**Portland General Electric Company**
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January 12, 2021

***Via Electronic Filing***

Public Utility Commission of Oregon
Attention: Filing Center
P.O. Box 1088
Salem, OR 97308-1088

**Re: PGE Reply to OPUC Staff AR 638 Scoping Survey Questions**

Dear Filing Center:

Portland General Electric Company (PGE) welcomes the opportunity to participate in the Public Utility Commission of Oregon's (Commission or OPUC) Docket AR 638, which seeks to develop Wildfire Mitigation Plan Rules. PGE submitted responses to Staff's Scoping Survey questions on January 8, 2021.

PGE wanted to offer the OPUC staff a comprehensive view of rulemaking processes in California and Nevada, informed by perspectives of those involved. PGE also sought to describe the extent to which current efforts addressed wildfire risks, customer needs and community concerns.

To that end, PGE enlisted the support of the UMS Group (UMS) to gain perspectives on what had already been learned in California and Nevada regarding regulatory rulemaking processes. PGE's comments from January 8 were informed by the UMS report.

The intent of UMS's report is to inform the rulemaking process in Oregon and to help the OPUC staff adapt insights from California and Nevada to drivers or issues specific or unique to Oregon. The report discusses several common themes and related key principles that emerged from conversations with stakeholders, utilities, and regulators from other states; and offers them for the OPUC to consider in its wildfire rulemaking process.

PGE is pleased to submit "Wildfire Risk Mitigation Rulemaking: Recommendations for Oregon Based on Lessons Learned in California and Nevada" produced by UMS as an addendum to our responses to Staff's Scoping Survey questions.

Respectfully Submitted,

/s/ Jay Tinker

Jay Tinker
Director, Rates and Regulatory Affairs

Enclosure: Addendum - Wildfire Risk Mitigation Rulemaking: Recommendations for Oregon Based on Lessons Learned in California and Nevada

# Wildfire Risk Mitigation Rulemaking: Recommendations for Oregon Based on Lessons Learned in California and Nevada

**January 8, 2020**

**Prepared by**

UMS group

**On Behalf of**

PGE

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## I. EXECUTIVE SUMMARY

In October of 2020, Oregon Public Utility Commission (OPUC or Commission) staff requested that the state's utilities provide lessons learned and a critique from the wildfire rulemakings of California and Nevada to better facilitate a robust and efficient rulemaking process in Oregon. In responding to this request, Portland General Electric (PGE) enlisted the support of UMS Group to gain perspectives on what had already been learned in California and Nevada, with specific attention focused on:

- the effectiveness of the wildfire regulatory rulemaking processes,
- new rules and requirements introduced in California and Nevada,
- what had worked well or was deemed helpful,
- pitfalls that might be anticipated and avoided in Oregon, and
- actions that would lead to better outcomes or a more efficient / effective process in Oregon.

PGE wanted to offer the OPUC staff a comprehensive view of rulemaking processes in California and Nevada, informed by perspectives of those involved. PGE also sought to describe the extent to which current efforts addressed wildfire risks, customer needs and community concerns.

The intent of this paper is to allow what has been learned in other jurisdictions to inform the rulemaking process in Oregon and to help the OPUC staff adapt insights from California and Nevada to drivers or issues specific or unique to Oregon.

This document discusses several common themes and related key principles that emerged from conversations with stakeholders, utilities, and regulators from other states; and offers them for the OPUC to consider in its wildfire rulemaking process.

### Key Themes and Principles

Extensive research and interviews in California and Nevada produced a broad range of perspectives and a large amount of information. From these, a logical set of rulemaking principles were distilled. The insights and information observed can be categorized in 6 major themes:

- **Process** – specific steps to rulemaking,
- **Timing** – for both rulemaking and the implementation of new requirements,
- **Wildfire Risk Mitigation** – risk mitigation plans, with specific actions and outcomes,
- **Data Requirements** – details of required data sets; standards for collection, submission analysis, dissemination, control, timing, and volume,
- **Performance Measures** – specific performance metrics, linked to desired results,
- **Maturity Model** – evolution of the utilities' wildfire risk mitigation plans, efforts, and capabilities over time.

Each of these themes is, in turn, comprised of several key principles, which are outlined, in detail, in the body of the white paper below.

### Desired First Year Outcomes

OPUC rulemaking has begun and is planned to continue through 2021.

The OPUC should consider the experience and outcomes in California and Nevada in developing its Wildfire Risk Mitigation Strategy and Wildfire Mitigation Plan (WMP) Framework. Learning from these lessons will accelerate OPUC progress toward its rulemaking mandate and, at the same time, support robust stakeholder engagement and efficiency of the rulemaking process and resource requirements.

Specific outcomes that the OPUC should set out to achieve in year one includes:

- An *overall wildfire risk mitigation oversight strategy and roadmap* - developed and adopted to inform and guide parallel initiatives by utilities, government entities, and other stakeholders,
- A *future state vision* - to inform enhancement of the WMP Framework; and how the framework fits into the OPUC's overall wildfire risk mitigation oversight role and priorities,
- *Detailed plans* - for utility data submission, with associated *timelines* to enable rapid alignment of processes and systems to collect and organize the necessary data,
- Initial stakeholder meetings and discussions for the OPUC to clearly articulate its intentions regarding Goals, Timelines, Safety Certification, Cost Recovery, and Rule Enforcement,
- Initial identification and outreach to stakeholder groups and regulatory peers to ensure an appropriate level of productive engagement and that the right parties are engaged from the beginning to inform the effort, bolster confidence, and ensure a robust process.

Stakeholder interviews clearly revealed the importance of allowing sufficient time for these initiatives to take hold and succeed. Doing so can build trust and shared engagement among stakeholders, utilities, and the regulator. All of this can translate into a sense of collective ownership of both the development process and operationalization of a comprehensive WMP Framework that includes an initial set of performance measures.

The OPUC can also benefit from an outcome-based, multi-year rulemaking effort that is transparent from the outset. Accordingly, it should seek to establish near-term, interim guidance in the first half of 2021. From that point, it is recommended that the OPUC adopt a three-year, iterative process through which a robust, sustainable WMP would evolve (i.e., the WMP would cover a three-year timeframe but receive updates as needed and no more often than once per year).

## Multi-Year Staging for Success

Interim guidance and an overarching strategy/draft rule should be in place by the end of 2021.

Year two would focus on the further development and implementation of a robust set of performance measures and related processes. Measuring performance will provide a feedback loop through which lessons can be learned, decisions taken, and adjustments made. Establishing standards and processes for data collection, analysis, evaluation, decision support and communication will be required.

Activities in year three would establish rigorous, continuous improvement practices to operationalize and sustain oversight and governance of wildfire risk mitigation planning by the OPUC; and a continuation of the streamlining of the process that allows a shift to exception reporting.

Throughout all three years, it will be critical to ensure that sufficient time and resources are applied to this effort – in a consistent, even-handed and sustainable manner – and that every effort is made to create and sustain alignment among participants. The benefits of doing so include progress with a minimum of waste, more trust than antipathy among participants, and multi-stakeholder active support for a WMP that evolves to become stronger and more effective with time.

## Leadership Opportunity

Several jurisdictions around the world are facing growing wildfire challenges. It is becoming increasingly clear that with climate change, technology advances and evolving industry responses, regulators are pursuing a moving target in addressing wildfire risk. Yet therein lies opportunity for the OPUC to:

- Articulate its strategy and engage collaboratively in a process of rulemaking and continual learning on effective risk mitigation,
- Leverage best practices and lessons learned in other jurisdictions to move ahead confidently and with minimal duplication, redundancy, or waste in the process, and
- Lead the way in maturity modeling and assessing utilities' capability and competence

## Themes and Key Principles

Research and interviews conducted identified a significant number of issues and insights. These have been captured as key principles categorized into the major themes that emerged:

- **Process** – the rulemaking Process itself,
- **Timing** – for both the rulemaking and for the implementation of the new requirements,
- **Wildfire Risk Mitigation Plans** – Content and specificity vs outcome,
- **Data Submission Requirements** – Content, timing and volume of data,
- **Performance Measures** – scope/focus, number and linkage to results,
- **Maturity Model** – How well developed are the utilities' plans, efforts and capabilities.

The table on the following page provides a summary of these key principles and themes.

| Theme | Key Principle |
|---|---|
| **Process** | ***Stakeholder Collaboration*** - Adopt a collaborative rulemaking process that ensures robust public engagement, and balances the needs of all stakeholders |
| | ***Resourcing*** - The process must be adequately resourced. Additional staffing and resource commitments should not be underestimated |
| | ***Purpose & Outcomes*** - Embrace a transparent and non-punitive utility wildfire safety evaluation and approval process based on measurable high-level target outcomes |
| | ***Governance*** - The OPUC's governance structure for wildfire risk mitigation oversight needs to address both planning and a common understanding for compliance activities |
| | ***Cost Recovery*** - The process must explicitly address and demystify cost recovery mechanisms for wildfire mitigation activities beginning in year 1 |
| | ***Roadmap & Timeline*** - Develop a roadmap and timeline to set relative priorities and define clear stages for implementation of wildfire mitigation programs for each entity |
| **Timing Considerations** | ***Seasonal Timing Requirements*** - Develop adequate timelines for rulemaking, filing and reporting to allow utilities sufficient time to focus on mitigation and preparedness activities in advance of wildfire season |
| | ***Phased Approach*** - Utilize a phased rulemaking approach, with significant progress targeted in the first 6 to 12 months. Full implementation will take 3 to 5 years |
| **Wildfire Risk Mitigation Plans** | ***Stakeholder Engagement*** - Create an effective, efficient and comprehensive Wildfire Risk Mitigation Plan (WMP) framework in partnership with stakeholders |
| | ***Tailored to Oregon*** - Develop a Wildfire Risk Model for Oregon to support the WMP framework. Then define the decisions to be made and the data required to do so |
| | ***Sufficient Time*** - Build sufficient time into the schedule for all stakeholders to review WMP submissions, request clarifications from utilities, and facilitate revisions |
| | ***WMP Revision Cycles*** - Technology and the utility industry are changing rapidly enough to justify annual updates to WMPs |
| **Data Submission Requirements** | ***Targeted Data*** - Data submitted by utilities should include information on strategy, approach and action commitments |
| | ***Cost/Benefit Balance*** - Data requests must be balanced – potential value for the OPUC, against the cost and effort to collect that data |
| | ***Evolving Data Requirements*** - Data submission requirements should transition over time from higher level to more granular information as the OPUC's management strategies coalesce, and utility data quality/availability improves |
| **Performance Measures** | ***Specific Metrics*** - Establish 3 categories of measures: WMP Program commitments, progress against commitments, and wildfire risk management outcomes produced |
| | ***Outcomes vs. Activity Measures*** - Program and Progress performance metrics that measure the quantity of work being performed on the network are of limited usefulness by themselves |
| | ***Normalize Metrics*** - Outcome metrics must be normalized to account for the (largely uncontrollable) drivers of faults and ignitions – weather & fuel moisture – and will be difficult to do |
| **Maturity Model** | ***Starting Point*** - OPUC may consider the California (CPUC) Wildfire Maturity Model as a starting point for its own, but it must be refined to reflect Oregon's needs |
| | ***Compare Oregon Utilities*** - Over the next several years the OPUC will wish to compare and contrast approaches and effectiveness across the State's utilities. |
| | ***OPUC Maturity Model*** - Develop and apply a Wildfire Maturity Model to facilitate comparisons among Oregon utilities, and against utilities from other states |
| | ***Informed Modeling*** - Seek input from utilities and consider global best practices from other jurisdictions to develop the Wildfire Maturity Model |
| | ***Benefits Gained*** - Maturity Model benefits include increased clarity for utilities on OPUC expectations and a roadmap for the OPUC that shows how each utility may improve |

**Proposed Rulemaking Timeline**

| | |
|---|---|
| **Year 1:**<br>Wildfire Risk Mitigation Strategy, Framework, Timeline & Wildfire Mitigation Plan (WMP) Template Development | **Q4 '20 – Q1 '21: Phase 1: Scoping**<br>• Kick off workshop (11/20)<br>• Stakeholder survey<br>• Scoping workshop (12/10)<br>• OPUC staff recommends scope/process<br>• Public Meeting<br>**Q1 '21 – Q3 '21: Phase 2: Issues and Requirements Discussion**<br>• Stage 1: Adopt Interim Guidance (Jan – Apr)<br>  ○ Launch workshops/work group discussions<br>  ○ OPUC staff recommends guidance<br>  ○ Written comment<br>  ○ Public Meeting<br>• Stage 2: Planning Framework (Apr – Sep)<br>  ○ Utilities provide annual wildfire reports at Public Meeting in May/June<br>  ○ Continue workshops/work groups<br>  ○ Work group/workshop findings compiled and released<br>**Q3 '21 – Q4 '21: Phase 3: Rule Development**<br>• OPUC staff releases draft rules<br>• Written comments<br>• Workshop<br>• PM to end informal process<br>• Initiate formal rulemaking process |

It is understood that the OPUC staff have initiated, and plan to move ahead with, the above rulemaking timeline throughout 2021. Based on review of prior efforts and outcomes produced in other jurisdictions (as described further throughout this paper), the OPUC should consider additional initiatives in developing its Wildfire Risk Mitigation Strategy and WMP Framework.

Development of an overall strategy and framework will, itself, create momentum and opportunity to drive an increase in energy and commitment to the process. Each phase of this effort should produce critical enablers of the process, while creating parallel activity which engages all key stakeholders. If these actions are effectively aligned the OPUC can accelerate achievement of its mandate.

It is essential that the following outcomes be achieved in year one:

- An *overall wildfire risk mitigation oversight strategy and roadmap* - developed and adopted to inform and guide parallel initiatives by utilities, government entities, and other stakeholders,
- A *future state vision* - to inform enhancement of the WMP Framework; and how the framework fits into the OPUC's overall wildfire risk mitigation oversight role and priorities,
- *Detailed plans* - for utility data submissions, with associated *timelines* to enable rapid alignment of processes and systems to collect and organize the necessary data,
- Initial stakeholder meetings and discussions for the OPUC to clearly articulate its intentions regarding Goals, Timelines, Safety Certification, Cost Recovery, and Rule Enforcement,

- Initial identification and outreach to stakeholder groups and regulatory peers to ensure an appropriate level of productive engagement and that the right parties are engaged from the beginning to inform the effort, bolster confidence, and ensure a robust process.

California stakeholder interviews made clear the importance of allotting sufficient time to achieve successful outcomes while building trust for the OPUC and ensuring committed engagement from all stakeholder groups in the development process and operationalization of an effective WMP Framework that includes an initial set of performance measures.

The OPUC should take advantage of lessons learned in other jurisdictions, allowing it to establish a credible rulemaking timeline as an outcome based multi-year effort from the outset. Building on near-term development of interim guidance in the first half of 2021, the OPUC can achieve greater success and more realistic and reliable outcomes using an iterative process to build depth, breadth and sustainability of the WMP process over a three-year period.

**Proposed Timeline for Years 2 & 3**

With interim guidance and an overarching strategy in place after year one, the efforts in year two ideally would focus on creating and implementing a robust set of performance measurements and related processes.

Year three activities would establish rigorous continuous improvement practices to effectively operationalize and sustain the OPUC's Wildfire Mitigation Planning oversight and governance.

| | |
|---|---|
| **Year 2:**<br><br>Performance Measurement & Reporting Framework Development Phase | **Q1 '22: Begin Performance Measurement Phase**<br>• Utilities submit draft 2022-2024 WMPs (February).<br>• OPUC begins to review / provide comments on utility draft 2022-2024 WMPs.<br>• OPUC develops draft comprehensive Performance Measurement Framework.<br><br>**Q2 '22: WMP & Performance Measurement Spring Workshops**<br>• Attended by OPUC, Utilities & Stakeholders.<br>• Discussion of open issues / unresolved comments from draft 2022-2024 WMPs.<br>• Discussion of draft Performance Measurement Framework.<br>• Utilities submit final 2022-2024 WMPs (June).<br><br>**Q3 '22: OPUC Revisions (Fire Season)**<br>• OPUC makes 1st round of revisions to Perf. Measurement Framework.<br>• OPUC discusses revisions and receives feedback from stakeholder groups and regulatory peers (i.e., CPUC, PUCN, and ESV - Australia).<br>• Utilities focus on active wildfire mitigation.<br><br>**Q4 '22: Performance Measurement Fall Workshops**<br>• OPUC, Utilities & Stakeholders review Lessons Learned from 2022 fire season.<br>• OPUC, Utilities & Stakeholders review revised frameworks, strategies, templates, models, measures, and approaches and provide comments / finalize the overall roadmap and timeline for 2023 implementation.<br>• OPUC, Utilities & Stakeholders review revised WMP & Performance Measurement Framework and sign off.<br>• Utilities revise & submit WMP updates (if needed) for OPUC & Stakeholders to review. |

| | |
|---|---|
| **Year 3:**<br><br>**Wildfire Risk Mitigation Maturity Model and** Continuous Improvement Phase | **Q1 '23: Begin Continuous Improvement Phase**<br>• OPUC approves / provides comments on updated WMPs (if needed).<br>• Utilities submit Performance Measure Results for 2022, and targets for 2023.<br>• OPUC develops first draft of Wildfire Risk Mitigation Maturity Model.<br><br>**Q2 '23: Performance Measurement & Maturity Model Spring Workshops**<br>• Attended by OPUC, Utilities & Stakeholders.<br>• Discussion of Performance Measure results for 2022, and targets for 2023.<br>• Discussion of draft Wildfire Risk Mitigation Maturity Model.<br>• Questions, clarifications, review of omissions in WMPs.<br><br>**Q3 '23: OPUC Revisions (Fire Season)**<br>• OPUC makes 1st round of revisions to Wildfire Risk Mitigation Maturity Model.<br>• OPUC discusses approaches and receives feedback from stakeholder groups and regulatory peers (i.e., CPUC, PUCN, and ESV - Australia).<br>• Utilities focus on active wildfire mitigations.<br><br>**Q4 '23: Clarification & Review Fall Workshops**<br>• OPUC, Utilities & Stakeholders review Lessons Learned from 2023 fire season.<br>• OPUC, Utilities & Stakeholders review revised frameworks, strategies, templates, models, measures, approaches and provide comments / finalize the overall roadmap and timeline for 2024 implementation.<br>• OPUC, Utilities & Stakeholders review revised Maturity Model, Performance Measurement Framework, and WMPs and sign off.<br>• Utilities revise & submit WMP updates (if needed) for OPUC & Stakeholders to review. |

This proposed rulemaking timeline is based on direct conversations with major utilities, stakeholder groups and utility commission regulatory staff.

The following three sections of this paper present our findings and roughly align to each year of the proposed three-year rulemaking timeline. Each section highlights the key principles, desired outcomes and deliverables, potential issues, and problems to avoid, as well as further areas to consider. While in most instances there is a logical flow in how the principles are presented, there is no *prioritization* intended in their order.

What follows is a discussion of each principle in more detail, with relevant insights grouped within four areas:

- **Process and Timing Considerations** (in section II)
- **Wildfire Risk Mitigation Plans, Data Submission Requirements and Performance Measures** (in section III)
- **Maturity Model** (in section IV)
- **Stakeholder Management & Regulatory Governance Considerations** (in section V)

In the following chapters, additional detail is provided for each of the Key Principles along with desired outcomes and deliverables. Specific examples are provided wherever possible and each chapter also considers potential issues or problem areas and identifies potential questions yet to be explored.

## II. PROCESS and TIMING CONSIDERATIONS

In order to fulfil their mission, regulatory bodies must understand and evaluate different positions, points of view and objectives – from multiple parties with varied perspectives, often in strong opposition to one another – and frame rules that serve the public interest.

With regard to its Wildfire Risk Management Rulemaking, the OPUC should set the goal to establish a balance among competing interests – in both process and outcomes – from the very start. It will be difficult to achieve this in practice but the potential benefits of progress toward this far outweigh the focused effort that will be required.

A rulemaking process that is informed by experience elsewhere and is comprehensive, transparent, and accessible, will require some upfront investment; but is likely to save time and effort later. Moreover, it is more likely to produce a process that will be effective and sustainable over the long term. The potential is a holistic process that meets the governance and oversight responsibilities of the OPUC, is considered fair and efficient by the State's regulated utilities, and quickly and efficiently delivers the outcomes desired by intervenors, stakeholders, and the public alike.

Not taking an inclusive approach risks the concerns of groups being addressed, while not integrated or optimized with those of others. It also risks a rulemaking process that may address needs of discrete groups and organizations, rather than those of the community as a whole.

Seeking to build a sustainable rulemaking process and a WMP framework will necessarily require some practical trade-offs. These are as simple and as complex as favoring a robust process over short-term outcomes, active participation over communiques. It will require that special interest groups have skin in the game; that they commit time and resources enough to participate in parallel processes that feed into the core rulemaking. The same applies to utilities and front-line organizations who must adapt to the rules within their wildfire response.

Overall, transparency will be critical, particularly because multiple organizations will often be working in parallel with one another. It will likely be the role of the OPUC to ensure that all parties can see and understand the needs and concerns of all – and how these are reflected, or not, in both the rulemaking process and the rules themselves.

Although challenging in practice, this approach is more likely to serve the community as a whole when wildfires inevitably occur. It will also build trust in the rulemaking process, as well as a collective capacity to absorb damage and loss when things go wrong. At the worst of times, parties will need to remain committed to the process and to keeping it alive; to return to the table at the end of each fire season, to celebrate success and to recover from failure and the unexpected.

The following delves into the key principles identified regarding the rulemaking process, timing considerations, desired outcomes, and deliverables, as well as potential issues or problems to avoid. It also highlights further considerations and questions yet to be answered. Examples are cited where relevant and a recommended timeline synopsis is provided.

| | |
|---|---|
| **Process** | ***Stakeholder Engagement*** - Adopt a rulemaking process that ensures robust public engagement, and balances the needs of all stakeholders |
| | ***Resourcing -*** The process must be adequately resourced. Additional staffing and resource commitments should not be underestimated |
| | ***Purpose & Outcomes*** - Embrace a transparent and non-punitive utility wildfire safety evaluation and approval process based on measurable high-level target outcomes |
| | ***Governance*** - The OPUC's governance structure for wildfire risk mitigation oversight needs to address both planning and a common understanding for compliance activities |
| | ***Cost Recovery*** - The process must explicitly address and demystify cost recovery mechanisms for wildfire mitigation activities beginning in year 1 |
| | ***Roadmap & Timeline*** - Develop a roadmap and timeline to set relative priorities and define clear stages for implementation of wildfire mitigation programs for each entity |
| **Timing Considerations** | ***Seasonal Timing Requirements*** - Develop adequate timelines for rulemaking, filing and reporting to allow utilities sufficient time to focus on mitigation and preparedness activities in advance of wildfire season |
| | ***Phased Approach*** - Utilize a phased rulemaking approach, with significant progress targeted in the first 6 to 12 months. Full implementation will take 3 to 5 years |

## Key Principles

***Stakeholder Engagement*** **- The rulemaking process that the OPUC will adopt must be collaborative and transparent, seek out and utilize stakeholder input, and balance the needs of all stakeholders.**

The need to build sufficient time into the process was shared by all interviewees, and the lack of time cited as one of the biggest missteps in the California rulemaking process. The OPUC's process must allow sufficient time for stakeholders to provide input, as well as sufficient time for the OPUC to review and consider the information received.

It is a widely held view that the process for establishing rules and requirements for wildfire risk mitigation in California was rushed. The implications of this were that much of the utility, stakeholder and intervenor input was not utilized, and the State's WMP framework is still under heavy scrutiny and debate nearly two years later.

By establishing a robust, collaborative process that balances needs and includes input from key stakeholders, the OPUC can produce a more effective evaluation process and framework at the outset.

Building sufficient time into the schedule to accomplish this will also allow the OPUC to validate what it hears from stakeholders, particularly in the areas of deficiencies and best practices. Without sufficient time, the OPUC may find itself, much like the CPUC did, with utilities adopting an approach described as "interpret and go" of forging ahead to create WMPs without asking questions. This would result in submissions to the OPUC that are unlikely to meet with its approval.

It is critical that the OPUC's process be transparent, which will reinforce the credibility of any deficiencies and best practices identified. It will also allow real-time learning for all parties involved and build trust in the process and for the OPUC.

***Resourcing*** **- The rulemaking process must be adequately resourced, or delays and waste will result. The additional staffing and resources required of the OPUC and each utility to support new rules and reporting cannot be underestimated.**

Implementing new rules will require the OPUC to grow its staff to add specific expertise in utility operations and wildfire risk mitigation. In California, the CPUC's new Wildfire Safety Division grew from a staff of less than 10 to more than 100 in a little over one year. The OPUC may need to add experienced team members at a proportional level.

The same will be required of utilities, who will need to hire or re-allocate staff to support the new rules. The data collection and reporting requirements placed on utilities will consume time and resources and should be balanced against the value and time demands on those same resources to implement risk mitigation measures.

With both the regulator and utilities seeking to hire and retain talent, the process adopted by the OPUC must incentivize knowledgeable experts in this area to want to work in Oregon rather than driving them away as has happened in some states. Those interviewed suggested that required resourcing levels and specific skillsets needed were underestimated and perceptions of chaotic or inefficient processes drove experts to look for opportunities elsewhere. More recently, competition for these skills from other states continues to negatively impact progress. Having a strong hiring process with thoughtful onboarding that allows new hires to ramp up in parallel with the rulemaking process will be key.

Finally, it is worth noting that the OPUC resource requirements may decline after year three, once the framework is defined and implemented, the stakeholder engagement process is in place and working well, and the maturity model and individual utility improvement roadmaps are agreed to and operational. This may suggest that outsourcing should play a role in meeting some of these resourcing or skill needs.

***Purpose & Outcomes*** **- In recognition of the shared interests and contributions necessary to effectively address wildfire risks, the OPUC should embrace a transparent and non-punitive utility wildfire safety evaluation and approval process based on measurable high-level target outcomes agreed to by all stakeholders.**

Wildfire risk is a societal issue exacerbated by climate change. Wildfire risk mitigation is a solution that requires refocused effort and collaboration by all levels of government, industry, community, and individuals. It is not just a problem for utilities to manage.

Furthermore, success in responsibly, safely, effectively, and efficiently mitigating wildfire risks can significantly enhance a utility's asset and operational management practices, positively impacting the financial stability of the utility and its overall ability to serve customers. Coupled with an increased commitment to social responsibility, this builds value for all involved.

The OPUC itself will also have a fair amount of credibility and political capital at stake in the measurable outcomes produced from this process. Based on experience in other states, simply being proactive will not be sufficient. The opportunity is present for the OPUC to ensure an intentional and outcome-oriented process and taking on a change leadership role for the utilities and other stakeholders.

***Governance*** **- The OPUC's governance structure for wildfire risk mitigation oversight needs to address both planning and a common understanding for compliance activities.**

The regulatory model employed in Victoria, Australia creates an effective separation between the economic and safety regulatory roles as independent entities. California is moving down this same path with its Wildfire Safety Division scheduled to move out from under the CPUC later next year.

As the OPUC considers its own approach to rulemaking and the evaluation process, and staffing up for the same, it should identify an organizational model that will support the above principles of effective engagement and transparency in its governance approach.

The OPUC would be well served to consider both its strategic planning mandate in wildfire risk mitigation, as well as its ongoing enforcement role. It must consider how it will balance the two without creating undue burdens on utilities and OPUC staff, as well as avoiding spillover effects from unnecessary stakeholder and intervenor engagement.

The OPUC's governance approach must also establish mutual responsibility from all involved parties in a coherent process and framework. Multiple proceedings and separate rulings for different issues (mitigation plans, microgrids, PSPS, etc.) often run in parallel and require involvement from the same resources. This leads to overwhelm, burnout and less active engagement from those individuals most able to contribute and is likely to result in inefficient, confusing, and conflicting outcomes.

The OPUC would be better served to conduct a single proceeding with separate tracks for specific issues with its governance focus placed on proactive risk management, as opposed to risk avoidance.

***Cost Recovery*** **- The process should explicitly address and demystify cost recovery mechanisms for wildfire mitigation activities beginning in year one.**

This process should consider potential impacts of required wildfire mitigation activities on current or future Rate Case proceedings.

Whether cost recovery for wildfire mitigation expenditures is to be dependent on approval of submitted Utility Wildfire Mitigation Plans, assessed prudence of individual plans or programs, or post-facto program effectiveness in mitigating wildfire risk, the OPUC must work closely with Oregon utilities and other stakeholders to clearly define the associated mechanisms up-front, and needs to clarify:

- Expectations regarding the scope, content, and level of detail in required Plans,
- Approach to assessment of the sufficiency of each plan filed, and
- Satisfaction with the risk mitigation outcomes produced

Having clear regulatory mechanisms, especially in times of catastrophic and extreme events, avoids wasted time, effort and expenditure and reduces uncertainty for utilities and customers alike. This in turn fosters action rather than inaction on the part of utilities and stakeholders.

***Roadmap & Timeline*** **– Communicate expectations and relative priorities to all stakeholders through establishment of a long-range timeline that defines clear stages for implementation of wildfire mitigation programs for each entity.**

***Seasonal Timing Requirements*** **- Consider all required activities throughout the year when setting the annual calendar for rulemaking, filing, and reporting to allow utilities to focus on mitigation and preparedness activities in advance of wildfire season.**

An annual mitigation plan reporting cycle is prudent, given the rapidly evolving climate impacts and technological advances in risk mitigation solutions becoming available from the marketplace. The rate of change and associated implications for both utilities and the OPUC requires a more real-time adjustment in practices, particularly in the near term.

However, this must be balanced with the reality that fires will occur each season and will demand focused resources and attention by utilities. An overly burdensome rulemaking process during the wildfire season

will create a distraction, set unrealistic expectations, and may divert attention from critical risk mitigation activities that should be taking place.

Here again an intentional and adequately timed approach to the rulemaking process will allow the OPUC to not only lead in this process, but also learn from the in-year wildfire responses in a way that proactively supports continuous improvement of the process over time.

***A Phased Approach*** **– to the OPUC's rulemaking is recommended, with significant progress targeted in the first 6 to 12 months. Experience in California, Nevada and elsewhere around the world is undeniable - full implementation will take 3 to 5 years.**

Significant progress must be made in 2021, but to overestimate in-year outcomes carries a greater risk of losing longer-term momentum and trust in the process. Considering Oregon's environment, the OPUC should establish a three-year development approach, similar to that outlined below.

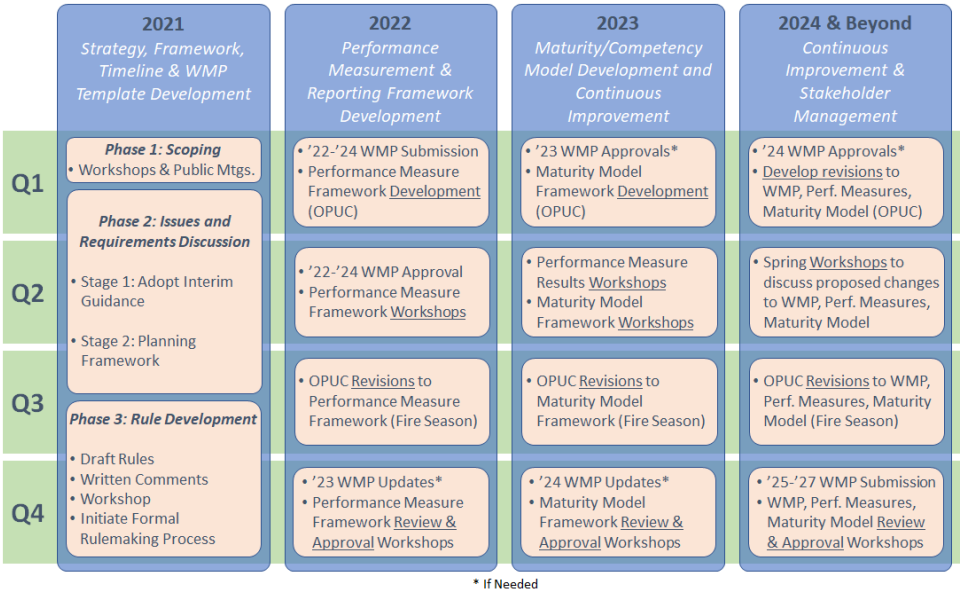
In year one, the OPUC should begin by requiring comprehensive wildfire risk mitigation plans from each utility to set the direction and pace of change for the sector. This initial year should also provide adequate time for all stakeholders to participate in the process, and for their input to be considered.

In year two, once direction and momentum has been established, the OPUC's focus must shift to assessment and reporting frameworks to channel the efforts of all groups and gauge their effectiveness.

In year three and beyond, the OPUC process must drive continuous improvement and accountability by establishing a Wildfire Risk Mitigation Maturity Model with which to compare effectiveness and efficiency across utilities and have each develop and report against their Roadmap to achieving best practice results. The maturity model will provide detailed insights into the progress being made by individual utilities with respect to the specific risks and challenges that each of them face.

Throughout this process the OPUC has the opportunity to leverage lessons learned from the approach and frameworks deployed in California and Nevada, as well as the leading wildfire risk management practices establish in other jurisdictions such as Australia.

The following outlines our recommended timeline for the OPUC to consider:



## Desired Outcomes & Deliverables

**Desired Outcomes** related to the Wildfire Risk Mitigation Rulemaking Process include:

- Involvement from all Stakeholders – Input is provided by utilities and Stakeholders, and that input is used to shape the details of the rules proposed.
- Transparency & Logic – The process creates certainty for all Stakeholders by ensuring they:
    a. Are informed of the OPUC's objectives,
    b. Understand and agree to a logical development timeline, and
    c. Are informed/consulted regarding any required deviations from the OPUC's rulemaking roadmap.
- Resourcing - The additional resource burden created by new wildfire rules is recognized and reflected in both the development timeline and any resulting reporting requirements.
- Continuous Improvement / Best Practices - A plan is in place for ensuring that the process is continuously informed and improved by both industry experts & international best practices.
- Timing – The timeline for developing and implementing new wildfire rules and for routine reporting of mitigation activities/outcomes reflects the feedback received from all stakeholders and specifically accounts for the complexities created by the annual wildfire season.

**Specific Deliverables** related to the Wildfire Risk Mitigation Rulemaking Process ***during year one*** include:

- Development Roadmap & Timeline
- Workshops to inform and approve the Development Roadmap & Timeline
- Governance Structure for Wildfire Risk Mitigation Oversight that includes both Planning & Enforcement
- Annual Spring & Fall Workshops to inform and approve of adjustments to the Wildfire Risk Mitigation Plan and Wildfire Risk Mitigation Maturity Model Frameworks.
- Annual discussions between the OPUC, stakeholder groups and regulatory peers (i.e., CPUC, PUCN, and ESV - Australia) to validate and continue to improve approaches utilized.

## Potential Issues/Problems to Avoid

### *Stakeholder Disenfranchisement*

Disenfranchisement may occur if feedback from stakeholders is not solicited or is solicited but ignored. It may also occur if the rulemaking process is opaque and/or illogical, leading to confusion and uncertainty.

The consequences of Stakeholder Disenfranchisement as evidenced in California include:

- Future requests for feedback from utilities or other stakeholders may be viewed as futile and therefore ignored.
- Disenfranchised stakeholders may create undue social and political pressure on the OPUC and establish a negative operating climate for the commission.
- Disenfranchised utilities may take a "interpret and go" perspective on wildfire mitigation rules, potentially leading to misinterpretation and undesirable outcomes.

***Resourcing Burdens***

Undue strain may be placed on both OPUC and Utility staffs if the resource requirements associated with wildfire risk mitigation rules are underestimated or ignored.

The consequences of an undue Resourcing Burden as evidenced in California include:

- OPUC may need to quickly and substantially increase staffing levels to meet the timelines and level of demand associated with the enforcement of new rules.
- Utilities will need to hire and re-allocate resources to address the requirements of the new rules.
- The OPUC may need to rely more heavily on contracted resources and consultants than initially anticipated.
- Utilities may need to shift resources away from wildfire mitigation activities to support the timeline and requirements put in place by the new rules.
- Data collection requirements from the new rules may place demand on staff outside of the utility's wildfire PMO, putting further pressure on the utility's ability to safely and reliably perform its core functions.

***Protracted or Insufficient Continuous Improvement Processes***

The ability to quickly and effectively address deficiencies in, or unintended consequences from, the rulemaking process or outcomes, or to otherwise continuously improve the rulemaking approach may be hindered by a lack of initial planning to accommodate a 'lessons learned' approach and / or an unwillingness to solicit feedback from stakeholders and other regulatory peers.

The consequences of long, slow, or delayed Improvement Processes, as evidenced in California include:

- A chaotic and uncertain operating environment with enormous political, social, and environmental pressures that rise and fall in connection with the occurrence of wildfires.
- Perceptions of inadequacy and finger-pointing between all stakeholders.
- An ineffective, reactive approach focused on Risk Aversion rather than Risk Management which can lead to chasing low impact failures which never end and wastes a lot of money.
- Wildfire risk mitigation models, frameworks, and reporting approaches that are either insufficiently or overly prescriptive.
- Delays in the implementation of key components of the regulatory framework due to ongoing uncertainty and disagreement.
- Inefficient and/or conflicting outcomes from the rulemaking process.
- Duplication of effort between utilities and the OPUC.

***Implementation Delays***

Delays in developing and effectively implementing wildfire risk mitigation rules may occur for a variety of reasons, both controllable and uncontrollable. Controllable delays may occur due to uncertainty and confusion, which can lead to misinterpretation and the revisiting/revision of rules. Counterintuitively, delays may also occur due to attempts to accelerate the rulemaking process by bypassing stakeholder involvement, setting unrealistic deadlines, or relying disproportionately on 3$^{rd}$ parties for developing standards. Clear evidence exists for such delays in California.

Process questions remaining (i.e., potential areas for the OPUC to study and engage with stakeholders on?)

- Regulatory budgets and staffing levels needed to effectively support this process to a successful conclusion?
- Are these staffing and funding levels permanent or will they decline once the process matures and the sector becomes more effective at Wildfire risk mitigation?
- What level and nature of Communication is required between regulator, governor's office, and legislature to build trust, ensure clarity of roles and governance process effectiveness, and avoid the turmoil and finger pointing experienced in California?

## III. WILDFIRE MITIGATION PLAN, DATA SUBMISSIONS & PERFORMANCE MEASURES

A WMP framework built with multi-party input and reflecting the broad range of existing interests, will need to be comprehensive and succinct to be effective in practice. The framework must reflect common or overlapping concerns and enable solutions that can be applied efficiently in the field. Stakeholders will need to see what matters to them in the way performance is measured and believe that the process will drive lower risk outcomes. As they look for transparency in the rulemaking process, so too will they look for transparency in what performance data is collected and how it is reported and acted on. They will need to have confidence in the data and analysis to trust in the analytic results and decisions made.

Performance data will affirm that the rules made prior to each wildfire season actually mitigated risk in practice. Credibility of the data, and conclusions derived, will be essential to bringing participants back to the rulemaking process each year and having them stay engaged in its continual improvement. For example, creating performance measures that monitor the trends in use of PSPS and the overall impact on customers could help manage and mitigate the potential negative effects that such tools carry with them.

The following section details key principles developed from conversations with California and Nevada stakeholders about their WMP framework, data submission requirements and performance measures. Where appropriate, frameworks are provided as a starting point for consideration by the OPUC staff. Also provided below is a synopsis of desired outcomes and deliverables, and potential issues or problems to avoid.

| | |
|---|---|
| **Wildfire Risk Mitigation Plans** | ***Stakeholder Partnership*** - Create an effective, efficient, and comprehensive Wildfire Risk Mitigation Plan (WMP) framework in partnership with stakeholders |
| | ***Tailored to Oregon*** - Develop a Wildfire Risk Model for Oregon to support the WMP framework. Then define the decisions to be made and the data required to do so |
| | ***Sufficient Time*** - Build sufficient time into the schedule for all stakeholders to review WMP submissions, request clarifications from utilities, and facilitate revisions |
| | ***WMP Revision Cycles*** - Technology and the utility industry are changing rapidly enough to justify annual updates to WMPs |
| **Data Submission Requirements** | ***Targeted Data*** - Data submitted by utilities should include information on strategy, approach and action commitments |
| | ***Cost/Benefit Balance*** - Data requests must be balanced – potential value to the OPUC against the cost and effort to collect that data |
| | ***Evolving Data Requirements*** - Data submission requirements should transition over time from higher level to more granular information as the OPUC's management strategies coalesce, and utility data quality/availability improves |
| **Performance Measures** | ***Specific Metrics*** - Establish 3 categories of measures: WMP Program commitments, progress against commitments, and wildfire risk management outcomes produced |
| | ***Outcomes vs. Activity Measures*** - Program and Progress performance metrics that measure the quantity of work being performed on the network are of limited usefulness by themselves |
| | ***Normalize Metrics*** - Outcome metrics must be normalized to account for the (largely uncontrollable) drivers of faults and ignitions – weather & fuel moisture – and will be difficult to do |

## Key Principles

***Stakeholder Engagement*** **- It is imperative that the OPUC create and execute an effective, efficient, and comprehensive WMP framework in that considers input from all key stakeholder groups.**

All parties interviewed in California and Nevada provided strong opinions about the importance of transparency and sufficient time to consider input from utilities and key stakeholder groups.

Further, the OPUC's WMP framework must consider and be relevant to utilities of varying sizes or types and / or provide an alternative approach to be used by smaller, less well-resourced utilities such as municipals, co-operatives and Public Utility Districts (PUDs). However, it must be sufficiently prescriptive to define a unified direction and ensure a cohesive effort for mitigating wildfire risk and achieving the State's wildfire safety goals.

***Tailored to Oregon*** **– The parties should collaborate to develop a Wildfire Risk Model for Oregon in support of the WMP framework. This model will drive the decisions to be made and the data required to do so.**

With the benefit of learning from other jurisdictions, the OPUC must begin the rulemaking process with a holistic understanding of the interests and needs of its region. The WMP framework must support an Oregon-made wildfire risk model that is informed by local wildfire factors, ignition probabilities and consequences, from which priorities for reducing wildfire risks will naturally flow. This will enable the OPUC to identify data required to both support and determine decisions that need to be made.

***Sufficient Time*** **- Build sufficient time into the schedule for all stakeholders to review WMP submissions, request clarifications from utilities, and facilitate revisions.**

The burden of updates to risk mitigation plans or other requirements must be shared between utilities, stakeholders and the OPUC. Therefore, it is critical that each reserve adequate time and ensure appropriate resources to review and process the large volumes of associated information.

It is critical that the OPUC's WMP framework schedule sufficient time for this to happen; and recognize that even more time will be required, particularly in the first year.

***WMP Revision Cycles*** **- Technology and the utility industry are changing rapidly enough to justify annual updates to WMPs.**

While wildfire risk and other effects of climate change may appear to be accelerating, an effective wildfire strategy and plan to address it will not change significantly from year to year. There will be shifts in priorities and allocations of funding, but the underlying strategies should become more robust over time and evolve to rely on the best technologies and lessons learned. The demand and urgency for a collective response to risk management across the State requires that the OPUC champion plan rigor and consistency in its rulemaking process and operational WMP framework.

Nevada and California have implemented a 3-year cycle for submission of utility wildfire plans (i.e., "Natural Disaster Protection Plans"). Both states will also require annual updates of the 3-year plans. Some stakeholders in California are lobbying the CPUC to synchronize timelines for submission of WMPs with requirements for each utility's General Rate Case (GRC). This will provide dual benefits, reducing resource requirements for each stakeholder group to participate in the regulatory review and comment process, and tying the cost recovery approval process to the WMP review and approval process, thereby reducing

risk of stranded wildfire costs for utilities. These annual updates will also provide the opportunity for utilities to adjust direction and tailor the focus of pilot efforts and investments as new technologies emerge, and to share with the OPUC and other utilities in the State their innovations, best practices discovered, and promising new methods on a more frequent basis.

The OPUC can, in the interest of efficiency, create separate streams for annual reporting. For example, it is a good practice to separate and set different reporting frequencies for those portions of the WMP that are expected to be relatively static (such as network topography and statistics, customers, services provided, etc.) from the more dynamic portions that will have a material impact on risk management (i.e., portions dealing with specific planned actions, investments, strategic changes, processes or policies and the reporting of results achieved that inform future actions).

***Targeted Data*** **- Data submitted by utilities should include information on strategy, approach, and action commitments.**

The OPUC will benefit from determining what data it requires from utilities as early in the process as possible, and iteratively improving on the usefulness of its data requests to streamline the effort and efficiency of the reporting process. The data required should include sufficient information on a utility's strategy, approach, and commitments for the OPUC to assess that its priorities are being met and wildfire risk effectively mitigated.

***Cost/Benefit Balance*** **- Data requests must be balanced against the cost and effort to collect that data.**

Efforts to collect data related to wildfires from utilities must be balanced against the utilities' costs and effort to collect the data and OPUC resources available to evaluate it. CPUC consultants who framed and implemented utility data requests reportedly took an exhaustive approach ("*boiled the ocean*") and were unable to effectively utilize the data received due to weak definitions, data inconsistencies across utilities, and gaps in availability of the requested information. Data requirements will naturally shift over time from a higher level of general information at the outset, to more granular, detailed and focused reporting as the OPUC determines the most effective leverage points to drive continuous improvement in the effectiveness and efficiency of each utility's program.

Data requirements should therefore:

a) Be focused on information that is useful to the OPUC in its standards setting, oversight, cost recovery / prudence review and enforcement roles,
b) Have clear purpose – i.e., can be linked to specific decisions or risks,
c) Consider the level of detail available and the accuracy of existing utility data, and
d) Be structured in a way that facilitates clear understanding and consistency of response among utilities.

The OPUC should avoid well-intentioned but low-value regulatory requirements by remaining cognizant of the implicit cost of requests it makes of utilities and always looking for the most efficient way to accomplish its objectives.

A good example of this principle is that regulators are often inundated by technology vendors trying to convince them that they have the solution to a key problem. These vendor propositions are frequently then referred to the utilities that must devote time and energy to reviewing the product / service (regardless of whether they have already reviewed it) in order to satisfy the regulator that they are being

responsive. Both the maturity model and the suite of performance measures established for utilities to report against can allow the OPUC to verify that utilities are conducting appropriate due diligence on innovation, learning and applicability / value of new technologies. This will in turn allow the OPUC to spend less time with vendors and rely on the collaborative process of utility/regulator working together to explore innovation.

***Shared Responsibility and Targeted Accountability*** - Climate change and wildfire risk are not just utility problems. There is a clear need to balance the shared risks with focused responsibilities. The OPUC must be mindful to avoid putting every burden on the utility. Some may otherwise see this as a potential opportunity to shift funding responsibilities for projects that should be paid for by other sources than utility customers.

***Evolving Data Requirements*** **- Data submission requirements should transition over time from higher level to more granular information as the OPUC's management / governance strategies coalesce.**

As noted above, data requirements will evolve over time, both as utility data quality and availability improves and as the OPUC's focus narrows to address remaining areas for improvement. The OPUC will undoubtedly also learn from changes in other jurisdictions.

As the OPUC tracks the progress and effectiveness of wildfire risk mitigation programs for each of the utilities within its jurisdiction, it will have the opportunity to evolve its data requirements by tailoring the measures and how they are used.

Streamlining of data requirements could also be an output from annual stakeholder workshops which would assure shared input into determining the right data (and that only that data) which will be required from utilities.

All of this for the sake of improving the efficiency of the data reporting process and freeing up time and focus for other important WMP activities.

***Specific Metrics*** **– Numerous metrics can be measured and reported against – some will produce value, others only confusion and waste. Selecting the right metrics will be critical to the program's success.**

What ultimately gets measured will influence the evolution of the OPUC's wildfire risk mitigation strategy, as well as the required investment and allocation of resources by all parties. Therefore, careful consideration must go towards establishing the right metrics.

Experience in California and Nevada suggests that good metrics are needed in three key areas:

- WMP Program priorities, with a clear scope of commitments made by each utility,
- Progress against those program commitments, and
- Overall wildfire risk mitigation outcomes produced (both in each year and cumulatively)

***Outcomes vs. Activity Measures*** **– Program and progress performance metrics that track quantity of work completed on the network are of limited usefulness by themselves.**

Keeping outcomes at the forefront involves focus on measuring whether risk levels are in fact being reduced, and that actions undertaken, and investments made, are contributing to risk mitigation progress. Program and progress metrics provide strong indications of how much work is being performed, but do not indicate whether the work performed is contributing to risk reduction. Therefore, program and progress metrics alone are insufficient.

Once again, the dynamic nature of climate change and the industry's response requires that the OPUC must operate with a flexible suite of performance metrics, with priorities and weighting factors that evolve over time as the program matures, and certain risks decline, and others grow.

***Normalize Metrics*** **– Outcome metrics are the most important, and to be useful in gauging performance of the utility, they must be normalized to account for factors beyond control of the utility.**

Such factors include:

- Drivers of faults and ignitions, such as vegetation exposure, weather, fuel volume and moisture content, and 3rd party damages/or other causes that are uncontrollable by utilities.
- The location of the fault or ignition (i.e., in High Fire Threat Areas, or in low-risk areas?)
- The timing of the fault or ignition (i.e., during Fire season, or during the low-risk rainy season)
- Whether the fault occurred on lines acknowledged to be high risk

It is difficult to separate the change in risk that is due to a specific action that was taken (vs. natural variations due to weather and climate), so a diverse set of outcome metrics is important. Taken together, they will allow the OPUC to visualize trends and ultimately deduce the impacts that the utility is having through its mitigation activities. This is both important and difficult to do. A good place for the OPUC to start would be by working with utilities to establish a common ignition cause taxonomy and normalization structure for classifying, counting, and determining the severity of ignition events.

## Desired Outcomes & Deliverables

The OPUC's **Wildfire Risk Mitigation Plan** structure and content must:

a) reflect the current science regarding causes and effects of known wildfire risks in Oregon; and
b) be based on specific decisions that the OPUC wishes to make to ensure effective management of those risks, and has been vetted fully by utilities, Stakeholders, and industry experts.

As learned from a review of successes and failures in California and Nevada, as well as several international jurisdictions, the structure and content of the annual Risk Mitigation Plans will evolve a fair amount over the first few years, as the OPUC's overall wildfire risk mitigation process matures, as wildfire risk declines in response to the readiness actions taken and the shifting nature of areas identified for continued improvement effort.

The following elements should be included in the OPUC's initial WMP framework in year one. A more complete *Wildfire Risk Mitigation Plan Template* is provided in Appendix A.

0. WMP Ownership & Contact information
1. Table of Contents
2. List of Tables
3. List of Figures
4. Glossary of defined terms
5. Purpose & Scope
6. Wildfire Risk Mitigation Objectives
7. Strategic Alignment / Risk Management Approach
8. Operating Environment
9. Wildfire risk Mitigation Performance

10. Wildfire Risk Mitigation Programs & Activities
11. Quality Control & Continuous Improvement
12. Wildfire Risk Mitigation Performance Measures

The OPUC should also:

- Allow sufficient timing for annual reporting,
- Limit data requirements to necessary and useful information, and
- Pay close attention to the cost/benefit analysis

Recognizing that data requirements will evolve considerably over the first few years, it is recommended that OPUC's *near-term reporting strategy* be:

- Focused exclusively on wildfire risk mitigation and not stray into other politically sensitive subjects such as emissions, renewable energy, collective bargaining, etc.,
- Scoped to address wildfire risk mitigation activities and not include core or foundational parts of the business such as capacitor maintenance, wood pole replacement, etc.,
- Framed to accurately capture the outcome-relevant wildfire risk /mitigation activities performed by utilities and be no more prescriptive than needed,
- Defined to accommodate the limited resource availability of utilities during wildfire season, and
- Structured to provide adequate time for the OPUC and stakeholders to review and provide feedback

In support of the above, the OPUC's WMP framework performance measures must be:

- Appropriately normalized whenever used to facilitate comparisons among Oregon utilities, establishing trends over time, or comparing against other jurisdictions; and
- Related directly to wildfire risk mitigation.

Experience in other jurisdictions suggests the following list of proposed initial wildfire risk mitigation performance measures (to be used in year one and evolved over the following several years) as the OPUC's framework matures and better data and surveillance is possible.

The selection of these metrics is based on comprehensive coverage of the broad scope of issues that must be measured; the relative importance and leverage of each area (or issue) that must be measured; and the likelihood that utilities will have credible data to support the requirement from day one.

**Specific deliverables** for the OPUC in year one includes:

- Wildfire Risk Mitigation Plan Framework
- A basic performance measurement framework with three primary categories of measures:
  a) Program Measures – to capture the amount and types of work that utilities intend to perform to address specific wildfire risks across their networks,
  b) Progress Measures – to capture utilities' ability to complete the work they intended to perform to address specific wildfire risks across their networks, and
  c) Outcome Measures – to capture the amount of wildfire risk that utilities have mitigated through the work performed across their network

*NOTE: A more complete discussion of performance measures, with examples, is provided in Appendix B.*

## Potential Issues/Problems to Avoid

Conversations with California and Nevada utilities, regulators and other stakeholders provided examples of two specific problems that can be avoided. The OPUC staff can apply insights gathered from these jurisdictions to avoid similar problems in Oregon. Specifically:

### *Excessive Level of Detail/Precision*

OPUC's reporting requirements should prescribe an appropriate level of detail to capture the relevant information about approaches used and activities performed by utilities to manage wildfire risks, while at the same time not being unnecessarily prescriptive.

As evidenced in California, the undesired consequences of requiring excessive levels of detail or precision include:

- Creating a burden on the regulator, stakeholders and utilities where significant time was consumed sifting through unnecessary information and constraining the effectiveness of planned reviews,
- Shifting attention away from wildfire mitigation activities and towards compliance activities to support the annual reporting requirements,
- Wasted effort on behalf of the regulator to find specific use cases for the excessive detail requested,
- Differing interpretations of the requirements by each utility, limiting the regulator's ability to compare utilities and determine the usefulness of the information provided, and
- The reporting of information that is misleading to those that are largely unfamiliar with the technical aspects of the electricity network.

Establishing an annual reporting and update cycle for the OPUC's WMP framework is prudent to keep pace with technology advances and changes within the industry, but the volume and focus of information requested in each cycle should evolve over time to drive iterative improvements.

### *Low-Value or Incongruous Data Requests*

Interviews and analysis also revealed the importance of WMP reporting requirements that only include information specifically related to wildfire risk mitigation activities and do not include reporting against core or foundational parts of the business – e.g., routine maintenance activities, asset portfolio characteristics, system reliability, etc.

Negative consequences of reporting of low-value data in the WMP in California include:

- Confusion among the public or for those largely unfamiliar with the technical aspects of electricity networks or asset-specific maintenance and replacement strategies. This was particularly true in relation to the prioritization of certain wildfire risk mitigation activities over others,
- A disproportionate increase in the resourcing burden placed on utilities for reporting the data, and on Stakeholders and the OPUC for reviewing the data provided. Effort was spent in reviewing low value information that would have been better focused on analyzing the information to understand outcomes and inform changes, and
- Leading to different interpretations of the requirements by each utility, limiting the comparability and usefulness of the information

## IV. WILDFIRE RISK MITIGATION MATURITY MODEL

Other locations around the world have faced extensive wildfires over many years. Of these, Australia is likely furthest ahead when it comes to its wildfire risk mitigation practices.

Comparing performance of utilities across a group, and against other jurisdictions is a key approach used by regulators around the world in their oversight role. It is difficult to make performance comparisons in wildfire risk management effectiveness due to the wide variance in the circumstances, service territory and asset mix of each utility. Many regulators have determined that assessments against a well-established competency or capability model is the only effective way to assess individual utilities.

This is something that the CPUC recognized in 2019 when as part of its rulemaking framework it asked its Wildfire Safety Division (WSD) to develop and promulgate a Utility Wildfire Mitigation Maturity Model (Maturity Model). To gauge the capability and maturity levels of California utilities, the CPUC WMP Guidelines also included (what was to become an annual) Utility Survey. California was the first state to develop a Wildfire Risk Mitigation Maturity Model to assess progress made by its utilities. However, that model is still a work in progress, is not yet fully operational, and has not yet been endorsed by the affected stakeholder groups.

We recommend that the OPUC continue to monitor the rulemaking process in California while working to build one tailored for Oregon. There is an opportunity for the OPUC to lead here; to build and operationalize one of the first effective maturity models. The principal value of such a competency model will come after the core Wildfire Risk Mitigation framework and process has been defined and implemented for the state. It will be at this point that the OPUC will want assurance that each utility has built strong internal capabilities to monitor, identify and effectively manage the wildfire risks in their service territory, as well as to communicate effectively on these matters with customers, communities, and other stakeholder groups.

Conversations with each of the California utilities and the CPUC staff yielded the following insights and key principles for consideration by the OPUC staff. It will be important for the OPUC to tailor wildfire maturity model to Pacific Northwest regional requirements and designing and planning for the use of such a Model now, at the outset of the rulemaking process, will allow the OPUC to build on best practices elsewhere and be confident that Oregon utilities are capable of managing their share of wildfire risks, as the State moves beyond this intensive process of establishing effective wildfire protection for its residents and property owners.

| | |
|---|---|
| **Maturity Model** | ***Starting Point*** **-** OPUC may consider the California (CPUC) Wildfire Maturity Model as a starting point for its own, but it must be refined to reflect Oregon's needs |
| | ***Compare Oregon Utilities*** - Over the next several years the OPUC will wish to compare and contrast approaches and effectiveness across the State's utilities. |
| | ***OPUC Maturity Model*** - Develop and apply a Wildfire Maturity Model to facilitate comparisons among Oregon utilities, and against utilities from other states |
| | ***Informed Modeling*** - Seek input from utilities and consider global best practices from other jurisdictions to develop the Wildfire Maturity Model |
| | ***Benefits to be Gained*** **-** Maturity Model benefits include increased clarity for utilities on OPUC expectations and a roadmap for the OPUC that shows how each utility may improve |

The CPUC Maturity Model and Utility Survey measure each utility's capability against a set of 10 core operational domains and 52 specific practices focused on wildfire risk management. Practice areas include assessment and forecasting, operational and asset management, data governance and resource allocation, emergency preparedness and engagement, etc. Many stakeholders feel the model is complex and cumbersome. The OPUC should start with a simpler, streamlined version that is based on the most critical capabilities and then build on this over time if and as new capabilities are required.

## Key Principles

***Starting Point*** **- The OPUC should consider the California (CPUC) Maturity Model as a starting point.** Based on stakeholder input from those interviewed in California, the OPUC must first:

- investigate and clarify certain aspects of the model and its effectiveness,
- refine the model to reflect Oregon's specific needs, and
- appropriately extend or expand the model in areas where gaps or excesses are identified

***Compare Oregon Utilities*** **– Over the next several years, the OPUC should develop the capability to compare and contrast the approaches and the effectiveness of utilities across the State.**

Utilities in Oregon have established a base level of competence in most practice areas related to wildfire risk mitigation through normal business operations.

Over the next several years, utilities across Oregon are on track to advance in their Wildfire Risk Mitigation Programs, improve upon their wildfire risk understanding and mitigation practices, and successfully reduce wildfire risk in their respective territories. Comparing the State's utilities' existing practices and progress will inform the assessment standards the OPUC chooses to promulgate and measure against.

***OPUC Maturity Model*** **– Develop and implement an OPUC Wildfire Risk Mitigation Maturity Model that allows the OPUC to evaluate and facilitate comparisons among its Oregon-based utilities, as well as compare these utilities' progress against other States and jurisdictions.**

Maturity modeling as a construct is used extensively in and across business environments. Done well, it serves as a robust assessment mechanism. If the OPUC is careful to ensure its Maturity Model can stand alongside others or potentially lead the way in recognized best practices, then at that point the model becomes a foundational mechanism for which to propel continuous improvement and the industry forward.

***Informed Modeling*** **– The OPUC should seek input from utilities and consider global best practices from other jurisdictions as it develops its Maturity Model.**

In developing this assessment tool, the OPUC must broaden its investigation into what has worked and not worked in other areas. While it may be a good starting point, California's existing Maturity Model has not yet been accepted as directly reflective of wildfire risk mitigation effectiveness.

Australia is viewed as leading in the wildfire risk mitigation space; however, they do not have a maturity model framework that can be referenced at this time.

***Benefits to be gained*** **– An effective Maturity Model, benefits utilities through increased clarity regarding regulatory expectations and an improvement roadmap with agreed upon priorities, measures, and timelines.**

This would also provide many benefits to the State, beyond clarity for utilities on OPUC expectations and a roadmap for the OPUC showing how each utility can improve its maturity level. Implicit in this approach is the need for the OPUC to establish standards and work collaboratively with utilities and other stakeholders to establish agreed-to targets, priorities and timing, as well as guidance on progression from one capability level to the next.

### Desired Outcomes & Deliverables

Drawing on the above recommendations, the following are specific outcomes that the OPUC should achieve by establishing and adopting its own Wildfire Risk Mitigation Maturity Model.

- An effective means for comparing utilities within Oregon to each other, and to the broader industry, with respect to wildfire risk mitigation maturity/competency
- A strategic approach, standardized assessment tool, and timeline for continuous improvement of wildfire risk mitigation maturity and competency
- A common language regarding wildfire risk mitigation that can facilitate constructive conversations between all stakeholders in Oregon
- A Maturity Model survey / evaluation tool that aligns with industry best practices and facilitates conversations about capabilities and practices related to wildfire risk mitigation between the utilities, the OPUC, and their counterparts in other regions, as well as allowing rigorous competence assessment and gap identification.

This structure is proposed for longer term guidance of the OPUC. It is expected that an effective model will take several years to define and then develop a sufficient base of stakeholder alignment, and there are other more effective levers for the OPUC to use in the near-term to drive progress and achieve outcomes.

As the OPUC's WMP Framework, processes, metrics, and data requirements evolve over the first several years, the urgency for and value from a Maturity Model will grow. Specifically, this will reflect the evolving importance of the OPUC's ability to:

- monitor progress and guide further development efforts and investments by each utility,
- make meaningful comparisons across utilities and with other states, and
- monitor and govern the Wildfire risk mitigation process in Oregon and drive continuous improvement supported by exception reporting

*NOTE: See Appendix C for additional Maturity Model considerations and examples.*

### Potential Issues/Problems to Avoid

Conversations with stakeholders in California and Nevada uncovered several key challenges with negative consequences on the regulator's effort to launch and implement a Maturity Model.

***Risks and Mitigation Approaches vary greatly***

Wildfire risk mitigation plans are of limited value for making direct comparisons between utilities, as the specific risks and mitigation approaches utilized by each utility often vary.

Evidence from California suggests that a Maturity Model is an effective way to capture whether utilities have developed an effective orientation, approach, and level of competence to deal with the specific wildfire risks they face, and ultimately allow a regulator to make meaningful comparisons across utilities.

***Investment of time and stakeholder input***

Evidence from California suggests that a lack of stakeholder input into the CPUC's design decisions led to confusion and ongoing revisions to the framework, slowed program implementation which limited the value gained from the process to-date.

As recommended above, the OPUC's Maturity Model should be tailored to Oregon's unique environment, and also reflect industry best practices. As such, the development and deployment process should involve all stakeholders and sufficient time should be allocated to ensure that the model is both efficient and effective.

***The Model Alone is Insufficient***

In its Maturity Model the OPUC must articulate the specific actions, practices, and capabilities that a utility must undertake and develop to become more competent and mature with respect to wildfire risk mitigation. By tying specific actions or capabilities to specific maturity levels, gaps can be identified, and appropriate improvement targets set for individual utilities

In California, this level of clarity has not yet been provided to utilities, which has led to confusion, uncertainty, and implementation delays. Where individual utilities proactively sought to define and share assessment criteria in the reporting process, the value of such input seems to have been overlooked or ignored by the CPUC.

*Other considerations not discussed in this paper (open questions which may warrant further research / analysis of experience in other jurisdictions)*

- When is the optimum time during the process of developing and finalizing the Wildfire Risk Mitigation Framework, would CA and NV stakeholders say that an effective wildfire maturity model (i.e., competency scale) is necessary or likely to add the most value?
- What are the relative priorities / value of individual domains or specific competencies enabling utilities to deliver wildfire risk mitigation results?
- Is the California Maturity model close enough to modify for implementation in Oregon?

## V. STAKEHOLDER MANAGEMENT & REGULATORY GOVERNANCE CONSIDERATIONS

The number and severity of wildfires is increasing each year, resulting in significant and long-lasting damage to the landscape, on customers, and on the utility industry as a whole. At the same time, new technological innovations related to inspection techniques, machine learning/artificial intelligence, risk modeling, and weather forecasting (among others) are being deployed every month. That said, wildfires are inherently unpredictable, and the deployment of innovative solutions can occur in geographic pockets that obscure their potential value to the global industry. Therefore, it is increasingly imperative for regulators addressing wildfire risk to look beyond traditional boundaries for solutions.

The OPUC must articulate its strategy and engage collaboratively in a process of both rulemaking and continual learning about effective risk mitigation approaches. The strategy must stand confidently on its own, and ensure a minimum of duplication, redundancy, and waste within the process, but must also present evidence that it stands upon global innovations and learnings.

In many ways, the OPUC has an opportunity to lead the way for many other US States. Recognizing its primary role is as governance and oversight – it must encourage leadership from its utilities and harness their capabilities to produce or discover innovative ideas and efficiency improvements. The alternative compliance-based approach will place an intolerable burden on the OPUC to know all and make it difficult to demonstrate that the outcomes represent the best possibly achieved.

At the same time, the OPUC must engage non-utility stakeholders and experts from outside of the industry to foster continuous learning. The OPUC has an opportunity to communicate the importance of managing the fundamental issue underlying wildfire risk: climate change. It is imperative that the OPUC strongly convey that wildfires are not a utility issue per se, but a broader societal one.

Other key considerations for the OPUC in this rulemaking include:

- Determining how to engage stakeholders so that everyone feels their voice has been heard and that the process is managed effectively and prudently
- Applying all required resources and bringing in experts as needed:
    - There will be an increase in resources to support the near-term ramp-up
    - Longer term, requirements will be more modest (i.e., beyond year 3)
    - The short-term ramp-up will create strain and have a critical impact on the process outcomes
- Creating effective and sustainable interfaces with various groups, including:
    - Utilities, customers, communities, and other stakeholders
    - Local and Federal agencies
    - First responders
    - Academic institutions
- Interfacing directly with the legislature - regulation and legislation need to move together in a coordinated way for the process to be effective
- Having a proactive and outward-facing presence to communicate the industry's needs to other groups, government, etc.

# VI. APPENDICES

## APPENDIX A - Background[1]

Following the extensive wildfires in California in 2018, the OPUC required the regulated investor-owned utilities in Oregon to present on their wildfire mitigation planning efforts at public meetings held during the spring of 2019 and again in the spring of 2020. Utility regulators are generally aware that utility planning is highly technical, data driven and relies heavily on lessons learned in other jurisdictions. The learnings from California include, among other things, the value of enhanced vegetation management (tree and brush trimming), system hardening investments, and the development and implementation of criteria and protocols for proactively deenergizing lines (Public Safety Power Shut-Offs or PSPS).

In July 2019, OPUC staff visited communities in Southern Oregon that might face PSPS events given the high consequence fire risk identified in the area. The OPUC staff invited local community leaders, utilities, and emergency managers to tour the Oregon Department of Forestry (ODF) Detection Center in Central Point, Oregon. The attendees also heard an update on Pacific Power and ODF's collaboration on fire identification and early warning systems for transmission infrastructure in the area. The OPUC staff met with local leaders in Jackson and Josephine counties to hear concerns about the use of PSPS events and fire risk.

Later in 2019, OPUC representatives also met with Hood River County leaders to hear their concerns about the potential economic and life-safety impacts of PSPS activation. The OPUC hosted utility regulatory commissioners and wildfire experts from across the West in August 2019 to share lessons learned, emerging best practices, and actions taken throughout the region.

On March 10, 2020, Governor Brown issued Executive Order 20-04, which directed the OPUC to convene workshops to assist regulated electric companies, consumer-owned utilities, and operators of electrical distribution systems to develop and share best practices for mitigating wildfire risk.

The OPUC served as a resource to the Governor's Council on Wildfire Response, formed by Executive Order 19-01. The OPUC also acted as a resource to the Legislature as it considered legislation to implement those recommendations in the 2020 legislative session.

In the summer of 2020, the OPUC launched the Oregon Wildfire Electricity Collaborative (OWEC) in response to the same Order. The Collaborative came together for the first in a series of workshops to assist regulated electric companies, consumer owned utilities, and operators of electrical distribution systems to develop and share best practices for mitigating wildfire risk.

In August 2020, the OPUC launched a rulemaking for regulated utility wildfire mitigation plans. Utilities were already required to proactively plan to meet changing fire risks, as a part of their general obligation to provide safe and reliable service. The purpose of the rulemaking was to formalize expectations and support transparency and consistency in the planning process, particularly for impacted communities. The resulting rules are expected to require consistent filing of wildfire mitigation plans by regulated utilities with the OPUC.

[1] Information adapted from content found on the OPUC website and press releases

The OPUC Staff schedule for the rulemaking docket is constructed around two milestones:

1. **Interim guidance:** First, develop interim guidance for key issues that can be addressed before the 2021 fire season—targeting April 2021 for Commission guidance
2. **Rulemaking framework:** Then, build upon the interim guidance to address the full list of Wildfire Risk Mitigation Plan (WMP) issues (e.g., WMP Rulemaking Process and Timeline, WMP Scope and Template, Performance Measures and Reporting, Wildfire Risk Mitigation Maturity Model, etc.) —targeting informal rules developed by the end of 2021

**Insights and Considerations for the OPUC**

In October of 2020, OPUC staff asked PGE and other Stakeholders within the state to support the Oregon wildfire rulemaking process. PGE engaged UMS Group (UMS) to provide perspectives on the effectiveness of the wildfire regulatory rulemaking processes, resulting rules and requirements in California and Nevada, and to help inform the OPUC staff's consideration of possible requirements and standards. The OPUC staff wished to hear the utility viewpoint on what had worked well, what was helpful, where there may have been pitfalls that might be avoided in Oregon, and what might be done in Oregon to result in better outcomes or a more efficient and effective process.

Over the past several weeks, UMS has conducted a focused review of the rulemaking process in California and Nevada, interviewing each major utility, various stakeholder groups and contacts within the respective regulatory staffs. These interviews were used to gather perceptions and perspectives regarding the processes used in those jurisdictions. Interviewees were asked what went well and what did not, what they believed could have been done differently or better, and what they felt were the benefits or cost of each observed pro and con. This paper attempts to summarize the insights from these conversations and to extract the most useful themes for OPUC staff consideration in their wildfire rulemaking processes.

## APPENDIX B - Wildfire Risk Mitigation Plan Template

## APPENDIX C - Performance Measures and Reporting Framework

### Program Measures

Program Measures track progress toward the utility's own specific wildfire risk mitigation work completion targets specified in their WMP.

| Measure | Units | Comments |
|---|---|---|
| Miles of Covered Conductor Installed vs. Plan | % of Plan | Certain mitigations like replacing bare wires with covered conductor or moving overhead circuits underground have significant risk reduction benefits and should generally be deployed whenever possible and economical to do so. Tracking these deployments may be valuable for assessing the utility's prioritization of mitigation activities. |
| Miles of OH Conductor Converted to UG vs. Plan | % of Plan | |
| No. Expulsion-Type Fuses Replaced vs. Plan | % of Plan | Certain targeted interventions like the elimination of expulsion-type fuses or the replacement of flammable equipment like wood poles or oil circuit breakers provide significant risk reduction benefits. Tracking these targeted interventions may be valuable for assessing the utility's prioritization of mitigation activities. |
| Flammable Equipment (Wood Poles & Crossarms, Oil CB's, etc.) Replacements vs. Plan | % of Plan | |
| Asset Inspections Completed vs. Plan | % of Plan | Some Australian companies combine this measure for the various types of inspections into an index measure that may be trended over time. |
| Vegetation Inspections & Treatments Completed vs. Plan | % of Plan | |

### Progress Measures

Progress Measures are designed to track specific actions the utility takes toward reducing wildfire risk.

| Measure | Units | Comments |
|---|---|---|
| No. / % utility-identified non-compliant (Level 1) spans in the HFTD leading up to fire season. | No. Non-Compliances or % Non-Compliant Spans | Should be evaluated as a multi-year trend or normalized on a per HFTD Circuit Mile basis. |
| No. / % right-of-way with noncompliant vegetation clearance based on applicable rules and regulations at the time of inspection | No. Non-Compliances or % Non-Compliant Spans | Should be evaluated as a multi-year trend or normalized on a per ROW Mile basis. |
| No. sectionalizing devices plus number of automated grid control devices installed per HFTD circuit mile | No. per HFTD Circuit Mile | No. devices per circuit mile is less important than location deployed & number of customers isolated. |
| Percent of residents made aware of PSPS and emergency response procedures in advance of events, according to post-event surveys. | % | May be trended over time and used for comparison with other utilities |
| Percent of residents agreeing to participate in utility wildfire risk reduction activities (e.g., allowing access to property for utility hazard tree remediation). | % | |

**Outcome Measures**

Outcome Measures track utility-caused wildfires and PSPS related impacts on communities.

| Measure | Units | Comments |
|---|---|---|
| Number of Ignitions per RFW circuit mile day/yr., *by Root Cause and HFTD Tier* | Number per RFW Circuit Mile Day/Yr. | Normalization of this measure is difficult, but is also essential. In California, they normalize based on the size of the network (Circuit Miles) and the number of high fire risk days (Red Flag Warning (RFW)) per year. |
| Frequency of PSPS Events (Normalized) | No. Events per RFW Circuit Mile Day/Yr. | Taken together and viewed as a multi-year trend, these measures provide a full picture regarding the impact of PSPS events on the community. Trending of this measure will help in the ongoing refinement of PSPS triggers and overall optimization of its use. |
| Scope of PSPS Events (Number Events x Number Circuits De-energized) (Normalized) | Number per RFW Circuit Mile Day/Yr. | |
| Duration of PSPS Events (Normalized) | Customer Hours per RFW Circuit Mile Day/Yr. | |
| Percentage of PSPS False Positives and False Negatives | % | PSPS False Positives are when the utility's situational awareness indicates that the upcoming risk level will exceed the threshold for PSPS, but it eventually does not do so. False Negatives are when the utility's situational awareness indicates that the upcoming risk level will not exceed the threshold for PSPS, but it eventually does do so. |
| PSPS Stress Test - Percent of customers experiencing PSPS given 95th and 99$^{th}$ percentile fire weather conditions along entire grid using utility PSPS decision protocols | % | This measure must be modeled and estimated based on specific weather scenarios. |

**Analysis & Filtering**

The performance measures listed above should be supported by additional levels of detail that can illuminate granular issues and provide precision insights. By utilizing a performance measurement approach that includes a detailed look at a relatively small number of measures, the OPUC can help balance the need for performance insights against the data request and processing burden placed on both themselves and the utilities.

For example, the "Number of Ignitions per RFW circuit mile day/yr" measure is straightforward and easily dissected by applying filters such as:

| HFTD Tier |
|---|
| Non-HFTD |
| All HFTD Tiers |
| HFTD Tier 2 |
| HFTD Tier 3 |

| Root Cause | |
|---|---|
| <u>Direct Contacts</u> | <u>Equipment Failure</u> |
| Vegetation | Malfunction/Defect |
| Animal | Exceeded Operating Limits |
| Balloon/Other | Improper Installation |
| Conductor Sag/Sway | Damaged Equipment |

| Circuit Type/Voltage Class |
|---|
| Transmission |
| Sub-Transmission |
| Distribution |
| Primary / Secondary |

These types of data filters may be applied to nearly any of the proposed measures

## APPENDIX D - Wildfire Risk Mitigation Maturity Model

The CPUC's Utility Wildfire Mitigation Maturity Model contains 52 fundamental competencies related to wildfire risk mitigation, organized into 10 domains. Key utility stakeholders in California have suggested that the model is well intentioned but is overly precise in some areas while lacking in others.

The following table provides a comprehensive summary of the key strategic areas and domains related to wildfire risk mitigation that should be included in the OPUC's maturity model. There are five strategic areas which strongly align with the recommended Wildfire Risk Mitigation Plan (WMP) structure in Appendix I. Within those five strategic areas there are 24 competency domains in which effective utility wildfire risk mitigation requires proficiency.

While these standards are largely consistent with the CPUC's framework, the table below includes additional content that was missing or otherwise underrepresented in the CPUC's model.

These items are highlighted by red boxes.

| Strategic Area | Domain | Competency Areas Covered |
|---|---|---|
| **Risk Management** | Risk Assessment Modeling and Estimation | Climate Scenarios, Ignition Risks, Fire Consequences, etc. |
| | Risk Reduction and Prioritization | Targeted Interventions, Prioritization of Work, Risk Spend Efficiency, etc. |
| | Program Integration and Implementation | Organizational Design, Resource Allocation Methodologies, Communications, Skills/ Training, etc. |
| | Continuous Improvement | Protocols/Processes for Lessons Learned, Near-Miss Tracking, etc. |
| **Asset Management** | Asset Inventory and Condition Assessments | Inventory Accuracy and Completeness, Condition Monitoring, Replacement Prioritization, etc. |
| | Asset Inspection and Diagnostics | Inspection Cycles, Routine vs. Non-Routine Assessments, Inspection Technologies, etc. |
| | Asset Maintenance and Repair | Maintenance Efficiency, Effectiveness and Compliance |
| | Asset Management-Related QA/ QC | Monitoring & Auditing of Inspections, Repairs, and Construction. |
| | Grid Design | Designs Supporting Ignition Risk Mitigation and Increased Resiliency |
| | Grid Hardening | Optimization of Grid Hardening Activities based on Risk |
| **Vegetation Management** | Vegetation Inventory and Assessments | Veg. Inventory Accuracy and Completeness, Growth/Intrusion Monitoring, Treatment Prioritization, etc. |
| | Vegetation Management Program Design | Risk-Based Inspections, Trimming, Treatments, and Removals, and New Technologies |
| | Vegetation Inspection Effectiveness | Inspection Cycles, Routine vs. Non-Routine Assessments, Inspection Technologies, etc. |
| | Vegetation-Specific Fire Mitigation Strategies | Strategies Supporting Ignition Risk Mitigation and Increased Resiliency |
| | Vegetation Management-Related QA/QC | Monitoring & Auditing of Inspections, Treatments, Trimming, and Removals |
| | Spend Optimization for Vegetation Management | Risk-Based Decision Making for Interventions and Prioritization of Work |

| Strategic Area | Domain | Competency Areas Covered |
|---|---|---|
| **Operations, Protocols and Stakeholder Engagement** | Situational Awareness / Understanding of Conditions | Weather Variables, Forecasting, Fire Identification, etc. |
| | System Operations and Restoration | Wildfire Detection, Protection Equipment/ Device Settings, Ignition Prevention and Suppression, Emergency Operations, Re-Energization Protocols, Post-Wildfire Restoration, etc. |
| | Stakeholder Communication and Collaboration | Liaising with Emergency Services, Customers, Government, etc. |
| **Data and Analytics** | Data Management & Quality | Data Collection, Curation, Transparency, etc. |
| | Data Democratization | Cultivation of Trust, Usability, Speed to Insight |
| | Data Literacy | Appropriate Uses, Analytical Interpretation, Data Communication, etc. |
| | Data Governance | QC, Ownership, Prioritization, etc. |
| | Analytic Solutions | Mobility, Knowledge Management, Asset & Operations Decision Support, etc. |

Additionally, the CPUC's Utility Wildfire Mitigation Maturity Model is applied using a 5-level scale that sounds judgmental, rather than descriptive of a maturation journey. The scale also revolves around the idea of a defined set of 'Best Practices.' Feedback from utilities across California suggests that this orientation is misleading and ineffective, as the 'best' practices of one organization may differ significantly from another based on fundamental differences in their operating environment. Instead, the OPUC should focus on establishing a framework that evaluates utilities based on optimum practices for each based on the specific risks and challenges they face.

The Institute of Asset Management (IAM) utilizes a 5-level scale for the purpose of Asset Management Maturity Assessment that is a strong improvement over the CPUC's approach. The table below summarizes these differences.

| CPUC Utility Wildfire Mitigation Maturity Scale | IAM Maturity Scale |
|---|---|
| 0 – Below expectations | 1 – Innocence |
| 1 – Meets minimum expectations | 2 – Awareness |
| 2 – Beyond minimum expectations but not consistent with best practice | 3 – Developing |
| 3 – Consistent with best practice | 4 – Competence |
| 4 – Improvement over best practice | 5 – Excellence |

Finally, the CPUC's Utility Wildfire Mitigation Maturity Model contains 10 Domains and 52 specific competencies in its evaluation framework. But since no weightings are applied to these competencies, in practice they are prioritized equally in the evaluation process. This was identified as a key area for improvement in discussions with utilities in California. The OPUC should solicit stakeholder input on this issue and define the relative importance of each competency, considering the unique challenges, risks, and priorities in the state of Oregon.