BEFORE THE PUBLIC UTILITIES COMMISSION
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Wildfire Safety Division
California Public Utility Commission

COMMENTS OF THE GREEN POWER INSTITUTE ON THE WMP ROADMAP

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Pursuant to WSD-001, the Green Power Institute, the renewable energy program of the Pacific Institute for Studies in Development, Environment, and Security (GPI), provides these *Comments of the Green Power Institute on the WMP Roadmap*. These comments are submitted in response to the May 11, 2020, Request for Stakeholder Input on the WSD's proposed strategic roadmap.

Opening Comments

Reducing Utility-Related Wildfire Risk: Utility Wildfire Mitigation Strategy and Roadmap for the Wildfire Safety Division, hereafter referred to as the Roadmap, is the guiding document for the wildfire risk mitigation approach and the data strategy employed therein. This document will inevitably be used as a reference to justify implementation timelines, approaches to wildfire mitigation and utility activities. It is therefore imperative that the Roadmap take a wide, yet directional and forward-thinking approach to guide the next stages of wildfire risk mitigation strategy. The Roadmap does provide a broad assessment of the existing Utility wildfire mitigation approaches, and correctly guides the development of a more comprehensive and centralized data strategy. However, it should also propel foundational aspects of the wildfire mitigation strategy toward a more mature stage before the long-term phase is reached in 2023 and thereafter.

Aspects such as comprehensive risk bowtie analyses, external collaborations, granular data reporting and analyses, and sustainable biomass residue management plans must be established prior to 2023 and the next 3-year WMP cycle. Developing tools, datasets, and methods such as these often requires multiple reporting cycles to evaluate and refine their functionality. Each of these components should therefore be in place before 2023 in order to test and refine their ability to support data-driven WMP initiative selection and prioritization in the next 3-year WMP cycle. Another cycle should not pass without the benefit of expert contributions and the proposed tools, datasets, and methods needed to

advance utility approaches to wildfire risk mitigation beyond short-term patches. The GPI recommends the following changes to the Roadmap to better prepare for the 2023, 3-year WMP cycle, and accelerate the ability of the Utilities to implement sustainable cost-effective wildfire mitigation plans:

1. The Roadmap should call for more comprehensive IOU risk bowtie analyses
2. The data and data-platform development timeline should be accelerated
3. The data platform use case implementation timelines should be accelerated
4. The Roadmap should more clearly drive the data strategy towards assessing the appropriate granularity for WMP data and analyses.
5. The Roadmap should guide the WMP towards developing vegetation management (VM) biomass residue management plans
6. The Roadmap should promote alignment with other CPUC Proceedings
7. The Roadmap should align with the CPUC Environmental and Social Justice Action Plan
8. The WSD and WMP development and evaluation process should not be moved to the California Natural Resources Agency (CRNA)

Roadmap Recommendations

1. The Roadmap should call for more comprehensive IOU risk bowtie analyses

As a governing and guiding document, the Roadmap is correct to include and address the IOU's risk bowtie frameworks (Roadmap, Appendix 3, Figures 3a-c p. 8-9). These frameworks are foundational to developing initiative and asset management prioritization approaches, as well as guiding data collection and reporting requirements. The Roadmap does not, however, go far enough in addressing the inconsistencies and inadequacies in the IOU risk bowtie analyses. Furthermore, the reference to the risk bowtie analysis is embedded in the Roadmap Appendix 3, and is not referenced in the primary Roadmap document. It should be.

First and foremost, the IOUs did not provide their complete wildfire risk bowtie frameworks in their WMP filings. This is unacceptable given that they ought to serve as the guiding framework for developing and identifying preventative mitigation controls and recovery initiatives, as well as for prioritizing those initiatives to ensure the most efficient wildfire risk and impact reduction at the least cost. While we understand that the risk bowtie analyses are developed in the S-MAP/RAMP proceedings, this does not mean that their development and use should be siloed. Indeed, the Roadmap discusses that the WMP should not be a program that operates as a silo. Developing the foundational wildfire risk bowtie analysis is no different.

Section 3.1 of the WSD Roadmap should specifically acknowledge and expound on the importance of developing and including a comprehensive risk bowtie analysis in the WMP filings. It should also clarify its important role in guiding the development of initiative prioritization decisions, RSE valuation, and data collection and reporting requirements among other developmental aspects of the WMP. As part of this acknowledgement, GPI also recommends that the Roadmap advise that complete wildfire risk bowtie analyses be required components in all Utility WMP filings, not just the IOUs, and be made available for public and stakeholder comment therein. This will enable assessment of the WMP programs and initiatives alongside the guiding risk bowtie analysis and allow for the iterative development of the risk bowtie as the WMP process and associated data reveals the most pressing risks and the full array of consequences.

The IOU's risk bowtie analyses are incomplete and require additions and iterative adjustments informed by the WSAB, WSD, CPUC, stakeholders, scientists, risk assessment experts, and public comment to fully capture the range of risks and consequences, and therefore inform appropriate selection and prioritization of mitigation initiatives, controls, and their associated RSE values. Examples of risk bowtie inconsistencies and deficiencies include:

i. Risk Event Definition – SCE's risk bowtie analysis defines the Risk Event that frames the risk bowtie analysis as "Ignition association with SCE in High Fire Risk area", while SDG&E's reads "Wildfire caused by SDG&E equipment" and PG&E's states "Wildfire

events initiated by PG&E assets specific to the fire index areas." The locational language used by each IOU varies and may influence the extent of their efforts to mitigate wildfire within their territories. The use of "ignitions" versus "wildfire" by SCE may indicate an implicit reluctance to extend their WMP initiatives beyond reducing ignition risk to include other factors affecting wildfire consequence such as fuel load and other forest management aspects related to fire propagation. The Roadmap should call for revisions to the IOU's Risk Event statements that better align with the Roadmap guidance, move Utilities towards more advanced wildfire mitigation efforts, and move the WMP process towards a more comprehensive, collaborative and long-term wildfire mitigation approach.

ii. Risk Drivers – The Roadmap guidance should more pointedly address the risk bowtie driver shortcomings and guide the IOUs towards developing a more complete risk bowtie analysis. The WSD Roadmap should also position the bow tie analysis as a foundational tool for guiding data collection and ultimately directing more risk-based and data-driven initiative implementation.

The risk drivers outlined in each IOU's risk bowtie are inconsistent and incomplete. For example, SDG&E is the only IOU that mentions the role of weather in their risk drivers. None of the IOUs mention fuel load, type, flammability, or moisture content, climate change, seasonal or annual wind/weather patterns, remoteness/terrain type or population. Even if a given driver of wildfire risk is not controllable by the utilities (e.g. wind), it must be considered as a driver of wildfire ignition risk or a factor that can affect the magnitude of the resultant consequence. These drivers have a clear role when selecting risk mitigation approaches (e.g. grid hardening and when to implement PSPS) can affect ignition consequence, and must therefore be tracked and planned for. The WSAB recommended developing a review process to identify and mitigate "black swan events" that could lead to wildfire. An iteratively developed risk bowtie analysis would be able to capture and mitigate such rare risk drivers. The Roadmap should require Utilities to include a comprehensive suite of risk drivers in their prioritization and decision-making frameworks in order to guide system developments that address naturally occurring risks.

Including a complete list of Utility ignited wildfire risk drivers in the bowtie analyses, including those outside the jurisdiction of the Utilities, and acknowledging their role in influencing the resultant consequences will clarify the need for transparency and collaboration with a wide range of stakeholders. For example, fuel load outside the Utility rights of way has the potential to affect the magnitude of a utility ignited wildfire. While managing fuel load outside the utility rights of way falls within the jurisdiction of landowners and land managers, utilities must still acknowledge the role of these risk drivers in their decision making in order to develop comprehensive approaches and collaborations that minimize wildfire risk and consequence.

iii. Consequences – The IOUs provide inconsistent categories for the risk bowtie consequences. These should be explored in more detail and standardized. None of the IOU wildfire risk bowties specifically include PSPS events as a consequence, though it may be considered a reliability consequence. PSPS events should be explicitly included because of ignition/wildfire risk. The negative impact of PSPS events have been discussed in the WSAB recommendations and by numerous parties. However, since PSPS consequences are not specifically worked into a guiding framework such as the risk bowtie analysis they have been overlooked in terms of their negative impacts, and are still treated predominantly as a preventative control. We reiterate that the WSD Roadmap should push the risk bowtie analysis to the forefront of the WMP process and position it as a foundational tool for guiding data collection and reporting, initiative prioritization, and evaluating RSE values and the overall completeness of IOU wildfire mitigation approaches. The Roadmap should also clarify that PSPS are considered a consequence in the risk bowtie framework in order to appropriately reframe PSPS as a preventative control that also inflicts negative consequences on customers, and therefore the Utilities.

A complete and comprehensive risk bowtie framework should also be capable of guiding data collection that leads to data-informed preventative and mitigation controls developed by both the Utilities (e.g. WMP initiatives) and through collaborations (e.g. fuel load management). Actions and controls that are informed by and align with a comprehensive

risk bowtie would take into account the costs of all consequences, including PSPS, via Risk Spend Efficiency values or other metrics and data-driven findings.

GPI recommends that the WSD Roadmap discuss the importance of the risk bowtie analysis in the primary Roadmap document in Section 3.1. The Roadmap should also expand on the cursory mention of the risk bowtie analysis and its lack of standardization, currently discussed in Appendix 3 (Appendix 3, p. 7). The WSD and Roadmap should position the risk bowtie analysis as a guiding framework in the WMP process, as well as call for increased standardization and comprehensiveness in identifying the drivers, the risk event in question, and the consequences of ignitions, wildfires and wildfire mitigation activities. A more complete risk bowtie analysis will clarify the need to make the WMP a more collaborative and less siloed process informed by more granular temporal and spatial data. It should serve as a guiding framework for all Utility WMPs and for the WSD, WSAB, stakeholders and the public in evaluating the efficacy and completeness of the WMPs.

2. The data and data-platform development timeline should be accelerated

The Roadmap correctly identifies that a comprehensive wildfire prevention and mitigation strategy can only be achieved through data-driven design and decision making. The WMP has a long way to go to achieve the type of data collection, reporting, and analysis needed to inform near/mid-term initiative prioritization and long-term solutions that achieve sustainable and cost-effective wildfire mitigation. We completely agree with the guidance in the WSD Roadmap and the WSAB Recommendations to develop a central data repository that will assist with data standardization, vetting, stakeholder collaboration, and accessibility across the spectrum, including supporting basic data access in the absence of expensive software (e.g. GIS) or complex multi-variate analyses. However, the WSD Roadmap plan for data type selection and establishing the data-platform is too conservative. Specifically: 1) The proposed timeline for integrating collaborator and stakeholder input into data collection and reporting decisions is too late in the process; 2) The near-term phase of data strategy has already been fulfilled via the conditional approval of Utility WMPs in Resolutions 002 – 009; and 3) The data strategy

and platform should be accelerated to the maximum extent possible to animate data-driven WMP development and evaluation prior to another WMP cycle and wildfire season.

The WSD Roadmap proposes a "WSD Data and Analytics Roadmap" (WSD Roadmap, Figure 6, p. 39) that scopes "enable[ing] collaboration with external stakeholders" in the long-term phase slated to take place in 2023 and thereafter. This is also reiterated in Appendix 3, Figure 5 (p. 13). The proposed timeline will hinder the ability to develop holistic wildfire mitigation approaches, may lead to data taxonomies and datasets that do not align with external stakeholder methodologies, will perpetuate and perhaps solidify the already siloed approach to WMP development, and may ultimately lead to ineffective mitigation approaches that fail to consider risk drivers outside of Utility jurisdiction. The GPI strongly recommends that collaboration with external stakeholders should begin in the near-term "data and analytics roadmap," and continue throughout all phases (i.e. near, mid and long-term).

We annotated Roadmap Figure 6 (see below) to illustrate how the flow of information from external collaborations with stakeholders should inform the data and analytics development process beginning in the near-term phase. For example, data collection, standardization, and reporting methods established for fuel load and moisture content by eternal stakeholders and specialists (e.g. the USFS, CalFire, wildfire scientists) should inform "building the preliminary data dictionary and taxonomy to support standardization of data inputs (WSD Roadmap, Figure 6)."

In another example, external stakeholder collaborations should help inform the "needs and use cases" of the data platform before any software development begins. This includes assessing the method and format the various data types should be presented and exportable, in order to support analyses by stakeholders and collaborating scientists; and scoping use cases that allow collaborators and the public to visualize GIS data without requiring GIS software.

The WSD Roadmap must promote establishing and enabling external collaborations in the near-term, in order to break down the siloed WMP paradigm and build a data and

analytical framework and platform that is capable of supporting a more holistic wildfire mitigation approach. Failing to make this change in the Roadmap and data development work plan will keep the WMP on a business as usual path through 2023, and possibly another full 3-year WMP cycle.

Figure 6: Proposed WSD Data and Analytics Roadmap

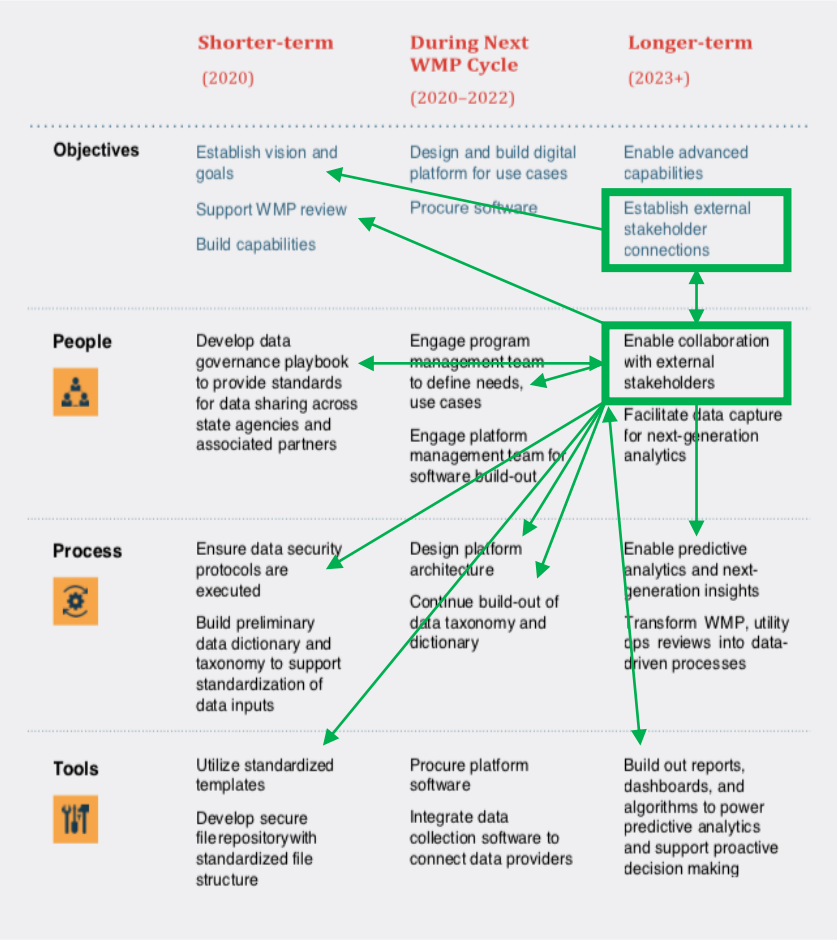


Figure 1. Annotated version of WSD Roadmap Figure 6, providing examples of how the flow of information from external collaborations should inform the development of WMP data and analytics from the near-term throughout the long-term.

The WSD Roadmap Appendix 3 also states that the "near-term use case to initialize the implementation of WSD's data strategy is targeted to be an initial review of utilities' 2020 WMPs (Roadmap Appendix 3, p. 17)." This is outdated given that all the 2020 WMPs were reviewed and either approved or conditionally approved via Resolutions WSD-002

through 009 based on the existing data structures and requests. The Roadmap should dig deeper in its near-term data strategy plans. Roadmap Appendix 3 Section 3.1.4 and associated sections should be retitled "2020 WMP review methodology," and a new section titled "Near-term WSD data strategy use case" should be added. This new section and the near-term data development strategy/use case should focus on soliciting input from external stakeholder collaborations, making data more accessible to the WSD, external collaborators, stakeholders and the public, and should use the 2020 WMPs to query what data types are required to better evaluate aspects of ongoing WMP initiatives and future WMPs.

Each of these components can be brought together by completing a second critical review of the 2020 WMPs in conjunction with additional external collaborations, this time with an emphasis on identifying what data types and formats are needed to both advance data-driven WMP development and enable a more in-depth evaluation of future WMPs, including on aspects such as *i*) the efficacy of the proposed initiatives, *ii*) overall initiative prioritization as well as spatial and temporal prioritization and asset management, and *iii*) the cost effectiveness and RSE of proposed initiatives. This second critical assessment of the 2020 WMPs can simultaneously leverage those same external collaborations and input from experts, stakeholders, and the public in order to ensure that future data is more accessible to all parties, including the WSD. We also note that external collaborations at the CPUC/WSD level may facilitate pathways for Utilities to build collaborations with the stakeholders and experts that help to develop future WMP Guidelines. For example, inputs from the USFS regarding fuel load data for a WSD-lead data strategy may enhance communication between the Utilities and the USFS and result in the inclusion of fuel-loading considerations in Utility VM programs and collaborations.

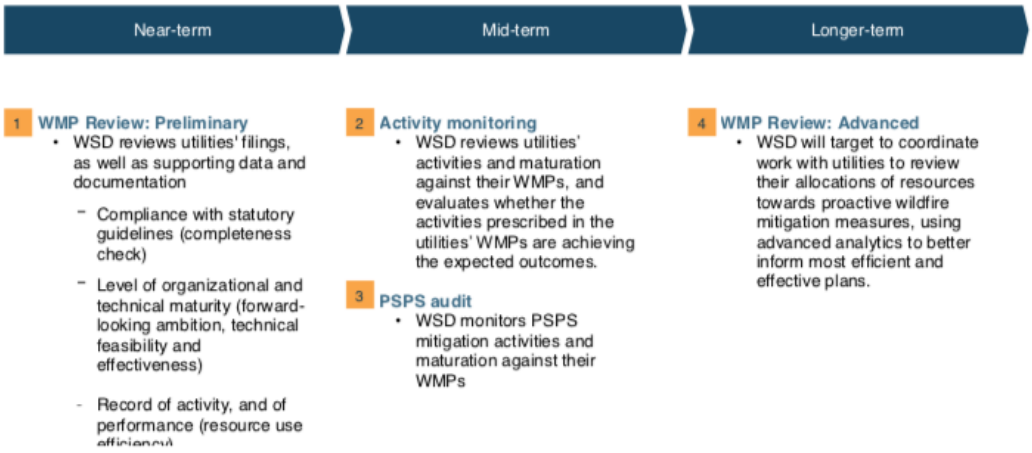
GPI also recommends that the data strategy and platform should be accelerated to the maximum extent possible to animate data-driven WMP development and evaluation prior to another WMP cycle and wildfire season. New and substantial data requests (i.e. those that are informed by a second critical review of the 2020 WMPs and currently available data) should begin off-cycle, prior to the next WMP update and 3-year cycle. Waiting to

request, compile, and integrate WMP data into a new data management platform shortly before or during a WMP update or 3-year filing cycle may strain resources for stakeholders, utilities, the WSD and the CPUC. Indeed, the Distribution Resources Plan (DRP) proceeding recently experienced this challenge when the CPUC requested additional PSPS map layers in the existing circuit-level Integration Capacity Analysis (ICA) tool shortly before the annual Distribution Investment Deferral Framework (DIDF) filings. The WMP has also seen two cycles, 2019 and 2020, and delaying the much-needed data portal for another cycle will only hamper the ability of the WSD, stakeholders, collaborators, and the public to both refine the data request and portal prior to the next WMP submission and evaluate future WMP filings.

3. The data platform use case implementation timelines should be accelerated

The defined use cases will guide the development and functionality of the data strategy in each development phase, and therefore must include the entire suite of uses intended for the data strategy and associated data platform. The Roadmap identifies four use cases "to demonstrate the benefits of the data strategy and to serve as milestones for the WSD (Roadmap Appendix 3, p. 11)." Figure 4 (Roadmap Appendix 3, p. 11) outlines the four use cases:

Figure 4: Use cases to guide evolution of utility wildfire mitigation data strategy



The near-term use case is outdated and should instead be identified as the existing data strategy and baseline approach that improvements will build on. Mid-term activities should be reclassified as near-term activities and guide the development of any additional metrics, data reporting and standardization approaches necessary to improve the evaluation of future WMPs, as well as the upcoming quarterly reports and WMP 2021 Update mandated in Resolutions 002 – 009 (i.e. Activity Monitoring). PSPS Auditing should also begin during the 2020 fire season and should therefore be included as a near-term use case in order to guide the developing data strategy. Making this use case an objective now will ensure that development work begins sooner rather than later and leaves time to refine the data strategy in future fire seasons, WMP updates and 3-year cycles. Since developing a data strategy will take time, and will likely require multiple refinement cycles, waiting to implement these objectives will only delay meeting WMP monitoring and PSPS reduction goals until well into the future.

Additional use cases are also needed to adequately guide the data development strategy. In particular, we recommend that the Roadmap include the following data strategy use cases:

Mid-term:

- Enable Collaboration – Data and data-platforms should support external collaborations including but not limited to coordination of wildfire mitigation efforts with other state and federal divisions (e.g. CNRA, USFS, CalFIRE, etc.), stakeholders, scientists and the public to leverage the knowledge of many organizations and maximize the efficacy of wildfire mitigation planning. This includes enabling data access for those with and without advanced data analytics capabilities.

  Justification: Developing a data platform and strategy to support collaboration without first surveying what collaborators need and can provide in terms of data type, granularity, and accessibility will lead to datasets and platforms that may prove ill-suited to leverage the outside collaborations they are intended to foster. While providing data platform access to outside collaborators, stakeholders, and the public

may not be a focus in the near-term, the process should incorporate the intended community in the early stages of developing the data strategy. We also note that academic contributions such as predictive modeling and multivariate analyses take time and should be enabled as soon as possible to ensure that insights are starting to be developed before 2023 and prior to the next 3-year WMP cycle. Waiting to initiate advanced analytics, including through external collaborations (i.e. WSD Roadmap, Figure 6, p. 39), in the long-term data strategy phase will mean years and numerous fire seasons will pass until the advanced analytical approaches mature and can contribute to refining the WMPs. We are also concerned that developing the data strategy based on the proposed siloed approach will hinder its ability to adequately support the envisioned advanced analytics and external collaborations.

- Inform and enable more granular risk, mitigation, and outcome assessments – Mid-term activity monitoring should begin to incorporate higher granularity data on ignitions, near misses and other wildfire risk incidences, WMP initiatives and activities and the impacts of those activities on wildfire risk mitigation (i.e. more granular outcome metrics). Data will support wildfire risk assessment and mitigation at a higher spatial granularity than the HFTDs and WUIs. For example, a more granular analysis of leading drivers and wildfire risk factors including those outside the utility jurisdiction (e.g. fuel load management) will help assess the spatial prioritization of WMP initiatives to maximize RSE values and mitigation effectiveness. This use case should begin in the mid-term development phase with an expansion of granular data applications extending through to the long-term data strategy, since the selection and buildout of granular data alone will take time.

  Justification: Both the WSD Roadmap and WSAB Recommendations identify the need for higher spatial granularity in the WMP data sets in order to prioritize initiative implementation and support asset management, but fail to specifically define this as a point of development of the data strategy. A more detailed discussion of data granularity is provided below and in Recommendation 4

Long-term:

- Inform and enable more granular risk, mitigation, and outcome assessments – Support locational analyses related to wildfire risk analysis and mitigation efforts, including but not limited to: the analysis of risk, risk reduction and RSE at a higher granularity as identified in Roadmap Appendix 3 (p. 31), and the 2020 WSAB Recommendations; the assessment and designation of HFTDs and WUI zones on an ongoing basis; and the evaluation of biomass generation and other facilities to support sustainable and value added pathways for vegetation management residues (WSD Roadmap Appendix 3, p. 33).

  Justification: This use case is a continuation and expansion of the proposed mid-term data-granularity use case. The granularity of risk assessments and mitigation initiatives is repeatedly referenced in the WSD roadmap and WSAB Recommendations. However, these guiding documents stop short of explicitly guiding the data strategy towards first assessing and determining the appropriate granularity for each data type (mid-term) needed to achieve more granular risk, mitigation, and outcome assessments (proposed long-term). The intention to increase the granularity of WMP implementation and assessments should be specified in a separate use case to ensure that the data buildout can meet the long-term goals for locational assessments including those already identified in the Roadmap: "Residual risk level by location," "Risk reduction impact by measure in each location," and "Risk-spend efficiency (RSE) by measure in each location (WSD Roadmap, Appendix 3 p. 31)."

  HFTD and WUI are anticipated to constitute dynamic versus static regions. As the repository for utility-collected, wildfire-related data, and the "single source of truth" for wildfire risk and mitigation, the data platform should be able to support refinements to HFTD and WUI zoning on an ongoing basis to ensure the locations where utility wildfire mitigation activities are focused remain up-to-date as wildfire risk zones shift with the climate and associated weather patterns. This should constitute a long-term use case as datasets are defined and locational wildfire risk is

better constrained and understood over time. Currently, the available WMP datasets are not sufficiently granular to support refinements to the HFTDs and WUIs. Establishing this as a data strategy use case will guide movement towards more granular datasets that can support wildfire risk assessments. A more detailed discussion of data granularity is provided below. A more detailed discussion of data granularity is provided in Recommendation 4.

- Enable coordination with other proceedings – The data strategy should provide and leverage valuable information from ongoing CPUC proceedings that can support WMP objectives via existing frameworks, such as reducing the impacts of PSPS and supporting state climate change goals. In particular, the data should inform and support coordination with the PSPS, Microgrid and DRP proceedings.

  Justification: Cross-proceeding coordination must be highlighted as a use case in order to guide the data strategy towards leveraging and advancing existing tools as well as creating a system that can inform other proceedings that may provide solutions to wildfire mitigation caused challenges (e.g. reliability). For example, the DRP is already developing frameworks, tools, and methodologies for identifying the impacts of customer-adopted distributed energy resources (DER) on the distribution grid, mapping interconnection capacity at the distribution circuit node level (i.e. the ICA), and implementing DER as a solution to deferring traditional distribution grid needs in order to meet system reliability requirements. Notably, the DRP proceeding has already mandated that IOUs include a GIS layer in the ICA showing the locations of wildfire risk, tree mortality, and PSPS:

  > IOUs should include the fire threat and tree mortality data from the online Commission FireMap (https://ia.cpuc.ca.gov/firemap) as layers on the DRP Data Portal online maps (Reform No. 10). This will be useful for customer siting with respect to Self-Generation Incentive Program (SGIP) resiliency incentives, for example, which may also lead to deferrals. Energy Division should explore with the IOUs to what extent and when detailed historical PSPS outage data can be provided and mapped on the DRP Data Portals in coordination with existing efforts, including those in R.19-09-009 (Reform No. 11) (Administrative Law

Judge's Ruling Modifying The Distribution Investment Deferral Framework—Filing And Process Requirements, P. 30).

The WSD should focus on plugging into other CPUC proceedings such as the DRP in order to leverage existing high-granularity mapping and resource integration tools as well as regulatory frameworks that can serve as a foundation for developing incentives and other tools suggested in the WSD roadmap. Leveraging these existing proceedings and the tools/methods/frameworks developed therein will accelerate the development process and streamline the regulatory burden on the CPUC and Utilities. A more complete discussion regarding WMP coordination with other CPUC proceedings is provided below.

4. The Roadmap should more clearly drive the data strategy towards assessing the appropriate granularity for WMP data and analyses.

The WSD Roadmap alludes to moving towards more granular risk assessments, risk reduction efforts, and RSE valuations based on the use case titled "WMP review: advanced":

> Longer-term, this data strategy – along with improved data availability – can enable the WSD to review WMP submissions and determine whether utilities have allocated resources optimally to decrease utility-related wildfire risk in the highest need areas, by potentially estimating:
>
> • Residual risk level by location: Baseline utility wildfire risk level in a particular location (assuming no mitigation measures).
>
> • Risk reduction impact by measure in each location: Degree to which a given measure lowers utility wildfire risk, multiplied by the number of years the measure is effective.
>
> • Risk-spend efficiency (RSE) by measure in each location: Ratio of risk reduction efficacy to the cost of such measure.
>
> To do so, the WSD will need to be able to access and utilize a rich, well-organized data set that includes risk drivers (e.g., climate, asset conditions, and maintenance practices), historical correlations with wildfire ignition related to utility infrastructure and propagation, and the realized impact and cost-effectiveness of

> different mitigation measures. This will require significant improvements from utilities to the availability and access related to existing utility infrastructure.
>
> Calculating the risk reduction impact and RSE, per location per measure, yields three benefits to the WSD, utilities, and broader wildfire community… (Roadmap Appendix 3, p. 31).

Additional references to use cases that require granular data inputs include:

> Stakeholders' reliance on the manual interpretation of data by experts currently affects diagnostics in three ways: … Access: Stakeholders' ability to benefit from diagnostics is often determined by the resources they have available in-house. For example, Fire Safe Councils or other community wildfire preparedness organizations do not have access to data on the type and location of fire risks, in order to prioritize their mitigation activities. (WSD Roadmap Appendix 3, p. 7).

and

> The WSD could design a subsidy program, utilizing as a template the Self-Generation Incentive Program to offset the cost of specific locations and types of power generation and management resources (reflecting the balance between wildfire, reliability, sustainability, and affordability priorities) (WSD Roadmap Appendix 3, p. 34)

The Roadmap does not, however, provide clear guidance towards establishing more granular data reporting requirements despite multiple references to data use cases that require more granular data than currently provided in the WMP. Since defining use cases for the data strategy will ultimately guide the type of data collected and the platform chosen to host the data, it is imperative that the Roadmap data strategy specifically include a use case to "Inform and enable more granular risk, mitigation, and outcome assessments (See Recommendation 3, above)." Failing to explicitly guide the data strategy towards more granular datasets early on (i.e. near- and mid-term) will hamper long-term goals to refine the locational specificity of wildfire risk assessment and mitigation efforts.

It is also imperative to include external collaborators, stakeholders, and the public in discussions regarding data granularity. This will provide insight on the granularity of existing wildfire-relevant data and how it may contribute to more granular wildfire risk assessments and mitigation efforts. For example, the WSD Roadmap states:

> With fewer small fires to reduce sources of fuel, vegetation keeps building up, increasing the potential for hotter, higher-intensity fires…To address these issues, experts calculate that as many as 15 million acres or almost half of all forestland in California need some sort of restoration (WSD Roadmap p. 14).
>
> One way for utilities to support ongoing efforts is through forest management practices. In California today it is estimated that 15 million acres of land are in need of restoration to become ecologically healthy. To accomplish this, the Forest Management Task Force has outlined a plan to reach 1 million acres of treated forests per year. This is a collective plan that utility wildfire mitigation efforts should support (WSD Roadmap Appendix 2, p. 8).

In this example, the proposed forest management work could take up to 15 years to address all the forests in need of restoration, not including ongoing management efforts as vegetation regrows over time. Locales that have not undergone restoration work may be a higher risk for incurring catastrophic wildfires from utility ignition drivers. However, the location of forest restoration efforts and/or utility wildfire mitigation initiatives could be strategically prioritized over time to mitigate utility-related wildfire risk and consequences if the WSD and Roadmap guide the data strategy towards collecting granular datasets such as planned and completed forest restoration efforts (i.e. fuel loads and types), and overlaying those data with Utility data (e.g. granular ignition and near-miss data, PSPS locations, VM locations, weather data) and other relevant wildfire risk drivers and factors impacting wildfire consequence (e.g. locations of communities in HTFD and WUI, remote high-risk locations, vegetation moisture content patterns). That is, compiling granular data from utility and external resources would allow Utilities and land managers to coordinate and prioritize wildfire mitigation initiatives both spatially and temporally in a way that cost-effectively maximizes risk reduction.

The DRP Integration Capacity Analysis (ICA) is one example of a CPUC-mandated, high granularity dataset that was developed as both a tool for use by the Utilities, the CPUC, and third-party DER developers to enable increased transparency regarding DER integration into the distribution system. This tool was developed through input by the public, third-party DER developers, the IOUs and the CPUC staff. The result was a standardized, GIS-enabled platform that provides DER developers and parties to parallel CPUC proceedings and processes, and utilities a window into the DER integration

capacity of an IOU's entire distribution system at a circuit-node level. Furthermore, the user does not need to operate GIS software to view the ICA maps, making them accessible to all stakeholders. The ICA platform can also host complimentary GIS data layers, such as the recently mandated addition of fire risk and tree mortality maps.

Developing the ICA was, notably, a major undertaking that required years of development time to establish, standardize, and refine the analysis and platform. While embarking on a circuit level wildfire risk analysis across entirety of utility territories may be out of scope for the WMP, the ICA is a prime example of a central data platform that provides transparency by enabling approved stakeholder access to complex datasets and visualizations without the need for individual software licenses. The ICA is expandable as new data types are deemed relevant to its use cases, provides both a visual platform and data export functionality, includes standardized metadata and data labeling approaches across the IOUs, and is designed to support a range of pre-defined use cases. GPI recommends that the WSD, WSAB, and stakeholders explore the ICA development process and platform as a potential model for guiding the development of a more granular wildfire risk and initiative data strategy.

Based on the time required to develop the ICA, we encourage the WSD to accelerate the development of a more granular data strategy to the near and mid-term timeframe. This will allow time to solicit input from external collaborators, stakeholders, and the public that will ultimately help establish and standardize the granular datasets and foundational display platforms prior to applying them in the proposed long-term use cases. Embarking on a more granular data strategy now will also give utilities more time to plan and develop data collection and platform approaches during the current fire season and prior to the next WMP Update filing. For example, as previously noted, the recent request to add wildfire related map layers to the ICA during a DPR filing cycle (i.e. the DIDF) put a strain on Utility resources, and led them to request an extension to an off-cycle deadline. The MWP has few "off-cycle" widows due to quarterly reports, annual update filings and initiative implementation over an ever-extending wildfire season. Launching a more

granular data strategy now will facilitate timely development and application in future WMP filings and the next 3-year WMP cycle.

5. The Roadmap should guide the WMP towards developing VM biomass residue management plans

The WMPs include substantial expansions to existing VM approaches. These expanded VM programs are anticipated to result in large amounts of biomass residues that themselves can contribute to fuel load if not properly moved off site. Even if they are moved off-site, these biomass residues are carbon-based resources with value potential, and should be treated as such. Value streams for these woody biomass materials include lumber, particle board and pellet production, and biomass generation, among other applications. Supporting sustainable wood product manufacturing and local power generation with otherwise waste biomass residues provides a clear opportunity for wildfire mitigation efforts to contribute to an overall sustainable California.

The WSD roadmap alludes to encouraging the adoption of sustainable practices in wildfire mitigation planning through statements such as the WSD vision for "A sustainable California, with no catastrophic utility related wildfires, that has access to safe, affordable and reliable electricity (WSD 2020 Roadmap)," and the long-term, Technology Assessment data use case:

> Identify opportunities to use biomass-fueled generation to improve the economics of fuel treatments. Specifically, the WSD could determine the feasibility of installing wood- fueled boilers or cogeneration at hospitals or other energy-intensive facilities located near areas requiring thinning and clearing, in order to lower the cost to transport for disposal, and to generate additional revenue (WSD 2020 Roadmap Appendix 3, p. 33).

This vision is too narrow. The Roadmap does not go far enough towards guiding the development of programs and defined frameworks that will ensure the tons of VM trimming residues and millions of trees slated for removal will be routed to a range of end-use facilities that will contribute to sustainability in California.

A program that results in the sustainable application of VM residues can address multiple goals identified in the WSD roadmap and relevant to the CPUC and utilities, including:

- "A sustainable California (WSD 2020 Roadmap Vision)" – There is no question that using otherwise waste forest products generated by the proposed VM and EVM wildfire mitigation programs to support lumber, particle board, pellet and power production is the embodiment of sustainable production methods.
- "100% sustainable forests (WSD 2020 Roadmap, p. 27)" and "driving further environmental sustainability and fuel management activities (WSD 2020 Roadmap, p. 42)" – The above recommended sustainable product pathways can support fuel management activities and sustainability, by both the Utilities and land managers, by providing revenue generated from the value-added biomass products.
- Improve reliability – The proposal to "determine the feasibility of installing wood-fueled boilers or cogeneration at hospitals or other energy-intensive facilities located near areas requiring thinning and clearing, in order to lower the cost to transport for disposal, and to generate additional revenue" could also provide local reliability services.
- Improve public perception – Integrating sustainable practices would improve public and customer perceptions of aggressive enhanced vegetation management approaches while also living up to the Roadmap vision of "a sustainable California." The utilities reference instances where customers block attempts to remove at-risk trees located on private property and outside utility rights of way. Programs that ensure the tree material is used to generate sustainable products could sway reluctant landowners.

6. The WSD Roadmap should promote alignment with other CPUC Proceedings

The WSD roadmap peripherally mentions other open proceedings related to PSPS and distribution reliability. Under "Other Critical Collaboration Areas," the Roadmap simply states that "The CPUC also has several open proceedings on topics including Microgrids and Resiliency, De-Energization, and Wildfire Mitigation Plans, that will inform future evolutions of the utility wildfire mitigation strategy (WSD 2020 Roadmap, p. 45)." Potential overlap and contributions of open proceedings, such as the DRP and Microgrid

proceedings are alluded to in the Technology Assessment component of the data strategy Long-term use case:

> Promote microgrids powered primarily by centralized renewable resources, using as an example SDG&E's Borrego Springs microgrid, serving a 2,800-resident town at the end of a single 50-mile radial transmission line. In particular, the microgrid was effective at integrating / dispatching multiple generation resources, the largest of which (a 26 MW solar plant) was intermittent (WSD 2020 Roadmap Appendix 3, p. 31).

These references are too narrow and are insufficient to guide WMP developments that consider and tap into grid planning frameworks already developed in other proceedings. They are also inadequate for effectively guiding WMP data strategies towards building datasets that can interface with other open proceedings that can address some of the impacts of WMP initiatives, such as system reliability and CO_2 emissions related to PSPS events and increases in diesel generator use.

The WSD Roadmap should more clearly and pointedly guide the WMP towards increased bi-directional coordination with existing CPUC proceedings relevant to wildfire mitigation and the impacts of mitigation initiatives including the PSPS, Microgrid, and DRP proceedings. These and other proceedings should not be viewed as providing one-way transfers of policy, frameworks, methods, and tools to the WMP, but also as ongoing beneficiaries of WMP findings, datasets, and information regarding Utility proposed wildfire mitigation approaches.

The WMP Roadmap should also explore how existing tools, frameworks, and datasets developed in CPUC proceedings can support the WMP. For example, one of the tenets of the WMP roadmap is "Reliability: limit planned and unplanned outages due to utility-related wildfires and mitigation activities Utility reliability must not be impacted significantly from wildfire mitigation activities, or from catastrophic wildfires. (WSD Roadmap, p. 28)." The WSD Roadmap Appendix 3 begins to consider and propose solutions that address distribution system reliability via the Long-term data strategy use case, stating:

> …In addition, a rich data set could be used by the WSD and utilities to inform resource planning and rate design. For example, if the WSD determined that no adequate or cost-effective measure existed to mitigate a circuit's wildfire risk, rather than either allowing the utility to spend inefficiently or to bear the extraordinary risk, they could recognize the need to use PSPS on that circuit. At the same time, interconnected customers could be encouraged to adopt local power solutions (e.g., backup generation, solar paired with energy storage, owned either by the consumer, the utility, or a third party) to allow communities to withstand frequent de- energizations.
>
> Four options are among those available to the WSD for directly incentivizing local investments in such areas:
>
> - The WSD could design a subsidy program, utilizing as a template the Self-Generation Incentive Program to offset the cost of specific locations and types of power generation and management resources (reflecting the balance between wildfire, reliability, sustainability, and affordability priorities).
> - Through rate design the WSD and utilities could recognize the reliability (and wildfire risk reduction) benefit of local solutions, either by reimbursing for services (similar to payments for ancillary services, such as voltage control) or compensating customers for the avoided mitigation measures.
> - The WSD could allow utilities to increase their distribution charges to customers located in such areas, making grid-connected power more expensive relative to the cost of procuring local generation.
> - The WSD could lower reliability requirements for such circuits, reflecting the need for PSPS, and creating a disincentive for customers to remain without a backup power source.
>
> By partnering with county and state actors, the WSD could unlock additional types of incentives, including Property-Assessed Clean Energy (PACE) Financing and low-interest loans (WSD Roadmap Appendix 3 p. 33-34).

All four of these recommendations identify using DER to address distribution system reliability. In this instance the WSD should direct the WMP process and data strategy to tap into existing, sophisticated tools, methods, and frameworks developed in the DRP proceeding that were specifically designed to meet and mitigate distribution system reliability needs. The distribution circuit node-level Integration Capacity Analysis (ICA) and ICA

map tool, for example, is a "rich" high granularity dataset that is already developed and in use by the IOUs. Use-cases for the ICA include meeting distribution system reliability needs by enabling distributed energy resource (DER) integration via both customer (e.g. Rule 21 Interconnection) and Utility interconnection pathways (i.e. the Distribution Investment Deferral Framework). Proposed ICA planning and policy use case applications include:

> The [Working Group] WG identified four general applications of ICA. The WG agrees to the characterization of Applications 1, 2, and 3. The WG is in non-consensus to Application 4…
>
> Application 1: Identification of low Integration Capacity locations which may require mitigation, or justify additional data acquisition and analysis…
>
> Application 2: Identification of locations where forecast DER and load growth may require mitigation…
>
> Application 3: Definition and prioritization of system-wide grid investments to accommodate DER or enable benefits from DER (Grid Modernization)…
>
> Application 4: Analysis of impacts and implications of potential policy interventions on the distribution grid, including but not limited to, incentives, rate changes, and tariffs…(Integration Capacity Analysis Working Group Final ICA WG Long Term Refinements Report, p. 10-11)

The Locational Net Benefit Analysis (LNBA), also developed in the DRP, is a methodology intended to assess and quantify the economic value of DER solutions based on their ability to provide distribution grid services. In association with these tools and methods, the DRP also developed the annual Distribution Investment Deferral Framework (DIDF) – a process through which distribution grid needs are evaluated and opportunities for deferral by DER solutions are identified and ultimately solicited via RFOs. All four of the ICA applications listed above, as well as the LNBA and DIDF, dovetail with and/or directly address reliability challenges caused by PSPS, and the options proposed in the WSD roadmap for locations that may be subject to ongoing PSPS as a wildfire mitigation strategy. Despite this, the WSD Roadmap fails to make even one mention of the DRP or ICA, LNBA, or DIDF therein. The WSD and the WMP should not re-invent the wheel and should first consult the DRP and any other proceedings that relate to reliability and

distribution grid needs include the PSPS and Microgrid proceedings. Providing clear guidance in the WSD Roadmap is the first necessary step to ensuring alignment between these proceedings.

Providing "rich" and granular data to other CPUC proceedings that can support wildfire mitigation approaches and impacts should constitute a mid- to long-term data use case. The DRP is already anticipating wildfire and PSPS related applications and recently mandated that the IOUs include a GIS map layer of wildfire risk, tree mortality and PSPS events in the ICA tool (Administrative Law Judge's Ruling Modifying The Distribution Investment Deferral Framework—Filing And Process Requirements, P. 30). This is a prime example that while tools, methods, and frameworks developed in CPUC proceedings should inform the WMPs, the WMP should also feed data into these existing proceedings. The DRP proceeding is still open, meaning there is increased opportunity to integrate additional information from outside sources, provide public comment, and animate its applications such as those for the ICA listed above. That is, the WSD and WMP can coordinate with the DRP to build out its abilities, the ICA and LNBA in particular, to co-locate and align wildfire mitigation activities (e.g. PSPS and grid hardening activities) with anticipated grid needs (e.g. ICA, results of PSPS) to better address system reliability in areas that need localized resiliency solutions (e.g. via customer or Utility DER solutions, infrastructure upgrades based on Grid Need Assessments and the ICA, DER adoption incentive programs).

7. The WSD Roadmap should align with the CPUC Environmental and Social Justice Action Plan

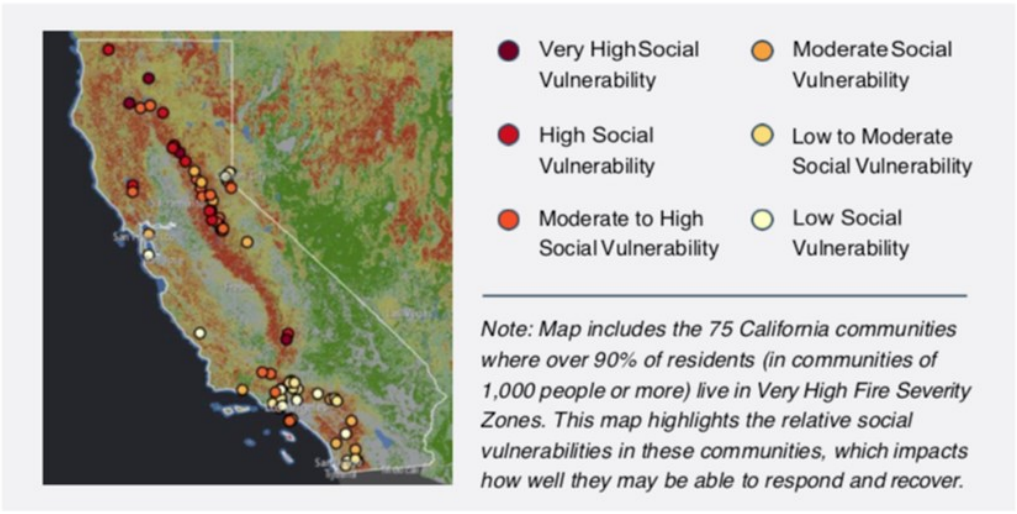
The options regarding PSPS related reliability issues posed in the Roadmap may have a disproportionately negative impact on Disadvantage Communities (DACs) located in HFTD and WUIs. Two proposed solutions to PSPS induced reliability challenges are particularly concerning:

- The WSD could allow utilities to increase their distribution charges to customers located in such areas, making grid-connected power more expensive relative to the cost of procuring local generation.

- The WSD could lower reliability requirements for such circuits, reflecting the need for PSPS, and creating a disincentive for customers to remain without a backup power source. (WSD 2020 Roadmap Appendix 3, p. 33)

Numerous communities within the HFTD and WUIs are classified as having high to moderate social vulnerability in WSD 2020 Roadmap "Figure 4: High-risk communities in California in 2019 (WSD 2020 Roadmap, p. 15)," provided herein for reference. The WSD should consult the CPUC Environmental and Social Justice Action Plan and the DAC Advisory Group to ensure DACs are appropriately considered as wildfire mitigation planning progresses and PSPS consequences are considered.

Figure 4: High-risk communities in California in 2019



Source: Direct Relief, "Which California Communities are Most Vulnerable to Wildfires?" (July 30, 2019)

Figure 2 This figure from the WSD 2020 Roadmap, p. 15, indicates the co-occurrence of DACs and HFTDs. Decisions regarding how to address the impacts of PSPS on distribution system reliability may have variable impacts on the affected communities based on their social vulnerability.

8. The WSD and WMP development and evaluation process should not be moved to the California Natural Resources Agency (CRNA)

The WSD Roadmap states:

> In 2021, the WSD will transition to the California Natural Resources Agency (CNRA), per AB 1054 and AB 111, where the WSD mission will continue as the Office of Energy Infrastructure Safety (OEIS).

> To direct their efforts, the WSD is seeking to define longer-term objectives that can support the WSD, the utilities whose Wildfire Mitigation Plans (WMPs) the WSD is charged with reviewing and approving or denying, and other relevant stakeholders in working toward both near-term and longer-term solutions.

GPI advises against enacting an organizational overhaul that moves the WMP review and approval process and role of the WSD to the CNRA. Utility related wildfire mitigation planning should remain under the CPUC due to a number of factors, including but not limited to: (1) the role of the CPUC in IOU regulation, compliance, and customer rate setting; (2) the need to align with open proceedings that are developing under CPUC jurisdiction and that relate to wildfire mitigation efforts and their impacts; and (3) the existing WSAB, stakeholder, and public network currently supporting WSD review efforts and WMP development. While we agree that the CNRA should have a substantial role in guiding and developing Utility wildfire mitigation planning, the planning process is rooted in developing electric Utility programs, regulations, and compliance mandates which are directly relevant to CPUC jurisdiction.

The WMP filings, and the direction of wildfire mitigation planning proposed in the WSD Roadmap are directly related to numerous aspects of Utility, and in particular, IOU regulatory and compliance requirements that are defined and upheld by the CPUC. These include, but are not limited to customer rates, electric service reliability standards, DER adoption incentives, data confidentiality rules, and the Environmental and Social Justice Action Plan. The WMPs cannot proceed independent of existing CPUC rules and regulations governing Utility operations and are so entwined that moving the WMP development and review process to the CNRA may hinder wildfire mitigation planning and its alignment with existing Utility requirements. The CPUC must still review decisions made in regards to WMP implementation and whether they are in compliance with existing mandates. For example, the proposed data strategy and resultant datasets requested from and provided by utilities may be subject to CPUC confidentially rules. The CPUC may need to assess and rule on allowable data confidentiality as well as determine whether the Utilities are in compliance with data confidentiality decisions.

The WMPs and associated data strategies should develop alongside, integrate with, and inform other CPUC proceedings. Coordinating with ongoing CPUC proceedings that relate to WMP initiatives and impacts, such as the PSPS, Microgrid, DRP, and WMP, can streamline wildfire risk mitigation planning. One example is the overlap between the DRP ICA, LNBA and DIDF use cases and WSD Roadmap proposals regarding distribution system reliability related to PSPS. The ICA, LNBA and DIDF, can inform or even provide solutions needed to address the impacts of PSPS and improve system reliability in HFTD and WUIs. Tools and datasets such as the ICA may also help to inform novel wildfire mitigation data strategies.

The WSD and WSAB are already established under CPUC jurisdiction to support and guide WMP development. The Utility wildfire mitigation plans, developing data strategy, and plan review process also benefit from comments from a wide network of stakeholders, including the public and environmental and social justice advocates with extensive knowledge of CPUC processes and regulations. Under the CPUC this established stakeholder network can expand to include experts such as fire scientists and land managers, called for by the WSAB and in the WSD Roadmap, and needed to provide a well-rounded assessment of Utility wildfire mitigation programs. Moving from the CPUC to the CNRA will disband the current stakeholder network and will require substantial time and resources to reestablish the expertise already committed to guiding WMP development. The WMP and the efforts of the WSD, WSAB and stakeholders should be focused on guiding the Utilities towards achieving data-driven, sustainable wildfire risk reduction approaches, not major organizational overhauls. Continuing to operate the WSD and WSAB under the CPUC, alongside the WMP proceeding, and with the support of the existing stakeholder network, while expanding that network to incorporate input from the CNRA is the most efficient approach for accelerating Utility wildfire risk mitigation efforts.

Conclusions

The GPI generally supports the WSD Roadmap but encourages changes to ensure that wildfire risk assessment and mitigation approached are more thoroughly guided by a

comprehensive risk bowtie analysis; establish external collaborations with experts and existing CPUC proceedings in the near-term to breakdown the existing siloed approach; develop pathways that result in sustainable VM residue applications; accelerate the data strategy and call for a deep-dive into determining the data granularity needed to better assess and address wildfire risk; and focus efforts on advancing the wildfire risk mitigation assessment and approaches instead of organizational overhauls.

We recommend that the Commission adopt the positions that we have taken in these comments.

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Respectfully Submitted,

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