolve each component to ensure effective spend of ratepayer funds."[20]

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[14] SCE 2020 WMP, pp. 53 and 112.
[15] SCE 2020 WMP, p.112.
[16] SCE 2020 WMP, p.53.
[17] PG&E 2020 WMP, p.4-20.
[18] PG&E 2020 WMP, p.5-146.
[19] PG&E 2020 WMP, p.5-112.
[20] PG&E 2020 WMP, p.5-112.

One of PG&E's programs to reduce ignition probability and wildfire consequence is its program for "distribution pole replacement and reinforcement, including with composite poles."[21] Pursuant to this program, PG&E monitors the condition of its wooden poles and through its various inspection programs, "identifies approximately 10,000 wood poles for replacement and 4,000 wood poles for reinforcement every year."[22] PG&E notes that in 2019, it along with SCE and SDG&E tested wood poles with fire resistant coverings against non-wood poles for "fire resiliency via burn tests and fire prevention via simulated tree strikes," and found that "tree strike simulations yielded very similar system response for all poles tested and were comparable to typical wood poles" and the burn tests "had relatively good results for most of the poles considered."[23]

PG&E provides no information on its current use (if any) of wood poles with fire resistant coverings or whether PG&E will use wood poles with fire resistant coverings in the future. PG&E says it is evaluating wood and non-wood options "to determine which options are the most reasonable and effective,"[24] as well as considering other factors "such as cost, availability, and longevity."[25] Test results show that "wood poles with fire resistant coverings" compare favorably with composite poles and, so, when the "other factors such as cost, availability, and longevity" are considered,"[26] the conclusion should be that wood poles treated with long-term fire retardant materials will be less costly and more easily implemented with existing equipment and products than using composite poles.

Further, for existing poles, PG&E already has a Pole Test and Treat (PT&T) program, which as PG&E notes, "prolongs the service life of wood poles through reapplication of preservative and/or restoration of structural strength through reinforcement."[27] Incorporating the

[21] PG&E 2020 WMP, p.5-113.
[22] PG&E 2020 WMP, p.5-119.
[23] PG&E 2020 WMP, p.5-120. Also P.5-141. Presumably, these are the same tests from which SCE determined that that applications of fire retardants to wood poles is beneficial and cost-effective.
[24] PG&E 2020 WMP, p.5-120.
[25] PG&E 2020 WMP, p.5-120.
[26] PG&E 2020 WMP, p.5-120.
[27] PG&E 2020 WMP, p.5-162.

application of fire-retardant materials to poles as part of PG&E's PT&T program is an obvious and easy method for preventing fires associated with PG&E's power poles and minimizing damage to PG&E's equipment from fires.

III. CONCLUSION

Perimeter Solutions appreciates the opportunity to inform the CPUC and the utilities of the short and long-term, cost effective benefits of using long-term fire retardant products, like PHOS-CHEK®, for vegetation fire suppression, as part of utility EVM programs, and for utility pole fire resiliency efforts.

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