



**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

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Order Instituting Rulemaking to Implement  
Electric Utility Wildfire Mitigation Plans  
Pursuant to Senate Bill 901 (2018).

Rulemaking 18-10-007  
Filed October 25, 2018

**OPENING COMMENTS OF WILLIAM B. ABRAMS IN RESPONSE TO THE  
PROPOSED ELECTRIC UTILITY WILDFIRE MITIGATION PLANS**

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**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).

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**OPENING COMMENTS OF WILLIAM B. ABRAMS  
ON ORDER INSTITUTING RULEMAKING TO IMPLEMENT  
ELECTRIC UTILITY WILDFIRE MITIGATION PLANS PURSUANT  
TO SENATE BILL 901 (2018).**

In accordance with Rule 6.2 of the California Public Utilities Commission (“Commission”) Rules of Practice and Procedure, William B. Abrams submits opening comments on the Order Instituting Rulemaking (“OIR”) to implement electric utility wildfire mitigation plans pursuant to Senate Bill 901.

William B. Abrams appreciates the opportunity to participate in this important rulemaking proceeding. The comments below address the proposed Electric Utility Wildfire Mitigation Plans proposed by the Electric Utility Companies:

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## **Introduction and Summary**

On the night of October 8, 2017, I awoke in our Santa Rosa home and ran barefoot to my car with my wife and two young children as our house and our community was on fire. In the rush out the door, my 10-year old son, Leo had my sandals on his feet screaming while fighting smoke induced asthma “we are going to die... we are going to die”. Half way up the driveway, he passed me the sandals so that I could pull burning branches out of the driveway and continue our escape.

My family and I had very urgent life-saving actions that night but unfortunately no plan. No plan for how we were going to rebuild. No plan for how we were going to restart. No plan on how we were going to get a sense of safety and security back in our lives. Yes, we had no plan but we had and still have an extreme sense of urgency. Unfortunately, as I look at these well-written “plans” put forward by the Electric Utility Companies, I see the opposite. There is no URGENCY. These mitigation proposals put forward by Investor Owned Utilities (IOUs) are designed to ensure the least amount of oversight and accountability but no urgency. If there was urgency in these plans you would read through and find things like TASKFORCES, TIGER TEAMS and COLLABORATIVE STREAMLINED PROCESSES with measurable goals and objectives (risk ratios, relative risk reduction ratios, etc.) that link directly to risk mitigation OUTCOMES. Instead, we find obfuscation and assignment of blame on climate change, budget constraints and of course on the customers. I urge the commission not to accept these business-as-usual “Wildfire Risk Avoidance Plans” and press to ensure we get “Wildfire Risk Mitigation Plans” that provide the urgent-action and outcomes our communities so desperately need.

In my comments that follow and given the limited time that we have been allotted to respond to these plans, I will try to provide concrete recommendations for how we can infuse risk mitigation metrics, collaboration and accountability into the plans. As a professional and party to this proceeding, I certainly accept my role and my responsibilities to provide recommendations that drive outcomes. I also accept my role as one of the many fire survivors throughout our State, to communicate and accentuate the need for urgent action and will do my best to ensure that urgency is also represented in these plans.

## I. **Meaning of Plan Approval**

The “meaning of plan approval” should be directly linked to the state of the plans when they are finalized. The residents in the State of California I am sure would appreciate if the plan approval meant that the actions set out in the plans directly demonstrated that we were safer and that the overall threat of wildfires ignited and propagated by our electric grid were substantially reduced. Currently, these plans represent no cohesive strategy that can be directly tied to this end goal. However, there is still time to get these plans to a state where they meet this primary objective but in order to meet this standard these plans would need to include the following:

- 1) **Metrics** - Specific performance-based risk mitigation metrics that are independently and scientifically verified and directly tied to reduce the threat of wildfire ignition and propagation from each Electric Utility
- 2) **Accountability** – Scorecards, Quality Control Plans and Assessments tied to financial incentives and penalties for performance in wildfire risk reduction that the CPUC can actively leverage to enhance their oversight responsibilities. These recommendations come with the understanding that reimbursement from ratepayers should only be done when utilities provide “safe and reliable” service and meet the prudent manager standard. These measures would define those standards in a more substantive way and therefore well within California State guidelines, statutes and the CPUC mission.
- 3) **Process Improvements** – Identified and verifiable streamlined processes that speed up the self-identified bottlenecks of the Utilities including but not limited to R&D, testing timeframes and deployment timeframes for system safety improvements.
- 4) **Innovation** – The formation of think-tanks and inter-disciplinary taskforces that demonstrate collaboration across utilities and represent a significant increase in active collaboration with other industries where adjacent technologies and transferrable processes could improve key cycle-times and wildfire risk mitigation.

If these focus areas are developed in the plans in a manner I describe in later sections of this document, I would fully support the approval of these plans and expect that Electric Utilities would leverage and rely on these plans as a way to demonstrate their overall wildfire risk mitigation. I would also expect that if these plans are developed in this way, the CPUC as a regulatory and oversight body would have additional abilities to provide oversight and public assurances regarding increased wildfire risk mitigation.

However, if these plans do not incorporate these components in a significant and substantial manner, then these plans should be considered a “draft” or a “framework” and not a “plan” at all. I would recommend that the name of these Electric Utility provided documents be changed to “Wildfire Mitigation Framework” and be approved as a step to get to a “plan”. In no other corporation where competition is prevalent would anything like these prior submitted documents be considered plans as they lack specificity, performance and accountability constraints.

Moreover, if despite the best efforts of myself and other parties to improve these plans, they remain close to the state they are in now, I would wholeheartedly recommend that they not be approved by the commission and face the legislative consequences of this given SB901. Anything close to the current state of these plans, would represent a step backward and not a step forward in risk mitigation. As stated earlier, these plans currently serve as more Financial Risk Avoidance Plans for the electric utilities than they serve to increase public safety. If not substantially improved, regardless of stipulations by parties and the CPUC, these plans will be pointed to by IOUs as cover when the next utility ignited wildfires occur. As is, each plan provided to this commission by each and every Utility is now a watered-down subset of internal plans where they are willing to invite some limited scrutiny and oversight. Given that, holding electric utilities to account based on their internal plans would be far better than relying on these insubstantial plans for wildfire risk mitigation and public safety.

As described above, depending on how these plans are or are not substantially improved, I would recommend that the “meaning of plan approval” be defined as one of the following:

**Option A: Relied Upon by all Parties as a Strong Step toward Wildfire Mitigation –**

If the risk metrics, accountability, process improvements and innovation standards are significantly and specifically incorporated.

**Option B: Considered a “Framework” and not a Plan –** If these metrics are generally but not substantially incorporated approval would mean that we have a framework to get to a plan in a subsequent proceeding.

**Option C: Not Approve –** If these plans are not improved substantially to a point where the additional risk mitigation provided outweighs the risk that the “plan” be used as a basis for inaction or cover for Utilities when the next wildfire occurs.

I will now dedicate the remainder of my reply comments to support and work towards Option A above. I am confident that if the commission considers and incorporates these comments and the comments from other parties we can accomplish this mutual goal for the safety and security of our communities.

## **II. Overall Objectives and Strategy**

Overall, the most critical component of any strategic plan is an overarching measurable goal that drives accountability. This may sound like an obvious statement but it is the primary component that is most lacking from these plans which is why the commission will find it difficult to incorporate any type of accountability into the plans in their current form. Goals are supported by things like objectives, milestones, tactics and tasks. However, without this overarching measurable goal we are left with disconnected activities that may or may not achieve the goal of substantial reduction or elimination of utility caused wildfires.

Luckily, unlike broader strategic plans which are more complicated and contain interwoven objectives and goals that have to do with measures like profitability, market share and return on investment (ROI), these plans have one inherent overarching measure of success.

Risk Mitigation Plans have a very specific goal which is the percent of mitigated risk. All supporting objectives need only be evaluated based upon the degree to which they demonstrate a measurable reduction of risk. Of course, the IOUs need to be concerned with how these activities are financed and operationalized given their other corporate strategic objectives, but I recommend that the commission ask utilities to answer one specific question with every activity described... “What percentage of wildfire mitigation does this produce?”.

If any IOU cannot or in most cases will not indicate this specific risk reduction ratio for a particular activity in question, it should be stricken from the plan. There is an adage that is used in every other industry where competition drives success and that is “You cannot manage what you cannot measure”. I will dive deeper into this concept in the “performance metrics and monitoring” section of this document but I ask that you keep in mind the salient question of “what is the measurable wildfire risk mitigation achieved through this activity?” in each and every section of these plans.

### **III. Risk Analysis and Risk Drivers**

The risk analysis provided by the IOUs is flawed in a number of ways. The primary flaw is that this risk analysis is not based on risk ratios and probabilistic risk assessments. In section 3.7, page 35 of the PG&E plan, they expound upon the virtues of this “Use of Probabilistic Risk Assessment” and go into great detail about how they “leverage the rigorous modeling” and “state of the art analysis methodologies”. However, after inquiring about this work through a data request they responded with no additional information only to say “PG&E is in the early stages of working with UCLA on wildfire probabilistic risk assessment”. I request that unsubstantiated and apparently immaterial assertions such as this be stricken from the plan as apparently to date it has played no part in their Wildfire Mitigation Plan. That said these, risk ratios and this type of probabilistic risk mitigation is exactly what needs to be the basis of these plans. In the absence of this scientifically based risk mitigation the following poor substitutes have been offered by the IOUs and provide no basis of accountability:



1. Anecdotal/Non-Statistically Significant Data Points – The IOUs primarily point to investigations after wildfires occur as the basis of their plans. As an example, PG&E bases its risk assessment primarily on a total of 414 events over the 3-year period from 2015 to 2017. In no way is this a prudent scientifically based way to develop a risk mitigation approach or the correct way to prioritize risk drivers in a system as large and complex as the PG&E grid. Similarly, they point to “property owner objections” in the plan as execution risks for tree trimming and pole maintenance/replacement but these objections represent less than 1% of these categories of potential risk.
2. Reliance on Outdated Analytics – Rather than looking to adjacent industries like within the technology sector, where there are significant advances due to competitive pressures there is an over-reliance on outdated analytical methodology. As an example, the PG&E plan relies upon the “Fire Index Areas (FIA)”. These indices were developed in 1959 and haven’t been updated since the 1960s. Use and reference to these types of frameworks as the basis of risk analysis is misplaced. One proof point here is the recent Camp Fire in which PG&E’s own statement indicated “The Camp Fire did not start in any of the Fire Index Areas”. Maybe, applying an index from 1959 doesn’t point to locations of fires in 2018?
3. Use of Common Bowtie Risk Methodology – Yes, this methodology is common but the use of this in these plans is uncommon and incomplete. Typically, the center of the bowtie is a risk event like a wildfire. On the left side of the bowtie are the specific drivers and on the right side are typically reactive risk recovery/mitigation measures, reactive controls and escalation controls. The utility proposed bowties look more like a side-ways neckties because these right-side mitigation measures are surreptitiously absent. As an example, please refer to the PG&E plan (figure 2 on page 21). Where is the right half of the bowtie? Yes, there are “consequences” there like burning my house down but where are the reactive risk drivers and why is this important? After the October 2017 fires

PG&E spent a lot of time patting themselves on the back for putting the lines right back where they were very quickly. Putting lines back the same way that caused the wildfire in the first place is risk mitigation? If they had developed this right half of the bowtie, perhaps they would have a strategy post-incident for mitigating future wildfires. The aftermath of these electric utility caused disasters also provide unique windows of opportunities to build wildfire mitigation from the ground-up into the system. As an example, two of the primary hurdles to undergrounding in the Wildlife Urban Interface (WUI) is securing the utility easements and the post ground repair after the lines are buried. If PG&E wanted an easement to underground lines across my lot after my home was burned down and the land was vacant, it would be fine. After I rebuild and landscape, this is not so easy. Should you underground lines before roads are redone with FEMA funds and avoid the cost of repaving? Makes sense if you have the right half of that bowtie. Maybe while IOUs are removing downed trees and other vegetation you can put the line below these burned trees rather than put the lines right back where they add risk to the system and communities. **I suggest as part of this rulemaking you look to ensure this right-half of the bowtie is developed and incorporated fully into the plans** (see figure 1 below and the circled controls missing from the IOU plans).

**Example: Common Bowtie Methodology Applied To Wildfire Risk Mitigation**

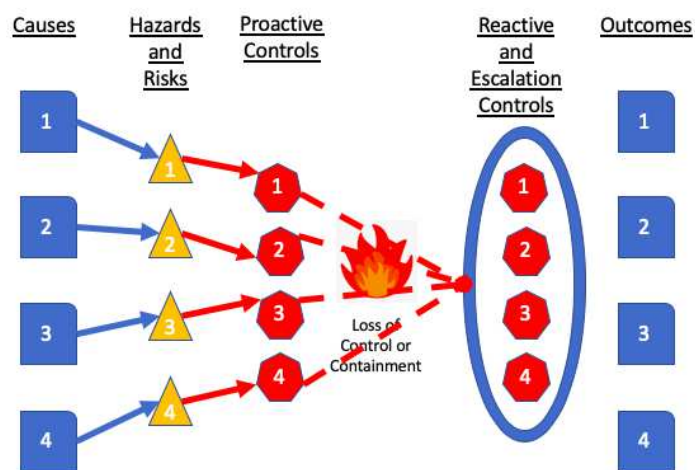


Figure A: Applying Risk Mitigation Ratios to a Risk Mitigation Plan

#### **IV. Wildfire Prevention Strategy and Programs**

The strategies and programs outlined in these proposed plans do not convey or respond to the urgency of our times in relation to the ongoing wildfire risks. On the whole, the proposed strategies can be categorized as MORE of the SAME. On the whole, recloser operations, vegetation management, inspections, system hardening, situational awareness are the same strategies that have been leveraged for at least the last 20 years upon an energy grid that hasn't really been innovated in the last 100+ years in any significant way. This "more of the same" strategy needs to be replaced by innovation, collaboration and accountability tied to performance metrics.

I would suggest to the commission that despite the lowered ratings of our IOUs and the bankruptcy of our largest Utility, the impediments to these strategies are NOT financial. If anything, these increasing financial pressures should make corporate changes in strategy much more aligned with the public safety goals. I would submit to the commission the following recommendations for new strategic directions to ensure we move forward to match the public urgency with urgent collective action:

1. Formation of New R&D/Testing Thinktank – What has been described by the 3 major IOUs as an execution risk is a lack of testing resources and a backlog of new technologies that are untested (laboratory, manipulative and controlled experiments). Fortunately, we have a model for electric innovation that just needs to be dusted off. Thomas Alva Edison formed Edison Laboratory for innovation back in the late 1800s in Menlo Park, New Jersey. I recommend that we form a new thinktank with that same innovative spirit a little closer to home (maybe Menlo Park, California). There are different types of less formal R&D collaborations described in the submitted plans. However, through leveraging the collective resources across the utilities, we could spur a new wave of innovation around the safety of our energy grid given the increasing threats of climate change

and wildfires. I would recommend a contract be established within 3-months that provides a mutual aid agreement across IOUs and includes Subject Matter Experts (SMEs) from Universities and other research/testing leaders from our high-tech industry. Specific measurable goals and objectives should be tied to this effort including identifying new technologies to mitigate wildfires and exponentially increasing testing timeframes.

2. Leverage Adjacent Technologies – Given that we have roughly the same energy grid as we did when the buggy whip was the primary means of increasing cycle-time, I suggest we look outside the electric utility industry to augment ideation. Specifically, there are High Availability (HA) and Disaster Tolerant Solutions being improved and innovated within companies that are motivated by competitive pressures (HA focused companies like Veritas as well as larger players in this space like HP, Oracle, IBM and SAP). These failover technologies may be able to augment/improve recloser functions and other systems/processes. Similarly, there are telemetry devices and processes in adjacent industries that could be applicable for the types of wildfire risk mitigation we need. The types of inspections described by the IOUs is similar to an inspection done when a mechanic lifts up your hood to check engine functions in your old '57 Chevy. Now, they have these devices that check the health of your car with innovations like a “check engine light” and things that indicate “low tire pressure” and other sensors throughout your car’s system. Similar telemetry devices are also used to check system health across server farms and in large geographically decentralized and complex systems. I recommend that the commission consider including incentives for these types of collaborative efforts to address increasing wildfire threats.
3. Mutual Assistance Agreements for Implementation – There has been a very effective Mutual Assistance agreement (GO 166, standard #2, standard #4) between the IOUs for restoring power after disaster. Given the urgency created by utility caused wildfires and the self-identified staffing/labor shortages as

execution risks, I recommend that the commission ensure the formation of mutual-aid agreements for pre-disaster wildfire mitigation and include those provisions in these plans. The same collaborative efforts and resource alignment that brings power back after a disaster should be leveraged to roll out the wildfire mitigation and system hardening safeguards. Economies-of-scale enabled by these agreements, if leveraged properly, might actually reduce the costs to IOUs and increase deployment cycle-times. I recommend that the commission extend this rulemaking or create a new rulemaking to form these mutual assistant agreements as part of GO 166 within the next 3 months.

4. Timeframes – The clearest indication that the urgency of wildfire mitigation is not reflected within these plans are “timeframes”. Moreover, the use of timeframes within these plans does not seem to drive the type of accountability we need. As example, table #3 on page 15-16 of the PG&E plan has hard and fast deadlines like “within the next 5 years” or “more than 5 years”. Where are the milestones and implementation dates? I would suggest that we get specific dates for specific actions built into these plans. I would ask that target dates that don’t pinpoint a target timeframe to the month of implementation be stricken from these plans.
5. Equitable Service Delivery – Although there is a mandate by statute that “no public utility shall establish... unreasonable differences in service between localities and classes of service”, there seems to be plenty in these plans that should be examined to ensure this equity. I attended the Northern California Community Meeting around the effects of de-energization on vulnerable populations back in January and it is apparent that there is a lack of coordination with organizations serving individuals with disabilities. There also seems to be a reluctance to address the very real issues that disproportionately effect individuals with disabilities and low-income populations within these plans. I would encourage the commission to ensure these plans include tangible provisions for outreach and collaboration with these communities. The Americans with Disability Act (ADA) was often met with opposition from business leaders

decriing the undo hardships this would put upon businesses large and small. Now, it is seen that these same provisions that add parking, ramps and other tangible improvements in addition to helping these populations also help all of us at different times in our lives when these accommodations are helpful. Similarly, consideration of how we mitigate wildfire risks for these populations will benefit all of us and needs to be specifically addressed within each section of the plan. As I read these plans, I am concerned that we are creating a situation where my neighbors that live in affluent areas and can afford backup generators, batteries, etc. will get one class of service, and those neighbors who have less financial means will get a different and much lower class of service. Figuratively and literally, a class of service that leaves them in the dark. I would think that the scope of the proceeding and these plans should explicitly include this question.

## **V. Emergency Preparedness, Outreach and Response**

This section goes into a great many emergency responses but largely does not address wildfire mitigation in any substantive way. Perhaps the reason for this is that there is no mitigation occurring at the time of emergencies and in the immediate aftermath through the power restoration process. This is a significant gap in these plans as there is a unique window of opportunity after wildfires occur to do significant mitigation.

Perhaps this lack of focus on wildfire risk mitigation with the restoration of power is that the primary metric indicated in these plans during this process is Estimated Time of Restoration (ETOR). Above all else, it is the speed of restoration which is the measure of success. This is wrong headed and is designed to provide short-term favorable satisfaction among customers while sacrificing long-term safety and security. As a fire survivor from the October 2017 wildfires, I can tell you I would have felt much better about rebuilding if PG&E took longer to restore power and explained that they were mitigating risks of future fires. These strategies need to be in-place before fires occur and communicated to customers in the aftermath of the fires so they understand that delays in power restoration are directly tied to system improvements for safety.

The Company Emergency Response Plans (CERP) seem to be activity-based rather than performance-based. As an example, the PG&E plan (section 5.1.1, page 118) goes into “conducting meetings”, “reviewing disasters”, “preparing after-action reports” and “conducting exercises” but the outcomes or increased performance achieved through these actions are not measured, not managed and not described in these plans. I recommend that these performance-based measures be included in these plans. If none exist for a particular activity there is no need for the IOU to list them. All of these activities only matter to the extent that they increase the readiness/performance during emergencies and mitigate wildfire risk.

Similarly, there is significant real estate in these plans discussing communication strategies and compliance with General Order (GO) 166, Standard #4. There is a list of all the communications conducted by the IOUs including website, customer contact mailers, advertising, social media, news stories, public notices, fact sheets and handouts. None of these activities are performance based. It would not matter if an IOU had one large billboard and that is all they did. What is important is the effectiveness of the communications. Specifically, did these communications drive awareness for customers and provide education for what to do during an emergency. I would request that an extension of this rulemaking or another rulemaking be formed to incorporate performance metrics into GO 166. This can be accomplished through customer surveys around awareness of emergency protocols as well as other common measures of customer communication effectiveness including focus groups, click-through rates and email open rates. I would also recommend GO 165 described in this section of the plan be amended as an extension to this rulemaking or with a new rulemaking. This General Order defines the number of inspections due and outstanding from each utility but includes nothing regarding the measured targets or performance goals related to those inspections.

As a fire survivor, I can tell you that one post-disaster area that is extremely important is transparency and flow of information in the time period from about 1 to 6 months after the incident. During this time, residents are weighing methods for rebuilding their communities and should be actively engaged in post-fire processes including the restoration of power. I made several inquiries to PG&E asking for information about undergrounding lines in my community

and none of that information was provided with transparency. Working together with community members can provide long-lasting improvements in wildfire mitigation efforts while improving IOU relationships with customers. In section 5.1.3.3 PG&E indicates “PG&Es revised Emergency Consumer Protection Plan does not discuss access to utility representatives”. I would recommend that all utilities build up this part of their plans with defined tactics that improve post-wildfire communication channels with customers.

## **VI. Performance Metrics and Monitoring**

This is the section of the plan that will need the most attention and the most revisions. Unless there is significant improvement in this part of the plan across the IOUs, I recommend that the plans not be approved. By definition, these are not “plans” because they do not contain measurable goals and objectives that impact wildfire risk reduction. The following activities listed in the Wildfire Mitigation Plans only matter in as much as they actually contribute to risk reduction. Where are the specific risk ratios associated with the following?

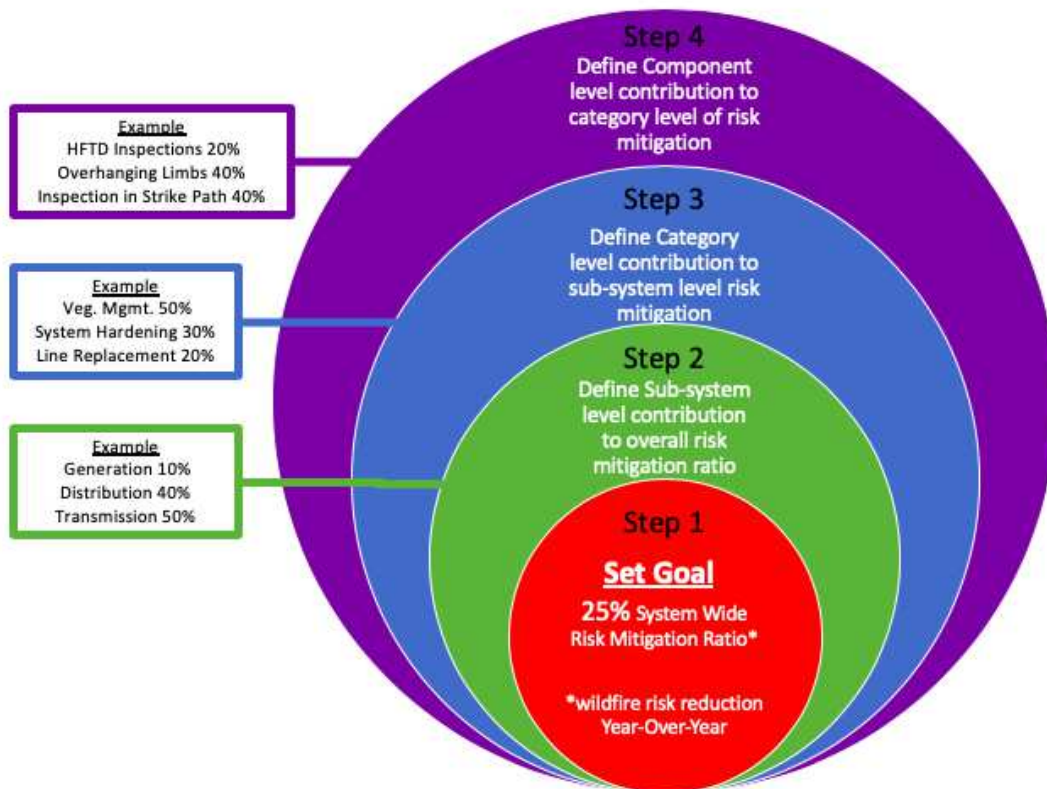
- a. Operational Targets – Number of Reclosers SCADA Enabled
- b. Inspection Targets - Transmission and Distribution Structures and Substations Inspected, Quality of Transmission and Distribution Inspections
- c. System Hardening Targets and Indicators – Miles of System Hardened, Quality of the Miles of System Hardening in HFTD Areas
- d. Vegetation Management Targets – Miles of Enhanced Vegetation Management Work Completed, Completion of Drouth and Tree Mortality Patrols, Completion of Drought and Tree Mortality Work, Quality Assurance Results in HFTD Areas
- e. Situational Awareness Targets – Weather Stations Installed, High-definition Cameras Installed

So, none of these tactics above are quantified in any way as a measure impacting overall risk mitigation in the system. As an example, PG&E touts what appear to be major successes in their plans on Table 1, page 3 indicating an 880% increase “circuit miles of tree wire projects” which sounds impressive until you realize that this represents ~0.11% of the lines. They go on



and call out some very big numbers like a 235% increase in vegetation management but leave it up to the reader to do the math and realize this is 0.375% of “potential trees to either grow into or fall into the lines” (page 19 of their plan). There should be no “e” for effort reward here. No other industry would have these types of activity metrics to measure risk reduction. The RAMP Reports also do not address this in any meaningful way. Without the work to tie these activities to overall risk reduction there is no risk mitigation plan here. If you cut down one tree or you cut down 1M trees is not the point of risk mitigation. The only pertinent question here is the percent of wildfire risk mitigation achieved through this effort. Yes, there are very definable scientifically-based metrics and it is important that we put a stake in the ground and incorporate these in these plans. All of the utilities have risk management and quality assurance departments that are well versed in the translation of scientific data into reportable and verifiable quality plans. If not, they should go contract those resources and apply them urgently to these issues. One applicable methodology for developing these metrics is as follows:

**Example: Methodology for Applying Risk Mitigation Ratios Across A System**



*Figure B: Applying Risk Mitigation Ratios to a Risk Mitigation Plan*

Through applying this type of methodology to all of the tactics and activities described in these plans, a scorecard then can be produced based upon the agreed upon measures. This will then enable the commission to tie actual risk mitigation metrics, to performance outcomes. Then performance outcomes can be tied to ratepayer reimbursement to ensure the financial incentives necessary to drive accountability. This direction is very much in keeping with the directive to provide “safe and reliable service” and the prudent manager standard. If utilities are not mitigating wildfire risk then the services are not safe, not reliable and not reasonable so should not be reimbursed for those system improvements. In this way, different thresholds can be set that provide financial incentives and financial penalties. Based on the methodology outlined in Figure B above consider the following scorecard as an example of the type of accountability that could be built into the system and drive the type of wildfire risk reduction we need:

### Wildfire Risk Mitigation Scorecard Example: Electrical Utility X

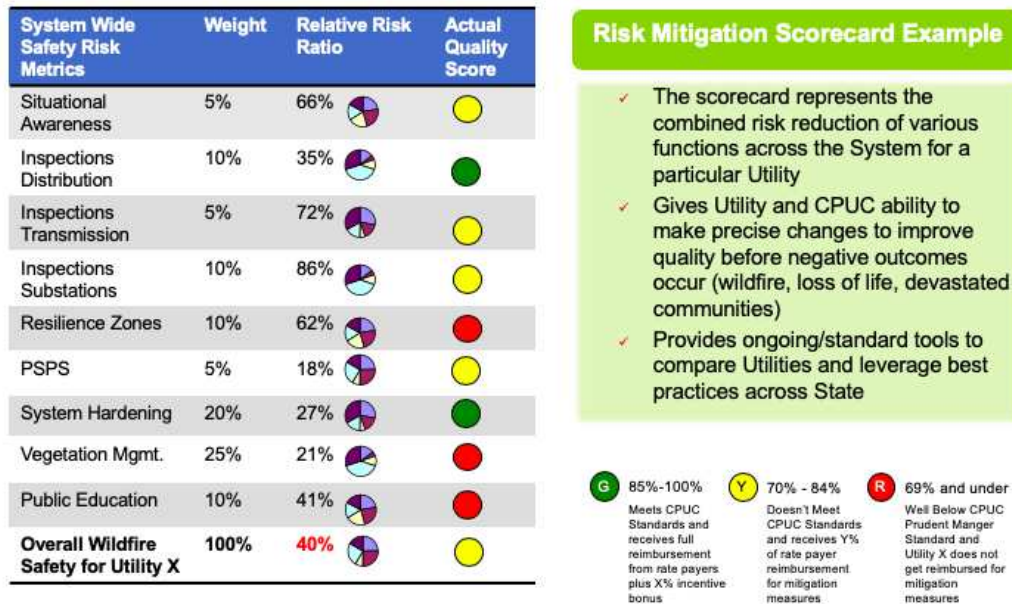
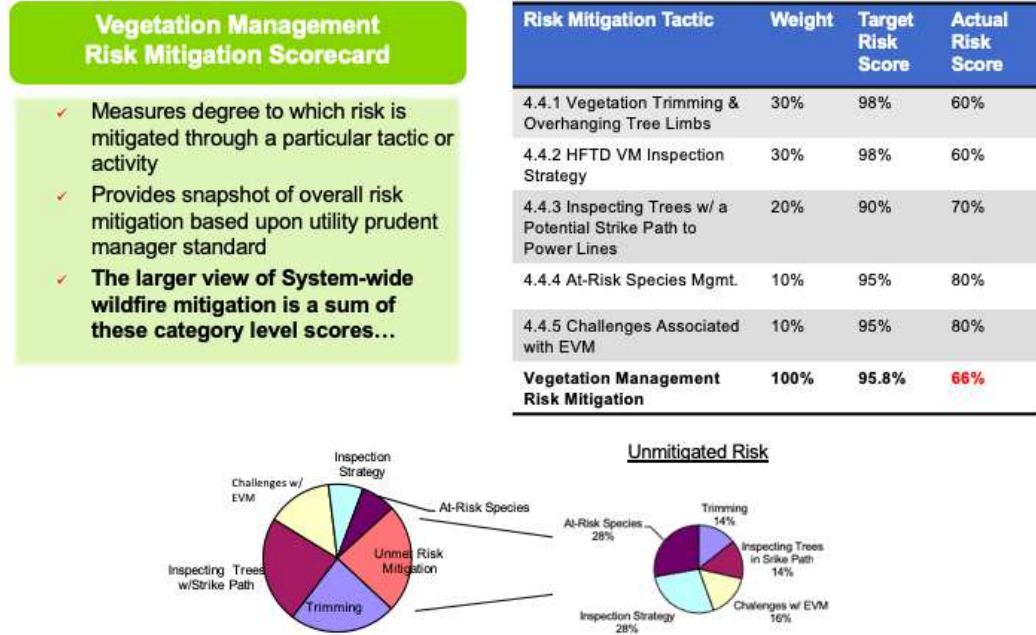


Figure C: System-Wide Risk Mitigation Scorecard Example

## Category Level Wildfire Risk Mitigation Scorecard Example



*Figure D: Category-Level Risk Mitigation Scorecard Example*

For certain, what is outlined above is only one general method to get to the type of measurable risk mitigation we need. More specific and well-developed methodology and accountability scorecards need to be applied. I would wholeheartedly support other Wildfire Risk Mitigation methodologies and scorecards proposed by the IOUs. However, any rational risk mitigation plan must have the following attributes none of which are currently present in these proposed risk mitigation plans:

1. System-Wide Risk Mitigation Ratios (RR) and Relative Risk Reduction (RRR) Metrics
2. Quality Controls (QC) – Tools to measure wildfire risk as a component of quality
3. Accountability/Reporting Tools - scorecards, assessment scores, etc.
4. Incentives - Ratepayer reimbursement based on risk mitigation in keeping with the prudent manager standard

5. Baseline and Continual Improvement Plan – Risk ratios and associated tools once established go into a regular cycle of refinement based upon new data and analytics. If these plans establish these baseline metrics, then the CPUC proposed annual plan review and approval process is perfectly situated to achieve this continual refinement of metrics, tools and reports.

If these 5 attributes are not ingrained in these plans, the notion of what constitutes risk reduction is lost. Consider what is described as “targets” within these plans and you will see a long list of activities but very little of them approach measurable and verifiable targets. The current IOU mitigation plans and ratepayer reimbursement is like me turning to my general contractor who is rebuilding my home and basing his progress payment on the number of 2x4s he moved around or the number of nails he drove. None of this is important unless he is actually making progress and building my house to the current California Building Code which is full of building safety standards. In fact, given that my home was in the Wildlife Urban Interface (WUI), standards mandate class A roof, certain siding and defensible space. My contractor won’t get his progress payment unless these standards are incorporated into the build. Similarly, IOUs should receive ratepayer reimbursement when they meet system hardening and other wildfire mitigation standards.

The lack of these performance-based/risk-ratio-based measures in the current plans is perhaps by design to extremely limit the ability of the commission to provide oversight. More importantly, these targets by enlarge do not provide measurable risk reduction. Of course, the main point from a fire survivor standpoint here is that I find no reassurance that my family and my community are any safer from the risks posed by the IOUs going forward than the night of October 8, 2017. I request that the commission ensures that these plans include the components listed above as a baseline for future plans. If they do not, at the end of this proceeding, I request either an extension to this rulemaking or an additional rulemaking be added to immediately get these attributes into the proposed plans.

## **VII. Recommendation for Future WMPs**

If risk mitigation metrics, accountability and the process improvements are built into these initial plans, then we have a strong baseline for future plan development. Given this assumption, I recommend that future WMPs roughly align to the following 5-step process:

1. Identify New Risk Mitigation Activities – These plans would include the newly implemented components coming out of the proposed think-tank, best practices and other innovative risk mitigation tools and processes that are developed between now and the next WMP development cycle
2. Develop New Risk Mitigation Metrics – Based upon #1 new risk mitigation metrics would be developed and defined in collaboration with all parties
3. Revise Existing Risk Mitigation Metrics – Based upon any new findings, studies or assessments between now and the next WMP development cycle, risk ratios would be improved and included in plans to more accurately reflect new risk mitigation data points.
4. Revise Accountability Scorecards – Scorecards and scoring methodologies would be revised and included in the plans based on #2 and #3.
5. Revise Ratepayer Reimbursement Rates – Ratepayer Reimbursement Rates would be reassessed and aligned based upon the revised scorecards.

That said, if measurable risk mitigation metrics are not included in these plans and we are left with a “framework” and not a “plan” as described in my introductory comments, I suggest that the subsequent WMP process begin immediately through another rulemaking and be based upon the IOU frameworks achieved through this rulemaking.

## **VIII. Other Issues**

The other issue that I would like to address is the need for community outreach and inclusion of community engagement practices in these Wildfire Mitigation Plans before and after completion. Important to the acceptance and acceptability of these plans is the degree to which they will mitigate customer concerns regarding safety and security. Yes, there will be questions regarding impacts on rates but understand how families and in particular vulnerable populations will be affected by these plans needs to be communicated. Specifically, I would recommend the following activities be included after plan implementation:

1. Community Meetings – At least 8 meetings should be held to review these plans with residents (joint CPUC and IOU) within 2 months after plan approvals. These community meetings should include pre-post surveys to measure the effectiveness of these meetings on community education and establish a baseline for future WMPs.
2. Community Awareness Campaign – There should be direct-mail pieces, TV spots, web-based ads and other communication vehicles leveraged to educate customers regarding these plans. Surveying of a random sampling of customers and/or focus groups should be engaged to evaluate the effectiveness of these campaigns and serve as a baseline for future WMPs.

## **IX. Summary and Conclusion**

As a resident, I really appreciate the ALJ's and Commission's consideration of my recommendations and reply comments. There are few regulatory bodies that provide this type of collaborative opportunity to solve problems and contribute to these types of critical plans for the safety of our communities. I feel honored and privileged to be included in the process. I would like to summarize my recommendations as follows:

1. **Plan or Framework** – This distinction is an important one and I urge the commission to ensure that this only gets approved as a “plan” if it actually meets the criteria outlined.
2. **Primary Goal** – The primary goal for each plan needs to be more specifically articulated as the degree to which these plans mitigate wildfire risk
3. **Tasks, Objectives and Tactics** – All tasks, objectives and activities described in these plans must have a relative risk reduction ratio (RRR) indicating the degree to which they contribute to the primary goal.
4. **Mutual Assistance Agreements** – Mutual assistance agreements (GO 166 update) should be formed in a proactive manner to increase cycle-time and deployment of risk mitigation controls as well as R&D and testing timeframes to address the backlog of untested technologies.
5. **Non-Statistically Significant Data Points and Outdated Analytics** – This information throughout the plans including anecdotal references leveraged as evidence should be removed from the plans.
6. **Reactive and Escalation Controls** – These should be built into the plans and applied by the IOUs as part of the bowtie methodology to include mitigation tactics more easily deployed in the direct aftermath of wildfires.
7. **Leverage Adjacent Technologies and SMEs** – Specific collaborative efforts and taskforces should be developed to understand and apply adjacent technologies outside the utility space including but not limited to HA, DR and telemetry-based technologies.
8. **Timeframes** – All timeframes in the plans should be indicated to the day or the month of implementation. All non-specific timeframes (exp. “under 5 years”) should be eliminated.
9. **Measurably Improve Post-Fire Customer Collaboration** – There needs to be proactive strategic plans put in place for collaboration with customers on wildfire risk mitigation like undergrounding in areas prior to rebuild of structures and roads (achieve cost savings for IOUs + public safety)

**10. Replace Activity-Based Metrics with Performance Based Risk Reduction**

**Metrics** – All metrics that describe the number of units deployed or addressed should be recast based upon the performance-based risk reduction ratios.

**11. Establish Rulemaking to Develop Risk Mitigation Scorecards** – These

accountability tools should be developed based upon existing baseline risk ratios and tied to ratepayer reimbursement rates in keeping with the prudent manager standard.

These recommended improvements should help the proposed Wildfire Mitigation Frameworks get to a point where the commission can consider them “plans”. That said, I believe other methodology could be used as long as it is rooted in performance-based risk reduction ratios. These metrics must be tied to some type of scorecards that drive accountability and are tied to financial incentives. Ordinarily, corporations innovate and reduce risk based largely upon competitive pressures. Laptop manufacturers, automobile manufactures and those in other industries understand by fractions of millimeters the relative risks in performance and safety for component placement in one location or another. IOUs as natural monopolies do not have these same competitive pressures. It is only through these types of bold and urgent steps that we can reduce utility-ignited wildfires and get the results we need to ensure the safety of our energy grid and our communities.

Dated:

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Respectfully submitted,



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