BEFORE THE PUBLIC UTILITIES COMMISSION
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Office of Energy Infrastructure Safety
Natural Resources Agency

COMMENTS OF THE GREEN POWER INSTITUTE ON THE DRAFT 2023 WMP GUIDELINES

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The Green Power Institute (GPI), the renewable energy program of the Pacific Institute for Studies in Development, Environment, and Security, provides these *Comments of the Green Power Institute on the Draft 2023 WMP Guidelines.*

GPI appreciates the time and extensive thought put into the Draft 2023 Wildfire Mitigation Plan Guidelines. In general, GPI supports the intention to reduce narration redundancy in the WMPs, and the instruction to provide document hyperlinks that facilitate navigation between linked cross-cutting topics. We also appreciate the extensive effort made to provide examples and templates throughout the Guidelines document in order to clarify reporting and content expectations.

Our comments include structural and foundational/conceptual topics on the WMP Guidelines overall, by WMP plan section, and for the updated Maturity Model. Comments address the following topics:

- Filing deadlines should follow CPUC counting rules
- GPI recommends migrating to digitized maps on publicly accessible platforms
- GPI recommends establishing a standardized Tracking ID format
- Section 1.2.3: Add a data table with estimated rate increase for a defined residential customer profile.
- Section 4.3: Vague language continues to leave substantial room for individual utility interpretation of cost-effective risk reduction.
- Clarify reporting requirements in Section 4.3
- Section 5. Overview of the Service Territory - recommendations
- Section 6 Risk Methodology and Assessment – recommendations and packaging model and sub-model descriptions based on WMP application.
- Section 7 Wildfire Mitigation Strategy Development – recommendations
- Section 8 Wildfire Mitigation – recommendations

- Expand Section 8.2.3.1 Fuels Management to include quantitative reporting, target planning, and disposal pathway.
- Appendix A: Include additional terminology definitions
- Appendix B should be restructured to facilitate WMP Review
- Reduce the number of header levels to the maximum extent possible and separate the guidance from the WMP template structure. [Structural]
- Maturity Model recommendations

Filing deadlines should follow CPUC counting rules

OEIS briefly discussed filing deadline standards during the October 17, 2022 workshop on the Draft 2023 WMP Guidelines. Issues were raised regarding reasonable counting methods for the 3-day reply period a utility has once a data request is submitted, including the time the data request was received (e.g. 5:00 PM versus 5:01 PM. GPI does not support using the time of request for any comment or reply period determinations. GPI recommends that OEIS adopt the same deadline counting methods used by the CPUC. Namely:

- Day of receipt or filing is "Day 0"
- The response deadline is 5:00 PM of the last day of the return/comment/reply period. For example, for a data request submitted to a utility on Monday October 17, 2022 at any time of day with a 3-day reply requirement, the reply deadline would be 5:00 PM on Thursday October 20, 2022.
- If the deadline for reply comments lands on a Saturday, Sunday, or National Holiday, the deadline is updated to the next business day by 5:00 PM. For example, for a data request submitted to a utility on Thursday October 20, 2022 at any time of day with a 3-day reply requirement, the reply deadline would be 5:00 PM on Monday October 24, 2022, <u>not</u> 5:00 PM Sunday October 23, 2022.

GPI recommends migrating to digitized maps on publicly accessible platforms

GPI largely supports the updated requirements for territory-wide and more granular maps that include but are not limited to environmental modeling outputs, risk modeling outputs,

community values/demographics, and mitigation deployment plans. However, static maps of individual spatial attributes fit to standard paper dimensions have limited value for plan and model output review. Limitations of the current static maps and benefits of digitized publicly accessible maps include, but are not limited to:

Limitations of static PDF maps	Benefits of public access digitized maps
• Manually compiling and aligning static PDF maps does not support granular, spatial comparison of overlapping attributes (e.g. the location of mitigation deployments coincident with AFN, HFTD, and/or granular risk model outputs).	• Stakeholders, community members, and the OEIS could more readily compare between multiple maps using map layers to overlay spatial data on a digitized platform.
• Territory wide maps for large utilities such as PG&E and SCE have limited value due to the low granularity required to fit the map in a PDF. WMP Guidelines for providing detailed maps, and selection by the utilities regarding which detail maps are most relevant, may lead to additional data requests for granular maps of locations not provided in the WMP, or may hinder comprehensive stakeholder, community, and OEIS review.	• Digitized maps would allow for reviewers and the community to explore multiple spatial datasets at all available granularities across entire utility service territories. This elimilates the limitations of static maps fit to page dimensions as well as the subjectivity of which detailed maps a utility provides. This is especially relevant to larger utilities.
• Update frequency and accessibility for stakeholders and OEIS is limited to WMP filings and data requests.	• Map update cycles could be established independently for different spatial data

	sets and updated as appropriate outside of the annual WMP filing cycle
• Map output formats and legends are not standardized across the utilities.	• Map symbols and formats could be more easily standardized as the platforms mature.
• Maps are currently not version controlled based on the underlying inputs, assumptions, and models.	• Spatial data sets and the resulting map layers could be version controlled and retrievable for map comparison over time (e.g. changes to granular risk scores).
• Additional map requirements will increase the volume of the WMP filings. We do however agree that additional maps would facilitate WMP review.	• Moving low resolution and selected detail maps to a data portal will reduce the volume of the WMP and Appendix B while also improving functionality. WMPs can reference and provide links to access the public map portal. It may still be prudent to include some base maps in the WMP for direct reference.
• GIS data filings are not accessible resources to all stakeholders or community members since they require software and expertise to view and navigate.	• Digitized WMP maps on publicly accessible data portals would remove barriers to accessing the GIS data filings and would improve overall transparency of the WMP – this is in keeping with the intention of the WMP to engage and collaborate with the public.

The CPUC has established a precedence for the reasonableness of publicly accessible, digitized, and granular distribution and transmission system maps through the now closed Distributed Resources Plan (DRP) Proceeding and the recently established High DER (HDER) proceeding. Perhaps more importantly, the DRP and resulting online map tools

have already laid the groundwork for granular and publicly available base maps of the IOU distribution and transmission systems. Not only do these base maps already exist in public platforms, the CPUC has ruled that providing detailed distribution and transmission line maps on a public platform is allowable and is not considered confidential data.

At present the IOU distribution and transmission map portals present Integration Capacity Analysis (ICA) data (Fig. 1), as well as data from the Distribution Investment Deferral Framework (DIDF).[1,2,3] The ICA is a granular analysis of current distribution system load and generation profiles and "headroom" for all primary distribution lines across IOU territories and is updated multiple times each year (see e.g. Fig. 1). DIDF map layers include data and metadata associated with specific Distribution Deferral Opportunity Report (DDOR) projects that address grid needs on the distribution system and identify spatial variations from the Locational Net Benefits Analysis (LNBA). While these data sets are not directly relevant to the WMP they provide examples of the types of data and information formats already hosted on public distribution system data maps.

Notably, the DRP maps currently include PSPS data, as well as wildfire risk polygons that are directly relevant to the WMP (Fig. 2, 3). These maps allow users to turn on individual or multiple layers (Fig. 2), and click on specific circuits to access pop-up windows with PSPS event-specific metadata (Fig. 3). The downloads tab in each PSPS pop-up provides a direct download link to an excel file with additional event data.

[1] PG&E Distribution Resources Planning Data Access Portal [online] https://www.pge.com/en_US/for-our-business-partners/distribution-resource-planning/distribution-resource-planning-data-portal.page (Accessed 10/19/22)

[2] Southern California Edison DRPEP [online] https://drpep.sce.com/drpep/ (Accessed 10/19/22)

[3] SDG&E [online] https://www.sdge.com/more-information/customer-generation/enhanced-integration-capacity-analysis-ica (Accessed 10/19/22)

Figure 1. SCE primary distribution line map color coded based on ICA value ranges, showing specific location popup window that provides detailed information on the selected location (small blue box at center of map).

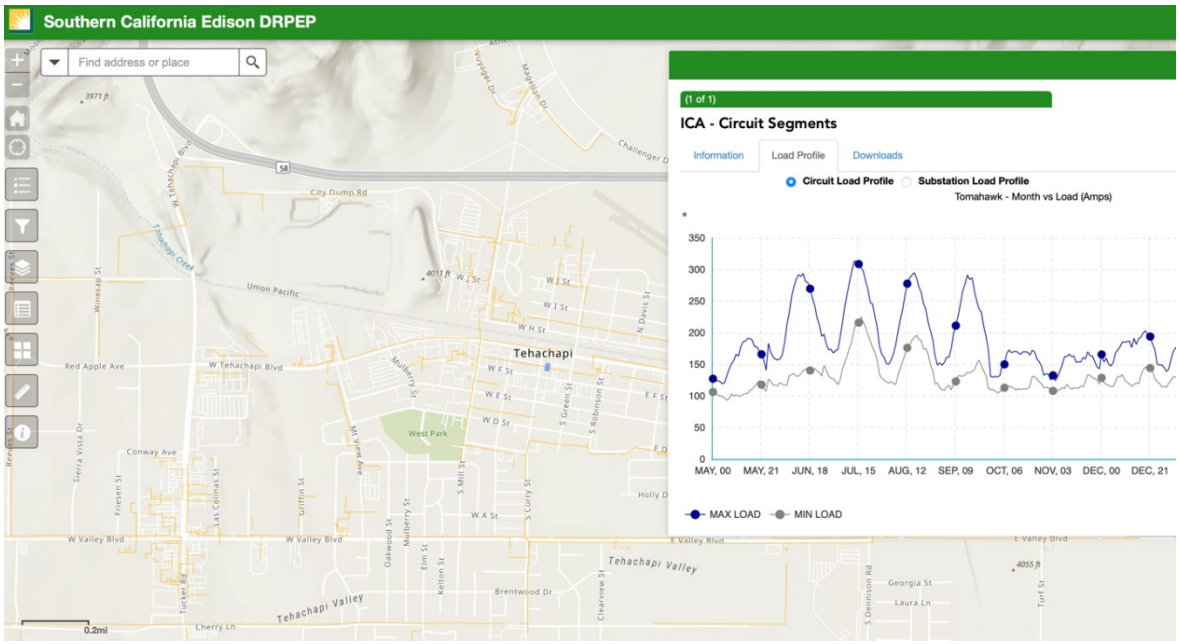


Figure 2. Multiple map layers are available to turn on or off. SCE's available layers include PSPS and Fire Threat areas relevant to the WMPs.

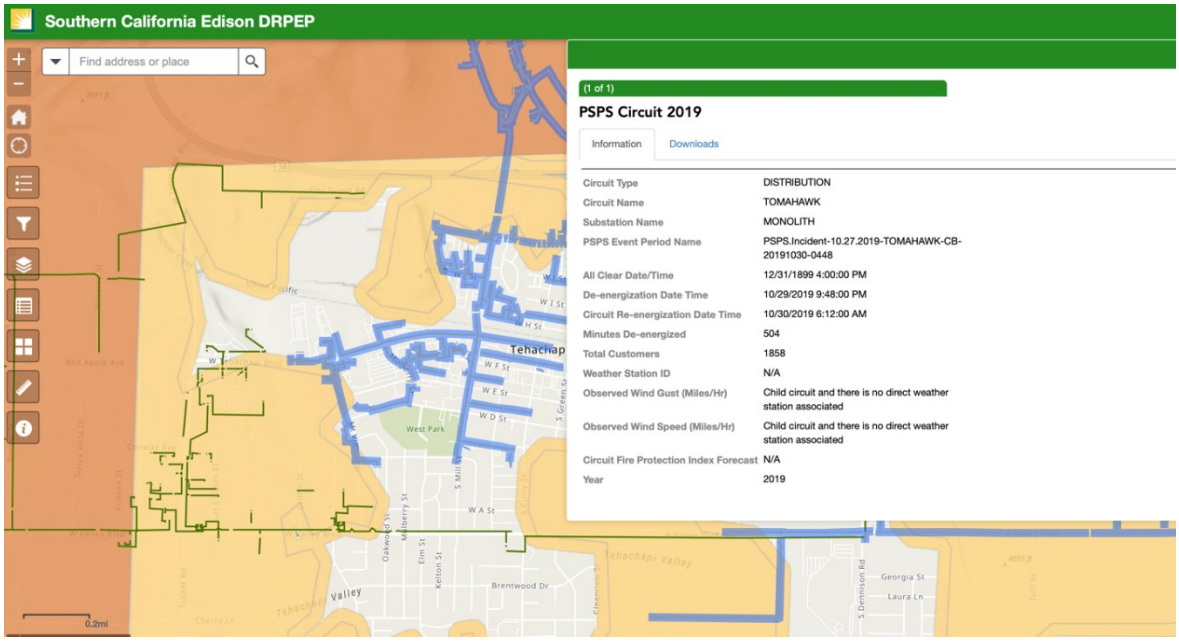
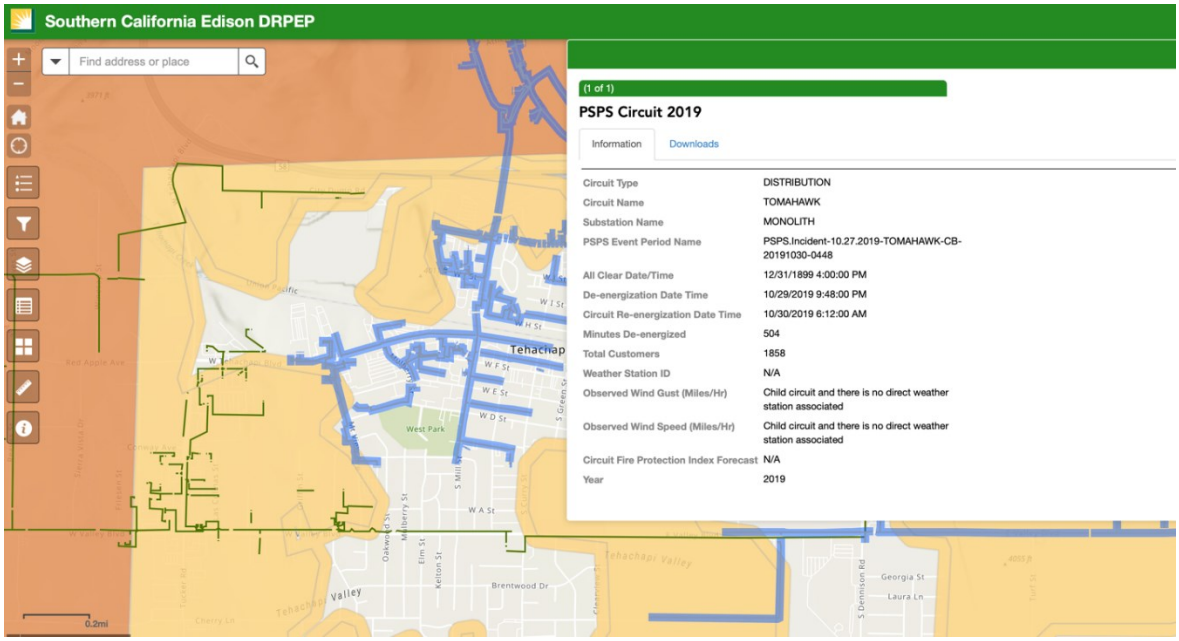


Figure 3. Example of pop out information on a circuit that experienced a PSPS in 2019.



GPI urges the OEIS to consider migrating to a digitized public access WMP map platform given the substantial review and transparency benefits that can be gained. We further recommend initiating the process in the 2023-2025, 3-year WMP cycle. The DRP data portals were developed over several years of buildout and are still under review as well as subject to update requirements in the CPUC HDER proceeding. Starting the process now would initiate a multi-year buildout plan, beginning with core data layers available by the 2024 WMP Update for subsequent review. Ideally the next 3-year WMP cycle could leverage the spatial data portal and reduce static map requirements for the next base plan. Phased buildout expectations would directly translate to Maturity Model benchmarking and survey questions. Additional discussion on our proposal to digitize WMP maps can be found in GPI comments submitted on June 30, 2020 regarding the WMP Roadmap, and comments filed on August 26, 2020 regarding the August 11-12 2020 WMP workshop and WMP WSD staff proposals.

GPI recommends establishing a standardized Tracking ID format

The Draft 2023 WMP Guidelines state:

> In the 2023-2025 Based WMP, electrical corporations must implement their own tracking system using Tracking IDs to tie objectives, targets, narratives, and initiatives together throughout the WMP. These IDs are specified in the Energy Safety Data Guidelines. Consistent IDs are to be used in WMP and QDR submissions (Draft 2023 WMP Guidelines, p. 4).

GPI is concerned that providing complete freedom regarding utility-designed and implemented tracking IDs in the WMP will lead to a different system for each utility with variable quality across the ID systems. GPI recommends standardizing the proposed tracking system to the maximum extent possible while still providing some flexibility to accommodate plan variations am
ong utilities. This will likely improve ID tracking system quality and comparison across the utility plans. Downstream updates to an inadequate utility-designed ID tracking system will introduce challenges to base and update plan review and activity tracking over the 3-year plan cycle.

<u>The WMP guidelines should include more comprehensive referencing to both WMP-relevant documents and external sources. [Structural]</u>

Additional reference citations for both WMP-related documents (e.g. OEIS, WSAB, WSD) and external data sources and references will facilitate draft Guidance compliance. For example, Draft 2023 WMP Guidelines state: "These IDs are specified in the Energy Safety Data Guidelines." However, this reference does not provide a filing year, page reference, or hyperlink. Adding these citation details either in footnotes or a reference section will facilitate document review as well as downstream application.

<u>The WMP Guidelines could manage plan size by building out page limit expectations. [Structural]</u>

It is customary for federal and state grant proposals to have strict page limits in which project proposers must convey all necessary information, putting the onus on the proposer

to provide sufficient contextual and detailed information required to select and approve a proposal within the page limit. WMPs similarly constitute proposals of a sort that are submitted for review and approval. GPI supports the new addition of page limits in the Draft 2023 WMP Guidelines. However, these page limits are only found in 15 locations within the guidelines and are not established for many WMP sections, subsections, or plan elements. Establishing page limits for as many summary/overview sections, subsections, or plan element (e.g. mitigation descriptions) as possible could help manage base plan length and reduce extensive broad and redundant descriptions. This also places the onus on utilities to provide the core information necessary to understand and evaluate each plan component within a reasonable page limit. Page limits can also signal expectations for the level of detail desired in each component. For example, a 2 page versus 5- or 10-page limit for a give section or plan element can imply expectations for more or less detail.

We further recommend clarifying the page limit expectations. For example, Draft 2023 WMP Guidelines p.6: "1. Executive Summary" sets a 10-page limit. Section 6.1.1 establishes a 5-page limit, though there is no page limit listed under Section 6.1 or for subsection 6.1.2. The Guidelines should clarify what all sections or subsections are included in each listed page limit. GPI recommends providing a table of all sections, subsections and plan elements that indicated whether and which sections have page limits. For example:

Table 2. Example of maximum page limits and table of page limits for inclusion in the Draft 2023 WMP Guidelines.

Section	**Maximum Page Limits**
Section 1 Executive Summary and all subsections	10 pages [existing Guideline requirement]
Section 2 Responsible Persons	No limit
Section 3 Statutory Requirement Checklist	No Limit
Section 4 Overview of WMP and all subsections	15 pages not including Appendix figures

Section 5 Overview of the Service Territory and all subsections	20 pages not including Appendix figures
Section 6 Risk Methodology and Assessment	
Section 6.1 Methodology	
Section 6.1.1 Overview	5 pages [existing Guideline requirement]
Section 6.1.2 Summary of Risk Models	5 pages max for each risk model summary; additional detail should be provided in the detailed documentation required in Appendix B
…	…

Section 1.2.3: Add a data table with estimated rate increase for a defined residential customer profile.

The prior WMP filings included a table with anticipated incremental monthly rate increase for a typical residential customer (e.g. 500 kwh) due to planned WMP costs. Section 1.2.3 Proposed Expenditures should include this table and define a standard of measurement (e.g. incremental, average monthly cost increase for a residential customer using 500 kwh per month, provided for each plan year and the prior three years). Years that are included in a GRC filing should provide data based on the filing, while years prior to the GRC should constitute an estimate or projection. These data are relevant to reviewing and comparing the overall cost effectiveness of utility plans while also providing transparency to the public.

Section 4.3, Table 4-1: Performance indicators and targets should be provided in totals and normalized values and should align with measured and reported performance metrics

During the October 17, 2022, Workshop, targets were defined as quantitative metrics while objectives were described as qualitative metrics. Table 4-1 Exemplar of Key Outcome-

Based Objectives for 2023-2025 WMP Cycle, requests quantitative values suggesting these are "targets," not objectives, as defined for the WMP.

Some of the targets listed in Table 4.1 are often linked to drivers outside the control of the utilities (e.g. RFW), yet the targets are not defined to include any normalization parameters or values that account for variable weather condition year over year (e.g. RFW and line miles). It is worth noting that performance indicators (e.g. number of outages, ignitions, and wildfires) were originally normalized to Red Flag Warning days (RFW) or RFW circuit mile day per year in the 2020 WMP filings [e.g.4]. The CPUC WSD came across differences in how the utilities were calculating normalized performance metrics that made the values incomparable across utilities. This resulted in adjusted reporting requirements to support independent post-filing normalizations by WSD and stakeholders.

Further, the targets presented in Table 4-1 have limited value when provided out of context relative to historic or recent performance. GPI is additionally concerned that the metrics requested in Table 4-1 do not directly align with the reporting requirements for the substantially updated Draft QDR Table 2: Recent Performance on Outcome Metrics. Without clear alignment with measured outcome metrics it will be difficult to verify whether the outcome-based performance targets in Table 4-1 were achieved.

GPI recommends:

- Align Table 4-1 in the Draft 2023 Guidelines with Draft QDR Table 2. Or preferably, subsume Table 4-1 into Draft QDR Table 2, replacing columns AA – AM with targets projections that are sequentially updated to actual values as data are collected and reported in the QDR filings. Include the table with projections in the WMP Base filing. Stakeholders can then directly compare updated QDR tables with the projection targets reported in the Base WMP.

[4] Pacific Gas and Electric company 2020 Wildfire Mitigation Plan report – Updated, Rulemaking 18-10-007, February 28, 2020. pp 2.11-16

- Define normalization parameters and calculation methods for each of the performance indicators where appropriate. Require total and normalized performance indicator values (e.g. RFW circuit mile day per year) where appropriate.

Section 4.3: Vague language continues to leave substantial room for individual utility interpretation of cost-effective risk reduction.

Section 4.3 Risk-Informed Framework states:

> The electrical corporation must adopt a risk-informed approach to developing its WMP. The purposes of adopting this approach are as follows:
>
> - To develop a WMP that achieves an optimal level of life safety, property protection, and environmental protection, while also being in balance with other performance objectives (e.g., reliability and affordability) (Draft 2023 WMP Guidelines, p. 15)

And from the CPU Code:

> In accordance with California Public Utilities Code section 8386(a), an electrical corporation must satisfy the following primary goal:
>
> > *Each electrical corporation shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment*. (Draft 2023 WMP Guidelines, p. 13)

Phrases such as "optimal level," "in balance with," and "minimize," leave substantial room for interpretation regarding the meaning of sufficient risk reduction and appropriate affordability. Failure to establish standardized risk planning thresholds or tolerances (e.g. 1-in-10-year fire, weather event etc.) means that there are no targets against which to assess if "optimal" risk reduction or "minimization" is achieved, and whether it is in "balance" with affordability. CPUC code and law implementation processes often include developing quantitative planning standards. For example, the CPUC Resource Adequacy 15-percent planning reserve margin (PRM) was designed to a 1-in-10-year outage event

standard – a measurable metric of success and that is established as an acceptable "over" procurement requirement that balances risk and affordability.

Clarify reporting requirements in Section 4.3

Section 4.3 provides a summary of concepts we interpret as OEIS evaluation metrics for a successful risk-informed framework. Figure 4-1 and Table 4-2 outline the same sever part risk informed approach as an expectation of the minimum components in a utility risk-informed framework. This section does not provide clear guidance on what the utility narrations should contain or achieve. GPI minimally recommends the following:

- Combine Figure 4-1 and Table 4-2 into one Figure or Table. Clarify if utilities are expected to include the same table/figure that is provided as an exemplar, or if they figure/table is simply explaining the expected narration components for Section 4.3. If the the former, clarify if they are expected to fill in the table/figure with methods specific to their utility. Or if they are simply to provide a narration that include the eight (8) framework elements. Clarify how the narration is different from narrations provided in WMP Section overviews and subsections. For example, how is a narration in Section 4.3 on Figure 4-1 "5. Risk Analysis", different from content required in Section 6. Risk Methodology and Assessment. This section should clarify narration expectations to ensure that redundancy with other WMP sections is minimized.

- Clarify if utilities are expected to define how they interpret "optimal" risk reduction and risk-affordability-reliability "balance".

- Clarify if utilities response to Section 4.3 will be evaluated based on its ability to achieve the four bulleted objectives. If so, define them as evaluation standards for Section 4.3 narrations.

Section 5. Overview of the Service Territory - Recommendations

Section 5.3, Table 5-3 Exemplar Existing Vegetation Types in the Service Territory could be shortened in the main body of the Base WMP by setting a reporting threshold (e.g. > 0.05%). A complete table could be provided in an Appendix. We also note that the vegetation map Figure 5-1 will have limited value at the scale of the utility provided in static format (i.e. PDF) for the purposed of granular alignment with risk mitigation locations. This could be remedied by including it as a layer in a digitized, publicly accessible map platform (See General Comments above).

Section 5.3.2 Fire History, Table 5-4, should include the risk diver (e.g. equipment failure) and a summary of the root cause of the wildfire. Utilities should be required to link the wildfire consequences and their root causes to the mitigation initiatives in the plan that will mitigate or prevent repeat/future occurrences.

Section 5.3.4 Climate Change includes two subsections: 5.3.4.1 General Climate Conditions and 5.3.4.2 Climate Change Phenomena and Trends. Section 5.3.4.1 General Climate Conditions requests:

> … provide an overview of the general weather conditions and climate across its service territory in the past 30- to 40-year period. The narrative must include, at a minimum, the following:
>
> - Average temperatures throughout the year
> - Extreme temperatures that may occur and when and where they may occur
> - Precipitation throughout the year (Draft 2023 WMP Guidelines p. 31)

This section implies the average, typical, or "general" climate conditions (e.g. temperature, precipitation) are defined as the average of conditions recorded over the last 30-40 years. Due to climate change trends in these metrics the window of data selection (i.e. year range) will significantly alter the final average. This was recently observed in the CPUC Integrated Resources Planning proceeding when the data integration window for temperature was shortened from 30 to 20 years. GPI recommends defining the years over which all utilities should provide average climate metrics (e.g. 2000-2020). This will

support comparison across utilities reports and will better reflect recent trends. We further recommend subsuming subsections 5.3.4.1 and 5.3.4.2 into Section 5.3.4 and renaming it "Climate Conditions and Climate Change." The content in these two sections is inextricably linked and are essentially variations of graphical representations of the same data types. For example, it would be logical to discuss monthly average, average(max), and average(minimum) temperatures (e.g. 20-year average) followed by annual average, max, and min temperatures for the same 20-year dataset. Subsections for temperature, precipitation, and fuel moisture data summaries would be more apropos, but are likely not necessary assuming all reporting requirements are clearly defined. GPI also recommends adding wind metrics such as average and max values over time and as a function of month since wind is a major wildfire risk driver and long-term changes in windspeed and timing can be linked to climate change.

Section 5.3.5 Topography requires an overview map of the service territory and a description of topographic conditions. GPI recommends minimally moving 5.3.5 to the start of Section 5.3 Environmental Settings since topographic maps are essentially "base maps" that provide context for other more specific regional conditions, such as temperature trends, precipitation, vegetation, wildfire spread, etc. GPI further recommends considering what the value of territory wide topographic maps and general descriptions of topography across a service territory will provide and whether this section can be removed entirely, or should at least focus topographic maps and discussions on HFTD and HFRA. We understand that topography plays a role in many aspects of the WMP (e.g. wildfire risk, suitable mitigation type, mitigation scheduling etc.). However, summarizing that a utility service territory includes coastal, plains, foothills, mountain ranges, or basins does not provide material context for whether a WMP is well designed or implemented. Rather considerations for local and regional topographic features should be included in descriptions of specific risk-informed framework components. For example, it would be more valuable to know the topographic characteristics of the highest-risk circuits and whether this introduces barriers to mitigation implementation in the near-term, or was a deciding factor in how mitigations were scheduled over the 3- and 10-year planning horizon. We also note that a topographic base layer in a digitized open-access map portal

would provide more value than what is required in Section 5.3.5 and would reduce the volume of the WMP.

Section 5.4 Community Values at Risk states:

> However, values can also include human health, natural resources, sensitive species, cultural and historical resources, and other intangibles (e.g., social capital, community culture, livelihood) (Draft 2023 Guidelines, p. 35).

GPI supports this expanded definition of Community Values and recommends formally adding Community Values and the expanded definition in Appendix A: Definitions. We also generally support the extensive plan additions required in Section 5.4 that identify various customer demographics including communities and assets at risk. GPI is particularly supportive of the addition of Section 5.4.3.2 Community at Risk and Section 5.4.3.5 Sub-Divisions with Limited Egress or No Secondary Egress per CalFIRE and the Board of Forestry and Fire Protection community lists, respectively. Leveraging the existing Subdivision Review Program's work can close the gap on ingress/egress considerations in utility wildfire risk planning and can also serve as a comparison tool to utility ingress/egress models to assess whether territory wide models are capable of capturing ingress/egress limited communities. Similarly, the Communities at Risk list can help corroborate wildfire risk model outputs in addition to supporting risk-informed decision making.

Our largest concern with Section 5.4 is that it is focused on describing risk factors. Simply identifying a wide range of risk factors does not mean that these risk factors are being taken into account in risk models or in risk-informed decision making. For example, the list of subdivisions with limited egress or no secondary egress that coincide with the highest risk circuits could inform mitigation type and scheduling prioritization for both the egress/ingress route(s) and the community. In a risk informed framework description, utilities should be required to explain if and how they take into account each known risk metric, either quantitatively or qualitatively, when selecting mitigations and scheduling implementation on a granular basis. This could be improved by requiring that each Section

in 5.4 include a summary of how and where each risk element is taken into consideration, either quantitatively or qualitatively.

Section 5.4.3.1 Individual at risk of wildfire requires a narrative of total people and population density across a utility service territory. This information is redundant to Section 5.1, requesting a description of "number of customers served." Section 5.4.3.1 request for population density maps is redundant to Section 5.4.1 Urban, Rural, and Highly Rural Customers, which requires descriptions and maps of these defined populations where the formal definitions are directly linked to population density. GPI recommends consolidating this information into one section and eliminating population density maps, while retaining maps of defined urban, rural, and highly rural regions. Interpretation of population density maps are more subjective compared to defined terms (e.g. rural) for geospatial mapping, which are comparable across utilities and for discussion purposes.

Section 5.4.2 Wildland Urban Interface (WUI) requires utilities to

> …provide a geospatial map showing its service territory (polygon) overlaid with the distribution of WUIs (raster or polygon) and overhead transmission and distribution circuit miles (Draft 2023 WMP Guldelines, p. 36).

This is the only map which requires an overlay of the OH transmission and distribution system along with additional geospatial information, in this case WUI. GPI generally supports map overlays as a helpful way to compare planned WMP work with other geospatial characteristics. However, a static service territory map that is fitted into the main body of the WMP will not be able to show the distribution system of most utilities, except perhaps Bear Valley Electric Service. The Distribution system is simply too complex and dense to show in a 8.5 x 11 PDF map. It may even be challenging to view WUI polygons on a PDF map of the largest utilities (e.g. PG&E and SCE). This map requirement should be removed and replaced with maps that show the locations of WUI on a scale that is visible in PDF page format. For maps such as WUI overlays with utility infrastructure, GPI urges the OEIS to require a migration to digitized, open-access online mapping platforms for all spatial WMP data (See comments above).

Section 6 Risk Methodology and Assessment – recommendations and packaging model and sub-model descriptions based on WMP application.

GPI interprets Section 6: Risk Methodology and Assessment as focusing on risk planning models, versus risk operations model. Planning models inform granular baseline risk (i.e. LoRE x CoRE) and resultant risk reduction expected from various mitigations, and are designed to guide wildfire mitigation selection and prioritization, including optimizing RSE and affordable risk buydown. Data inputs include historic risk and locational attributes (e.g. ignition events and conditions). Operational models are focused on monitoring real-time risks such as weather and fuel moisture conditions, and using these data to inform when to enact PSPS and other grid-operating standards (e.g. cease work that could result in an ignition, EPSS, re-closer settings, etc.). Planning and operational modelling efforts include related data inputs and assumptions, though the design, purpose, and outputs are tailored to different applications. Risk modeling working group discussions have raised the issue that clarifying between planning and operational risk models would facilitate information request responses and technical discussions. GPI generally interprets Section 6 as focusing on risk planning models, versus operational models.

We minimally recommend including "planning" versus "operational" risk modeling terminology in the WMP guidelines to clarify among expected narrations for each risk modeling section. For example, Section 6.4.3 Other Key Metrics and Indicators under Section 6.4 Risk Analysis Results and Presentation, references Fire Potential Index, stating:

> **Fire Potential Index (FPI)** – Landscape scale index used as a proxy for assessing real-time risk of a wildfire under current and forecasted weather conditions. The electrical corporation must specify whether it calculates its own FPI or uses an external source, such as the United States Geological Survey.

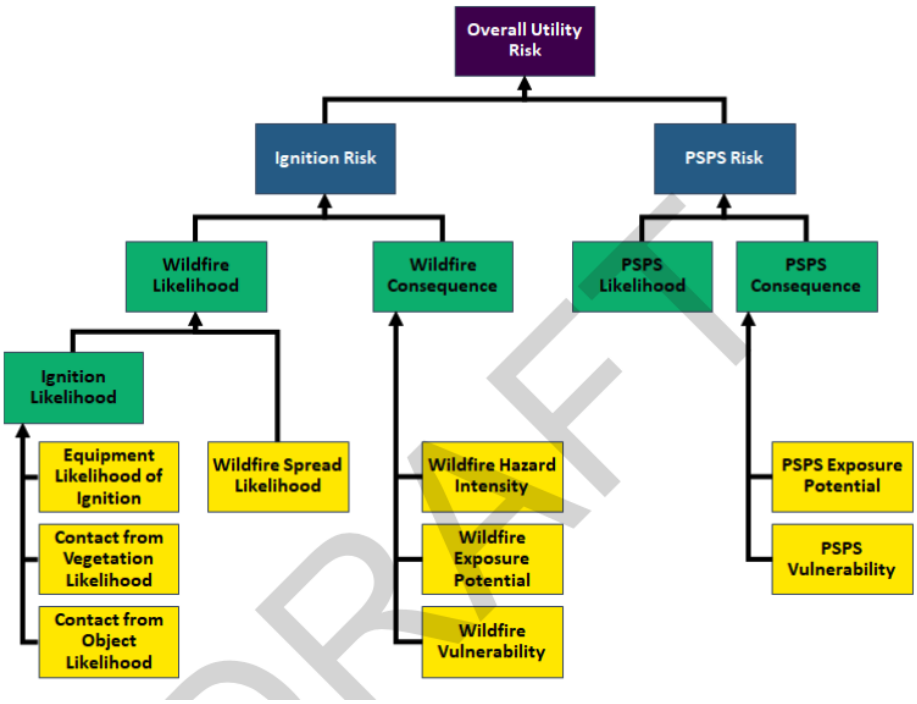
"Assessing real-time risk" implies a narration request for an operations application, nested within Section 6, which is otherwise largely focused on planning models.

Taking into account Section 6 as a whole, we recommend packaging model and sub-model descriptions based on their application in the WMP, or the big-picture purpose (Figure 4). We operationally define modelling packages as the combination of multiple sub-models, inputs, and assumptions in a way that produces an output with a specific WMP application, namely planning or operational decision making. The current guideline structure combines model component descriptions based on cross-cutting model/sub-model elements (e.g. the assumptions and limitations for all planning model modules or elements). For example, Section 6.3 Key assumptions and limitations would include all model assumptions and limitations for wildfire and PSPS, LoRE and CoRE values that go into Wildfire risk and PSPS risk planning models. The CoRE components alone will include inputs, assumptions, and limitations of at least Technosylva wildfire risk models, MAVF conversions, and PSPS consequence calculations. The reviewer will have to discern from this extensive section which elements affect which functional model outputs for the purpose of planning and operations decision making. Further, a reviewer that is assessing the impact of, for example, Technosylva model methods, inputs, assumptions, limitations, and outputs for a specific decision-making output (e.g. granular planning risk values) will have to cross reference between large plan sections that include model elements not relevant to, or differently applied to other model output applications (e.g. operations, PSPS planning risk).

Section 6.1 Methodology has two subsections: 6.1.1 Overview and 6.1.2 Summary of Risk Models. The 6.1.1 Overview section requires utilities to "describe the methodology and underlying intent of this risk assessment" and refers to technical details in Appendix B, while the 6.1.2 Summary of Risk Models requires utilities to "summarize the calculation approach for each risk and risk component," and provide "a quick summary of the models used." The distinction between providing the risk assessment "methodology" and "calculation approach" is not entirely clear. GPI recommends updating the language in 6.1.1 Overview to use proposal terminology such as "background," "need statement," "goals," and "objectives" for wildfire and PSPS risk planning models. Section 6.1.2 can then focus on summarizing overall wildfire and PSPS risk planning models and sub-model method summaries that include methodologies (e.g. machine learning models),

Figure 4. WMP Guidelines Figure 6-2, amended with boxes to illustrate application focused model documentation packages.

Figure 6-2. Composition of Overall Utility Risk (purple); Utility-related sources of risk including Ignition and PSPS Risks (blue); Intermediate Risk Components (green); and Fundamental Risk Components (yellow)



calculations, inputs, outputs, units, etc. In this progression, the models, inputs and outputs summarized in Section 6.1.2 would be expected to fill the need, goals, and objectives defined for the wildfire and PSPS risk planning model effort. These sections are cross referenced in comments/recommendations on Appendix B Risk Methodology and Assessment below.

Section 6.2 Risk Analysis Framework is presented after methodology overview (6.1.1) and summary risk models (6.1.2). Section 6.1.2 Summary of risk models identifies models with outputs that align with the components of the risk analysis framework and component identification in Section 6.2. GPI suggests moving Section 6.2 – the framework – to the beginning of section 6. Risk frameworks are more fitting with the core proposal elements "background," "need statement," "goals," and "objectives" discussed above, and should be presented prior to outlining "how" and "what" models are needed to quantify the

framework components (e.g. content in Section 6.1.2). Section 6.2.2 "Risk and Risk Component Calculation" states utilities "… must provide schematics illustrating the calculation of each risk and risk component as necessary to demonstrate the logical flow from input data to outputs…" This is redundant to Section 6.1.2 "Summary of Risk Models," which requires utilities to "summarize the calculation approach for each risk and risk component."

Section 6.3 Risk Scenarios, introduces a new concept of design basis scenarios. GPI interprets this as a move towards defining risk planning standards that inform electric system designs capable of safe operation during a set of defined environmental conditions (e.g. see comments above regarding vague language and the role of planning standards). We provide the following comments and recommendations on Section 6.3:

- GPI generally supports the new addition of design basis scenarios and their potential to standardize risk modeling scenarios and mitigation design standards. However, this update will take some time for the utilities to implement. Furthermore, the potential design basis scenarios for section 6.3.1 for four wind conditions, two weather conditions, and three vegetation conditions total 24 design scenario combinations. Without constraining the number of scenarios and/or defining specific scenario combinations, each utility may select and model different design scenarios. With WMP filings only 4 months away and the WMP guidelines still under review, we recommend clarifying requirements for complying with Section 6.3 including: (1) specify three design basis scenarios; (2) Require utilities to model at least two of three specified design basis scenarios for the 2023 WMP filing; and (3) Require utilities to propose a plan to model and evaluate additional design basis scenarios based on the outcomes of (1).

- Consider establishing standard design basis scenarios with optional design basis sensitivity modeling.

- Design basis scenarios (Section 6.1.3) require utilities to integrate wind and weather condition data over a 30-year historical period. GPI recommends

evaluating whether integrating over a 30, 20 or 10-year historical period will alter design basis inputs for wind, temperature, and other environmental data. Integrating data over longer time frames (e.g. 30-years) may average out or weaken recent climate change trends compared to using shorter, more recent data horizons (e.g. 20 year lookback).

- Provide a mathematical definition of what is meant by "Weather Condition 1 – Anticipated Conditions" and "Weather Condition 2 – Long-term Conditions" For example, 1-in-2 and 1-in-10 weather conditions.

- For Extreme Event Scenarios, GPI recommends setting a minimum extreme-event scenario assessment for the 2023 WMP (e.g. one or two extreme event scenarios), and require utilities to propose a plan to analyze additional scenarios in future WMP cycle years.

For Section 6.4-7, GPI recommends the following:

- [6.4] Require utilities to provide a map of their wildfire and PSPS risk planning model outputs, as well as separate layers for LoRE and CoRE risk components. This would be best achieved through a digitized, open access mapping platform.

- [6.4] Define the differences between "High fire threat areas," "high fire risk areas," "areas with heightened risk of fire," and High Fire Threat Districts, including any modeling, input, and assumption basis or relevant references (e.g. CPUC documentation resulting in the HFTD map).

- [6.4] Add likelihood of ignition and wildfire consequence scores to Table 6-5. Flattening risk scores to wildfire and PSPS risk does not provide insight into how utilities are aligning mitigations with specific risk drivers and risk components.

- [6.5] Reference the term "data governance" in sections referring to Enterprise systems in order to support alignment with Maturity Model data governance references.

- [6.6.1] Require utilities to append the most recent independent model review report(s) to the WMP.

- [6.6.2] Clarify the narration and reporting elements expected for Section 6.6.2 Model Controls, Design, and Review. For example, what is required to exhibit modularization of risk models that is not available in the detailed model and version control documentation required in Appendix B. Can Section 6.6.2 be consolidated into the detailed model documentation in Appendix B?

- [6.7] Require utilities to provide a timeline for implementing, testing, and subsequently applying successful risk assessment updates to mitigation planning.

Section 7 Wildfire Mitigation Strategy Development – recommendations

GPI provides the following recommendations for Section 7:

- [7.1.3 Risk-Informed Prioritization] Regarding the statement: "For each of the risk scenarios discussed in Section 6.2, the electrical corporation must develop an initial prioritization list based solely on quantitative risk (2023 WMP Guidelines, p. 74)."

    - Clarify if "Risk Scenarios" is referring to the design scenarios in Section 6.3 Risk Scenarios, versus the reference to Section 6.2. Risk Analysis Framework. Also clarify if section 7.1.3 is requiring multiple prioritization lists each based on a design basis scenario.

    - Clarify how the requested prioritization list in 7.1.3 is different from the summary of top risk circuits/segments required in Section 6.4.2 Table 6-5 (Draft 2023 WMP Guidelines, p. 64-65). Instructions for Section 6.4 require, "a high-level overview of the risks calculated using the approaches discussed in Section 6.2 for the scenarios discussed in Section 6.3," and Table 6-5 requires a ranked list of circuits/segments with significant per-mile normalized risk, operationally defined as contributing > 1 % of the total risk, or ranks in the 95th percentile of risk.

The list required in Section 7.1.3. is by and large a subset of the tabulated list required in Table 6-5, GPI recommends combining these tables to facilitate review. For example, include all circuits/segments common to both lists (Section 7.1.3 and Table 6-5) and add columns to the new table for year/quarter of planned work and corresponding mitigation. Since there are many mitigation options, some with long-term risk reduction (e.g. covered conductor) and some on rotating cycles (e.g. annual VM), the WMP Guidelines would benefit from considering how these different mitigations can be best reported in the new table.

- Move the combined new Table 6-5/Section 7.1.3 list to an Excel workbook and eliminate it from the WMP Base Plan PDF. The functionality of this table in PDF format will be limited and will extend the length of the WMP Plan without much benefit for review purposes. Benefits of an Excel worksheet format include: (1) Easily add columns to reduce information replication in Table 6-5 and Sections 7.1-2., and to improve functionality by compiling risk and mitigation selection, and justification in one table on a circuit/segment granularity (e.g. mitigations considered, mitigation selected, reason for selection, year of planned work, status); (2) Reviewers can explore/plot risk rankings and planned work; (3) Large tables are removed from PDF format in the Base WMP and are not relegated or replicated in the Appendix due to space limitations. This expanded, Excel based table would serve as a primary reference that compliments generalized process narrations in Sections 6 and 7. The table can be considered/termed "Grid Risk Assessment"

- [7.2.1 Overview of Mitigation Initiatives] Moving the required geospatial maps (e.g. "Geospatial area(s) where mitigation will be deployed") to an online, open access mapping platform will improve review.

- [7.2.2 Anticipated Risk Reduction] Add a column for anticipated risk reduction to the new "Grid Risk Assessment" table.

- [7.2.2.1 Projected Risk Reduction over Three-Year WMP Cycle] This section requires:

  > Map of geospatial mitigation implementations over the three-year WMP cycle
  > Tabular summary of numeric risk reduction for each high-risk circuit, showing risk levels before and after mitigation. This must include the same circuits presented in Section 6.4.2 (Draft 2023 MWP Guidelines, p. 80).

  These elements are redundant to the maps required in Section 7.2.1. Tables required in 6.4.2, list required in Section 7.1.3 and Table 7-2 also have redundant components and spread-out linked information across multiple lists and tables. GPI strongly recommends consolidating the mapping and tabulated/listed circuit specific requirements from Sections 6 and 7 into fewer maps and a single refence table in Excel.

  Percent risk reduction or impact ("x% risk impact") required in Table 7-2 is relative to granular baseline risk and should be considered with caution (Draft 2023 WMP Guidelines, p. 80). For example, a substantial risk reduction on a circuit with already relatively low risk would produce a large percent risk impact, however the overall investment may not be cost effective or contribute to substantial total risk reduction. GPI recommends removing % risk impact requirements from section 7.2.2.1 and instead requiring that utilities provide the baseline (i.e. "risk before") and post mitigation (i.e. "risk after") values. Once quantitative risk values are compiled into an Excel "Grid Risk Assessment" table, along with the consolidated information recommended above, it would be easy for a reviewer to calculate percent risk impact and assess the relevance of % risk impact given all the quantitative inputs and supporting information (e.g. mitigation type etc.).

- [7.2.3 Summary of Mitigation Initiatives and Activities] This section requires detailed implementation strategy for each mitigation initiative including:

  > High-level overview of the mitigation initiative
  > Implementation plan, including schedule and monitoring of progress

Documentation of the need for and selection of interim strategies (see Section 7.2.4)

This information should be moved to Section 8: Wildfire Mitigations

Section 8 Wildfire Mitigation – recommendations

GPI provides the following recommendations for Section 8:

- Clarify how Table 8-5. Exemplar Grid Design, Operations, and Maintenance Performance Metrics Results by Year and Table 8-15 Exemplar Vegetation Management and Inspection Performance Metrics Results by Year, differ from performance metric tables in the QDR excel template. Replicating information provided in the QDR excel tables, in PDF format in the Base WMP is redundant and adds to the length of the WMP. Furthermore, tables with numerical entries have extremely limited value in PDF format – the data cannot easily be sorted, plotted, or normalized in order to explore trends. GPI recommends eliminating PDF format tables in the WMP narration that are all replicated or redundant to QDR data tables; and instead require utilities to include the QDR excel table workbook with year-end data (e.g. 2022 for the 2023 WMP filing) as part of the WMP filing Package. These tables should be referenced in text in the WMP and will provide a more functional data format for review purposes.

- [Section 8.1 Grid Design, Operations, and Maintenance] We are especially concerned regarding the readability of Section 8 and in particular Section 8.1 Grid Design, Operations, and Maintenance. While these mitigations are related, grouping them in a way that relegates complete descriptions of twelve (12) grid design and system hardening mitigations under level 4 headings will make primary topic tracking difficult. GPI recommends separating Section 8.1 in the three level 2 sections: 8.1 Grid Design; 8.2 Operations; 8.3 Maintenance. There is no information loss from this approach (Table 1). Each level 2 section can include an "overview."

- [Section 8.1.8.2 Grid Response Procedures and Notifications] This requires a narration that includes notification of personnel and suppression resources. GPI recommends reducing redundancy to the extent that this information intersects with Section 8.4 Emergency Preparedness and elements therein, such as: Wildfire and PSPS emergency preparedness plan; Collaboration and coordination with public safety partners; Preparedness and planning for service restoration.

Table 1. Example for restructuring Section 8

Draft Guideline Sections	Recommend Restructuring
8. Wildfire Mitigations	8. Wildfire Mitigations
8.1 Grid Design, Operations, and Maintenance • Grid design and system hardening • Asset management and inspections • Distribution inspection • Transmission inspections • Substation inspections • Equipment inspections, maintenance, and repair • Asset management and inspection enterprise system(s) • Quality assurance / quality control • Open work orders • Grid operations and procedures • Workforce planning	8.1 Grid Design and System Hardening Overview • Objectives • Targets • Performance Metrics [Narrations can reference tables that compile required tabulated data from all mitigation types.] 8.1.1-12 [Mitigation name]
8.1.1 Overview 8.1.1.1 Objectives 8.1.1.2 Targets 8.1.1.3 Performance Metrics	8.2 Asset Inspections Overview • Objectives • Targets • Performance Metrics 8.2.1-n [Inspection name]

8.1.2 Grid Design and System Hardening 8.1.2.1-12 [mitigation name]	8.3 Equipment Maintenance and Repair Overview • Objectives • Targets • Performance Metrics 8.3.1-n [Equipment Types] …
8.1.3 Asset Inspections 8.1.3.n [inspection name]	8.n Workforce Planning: Grid Design, Operations, and Maintenance
8.1.4. Equipment Maintenance and Repair …	
8.1.9 Workforce planning	

Expand Section 8.2.3.1 Fuels Management to include quantitative reporting, target planning, and "disposal" pathway.

The management of fuels and slash is separated into multiple subsections within Section 8.2.3 Vegetation and Fuels Management, such as subsection 8.2.3.1 Fuels management:

> In this subsection, the electrical corporation must provide an overview of fuel management activities, including:
>
> • Pole clearing per Public Resources Code section 4292
> • Reduction or adjustment of live fuel (based on species or otherwise)
> • Reduction or adjustment of dead fuel, including all downed wood and "slash" generated from vegetation management activities (Draft 2023 WMP Guidelines)

Subsection 8.2.3.2 Clearance:

> In this subsection, the electrical corporation must provide an overview of clearance activities, including:
>
> - Clearances established in excess of the minimum clearances in Table 1 of GO 95
> - The bases for the clearances established

Subsection 8.2.3.6 Fire-wise Right-of-Ways:

> In this subsection, the electrical corporation must provide an overview of its actions (including strategic use of herbicides, growth regulators, or other chemical controls) taken to promote vegetation communities that are compatible with use of the land as a utility right-of- way, sustainable, and fire-wise, and actions to control incompatible vegetation, on the landscape where electrical equipment operates.

Each of the above, plus many other vegetation management mitigations, deal with fuel or forest product cutting that result in the production of slash and/or woody biomass. However, there are no sections in the WMP Guidelines that require utilities to comprehensively describe their slash and woody biomass removal and disposal process or end-point. For example, the WMP does not require information on the "lifecycle" or final disposal method for the thousands to millions of pounds of vegetation slash and woody materials removed every year during vegetation management activities. GPI strongly recommends building out Section 8.2.3.1 Fuels Management, to require utilities to report on:

- The total estimated slash and woody biomass produced in the prior year.
- Who manages the disposal of the material (e.g. contractors, utility directed disposal).
- Where and how the material was disposed of and an estimate of the percent total for each method (e.g. lop and scatter/ chip and distribute 50 %, landfill disposal 30%, Biomass facility 5 %, Other – industry use 15 %).
- Provide a plan to improve on fuels management sustainability and environmental impact (e.g. decrease contributions to dead and down fuels, reduce landfill disposal).
- This additional reporting requirement should be added as a maturity survey Scoring Philosophy, with 0 – 4 scoring based on the existing breadth of fuels and slash management reporting across the 2020-2022 WMPs. The tables provided by Liberty in their 2022 WMP on Fuel Management and Biomass removal (Table 2, 3) represent current best practices in reporting standards and can be used as a guide for WMP Guideline reporting requirements as well as current best practices benchmark in a Maturity Survey Scoring Philosophy.

Table 2 Partial reproduction of Liberty 2022 WMP Table 7.3.5-3

Table 7.3.5- 3: Liberty Fuel Management Projects

Initiative Name	Project Category	Project Name	Line Miles	Acres Treated	Trees Removed	Landowner Participation	Tons of Biomass Removed
FUEL MANAGEMENT	COMMUNITY FUEL REDUCTION	TOWN OF TRUCKEE - GLENSHIRE	11	13.3	48	1	N/A
FUEL MANAGEMENT	COMMUNITY FUEL REDUCTION	SUNRISE CREEK	0.27	1.09	96	5	N/A
FUEL MANAGEMENT	COMMUNITY FUEL REDUCTION	RAINBOW TRACT	0.1	0.89	12	1	6.38
FUEL MANAGEMENT	LANDOWNER PARTNERSHIPS	TC 5201 CALTRANS	0.56	2.03	55.75	1	5.29
FUEL MANAGEMENT	SUBSTATION DEFENSIBLE SPACE	MEYERS SUBSTATION	0.56	9.59	320	N/A	140.49
FUEL MANAGEMENT	LANDOWNER PARTNERSHIPS	HAWKINS RANCH RD	0.18	0.36	10	1	N/A
FUEL MANAGEMENT	COMMUNITY FUEL REDUCTION	HIGHLANDS HOA	3	5.45	339.97	106	168.08

Table 3 Partial reproduction of Liberty 2022 WMP Table 7.3.5-4

Table 7.3.5- 4: Biomass Removed

Project	Contractor	Tons	Facility	End Use	Date
CUSTOMER FUEL TREATMENT	RK	50.5	Eastern Regional Landfill	Wood chips	5/13/2021
CUSTOMER FUEL TREATMENT	RK	19.07	Full Circle Compost	Wood chips	5/19/2021
RAINBOW TRACT	MFE	3.93	South Tahoe Refuse	Compost/ mulch	6/2/2021
RAINBOW TRACT	MFE	2.45	South Tahoe Refuse	Compost/ mulch	6/4/2021
TC 5201 CALTRANS	MFE	5.29	Eastern Regional Landfill	Wood chips	6/16/2021
CUSTOMER FUEL TREATMENT	RK	12.66	Eastern Regional Landfill	Wood chips	6/21/2021
CUSTOMER FUEL TREATMENT	MFE	12.85	Eastern Regional Landfill	Wood chips	6/28/2021

Subsection 8.2.3.6 Fire-wise right-of-ways focuses on chemical treatments. This is a very narrow definition of "fire-wise." GPI recommends renaming this section

Chemical vegetation management and requiring utilities to explain how each VM practice, separate and in concert, result in "Fire-wise rights-of-way". Ideally VM programs will reduce the need for chemical treatments through holistic "fire-wise" approaches that can include many mitigations that together reduce wildfire risk (e.g. clearances combined with lower-fire risk native vegetation and slash and fuels removal).

Appendix A: Include additional terminology definitions

GPI recommends adding definitions to Appendix A for the following terms:

- Data Governance
- "high fire threat areas," "high fire risk areas," and "areas with heightened risk of fire"
- Operational risk models
- Outcome
- Output
- Planning risk models
- Target
- Performance metric – clarify is this is a synonym of "Outcome-based metric"
- Wildfire risk – add "see Consequence and Ignition risk" and include quantitative definition of wildfire risk = LoRE x CoRE

Appendix B should be restructured to facilitate WMP Review

In the Draft 2023 WMP Guidelines, Appendix B serves as a catch-all document for overflow narrations, maps and figures for the entirely of the WMP. Based on the current structure Appendix B will prove unwieldy and will not facilitate efficient review of the WMPs. GPI raises the following issues regarding the structure of Appendix B:

- The current "Appendix B" citation method within the WMP Guidelines provides no direction, nor hyperlinks, to the location (i.e. page or section) of the information

relegated to an appendix. A citation method is not defined for labeling or refencing material in the Appendix.

- Section numbering in Appendix B make no logical sense. Sections begin with Section 1.1.3, a level 3 header under Supporting Documentation [Level 1]/Overview [Level 2]. The Level 1 and 2 headers are not numbered. Further, there is only one level-one header "Supporting Documentation," which is simply the document title. Consequently, every section with a Section number within Appendix B is labeled 1.1.n or 1.1.n.n. We suspect this may have been a typo.

- Information relevant to WMP Sections 4 and 5 are pooled under an unlabeled level-2 section titled "Overview." The first numbered subsection is titled "1.1.3 Primary Goal of the WMP." There are no sections in the WMP that are specifically titled "Overview" or "Primary Goal of the WMP." We assume these sections are referring to WMP sections 4 and 5, and subsection 4.1, respectively. Subsection 4.1 guidelines have no reference to placing additional information in Appendix B. Overall, Appendix B section numbers do not directly align with sections in the WMP, have entirely different section and subsection titles that are in some instances ambiguous, and includes sections that have no reference to Appendix B nor appear to require additional space for figures, tables or narrations.

We provide the following recommendations:

- Option 1: There is no functional or structural reason to compile all overflow/detailed information into one Appendix. Similarly, there is no information or functionality loss by having more Appendices. Break Appendix B into multiple appendices that correspond with each WMP Section. For example: Appendix B. Supporting Documentation: Responsible Persons; Appendix C. Supporting Documentation: Statutory Requirements Checklist; Appendix D. Supporting Documentation: Overview of the WMP; etc. Separate appendices will support side-by-side review. In-text references to separate appendices within the WMP will be more useful for readers. Sifting through very long documents (e.g.

Appendix B) to find related information is a slow process. Shorter, separate appendices for each section will make it easier to navigate multiple smaller documents alongside the Base WMP. We further recommend retaining **exactly the same** section header names numbers and levels used in the WMP in each appendix. Section IDs can also be modified with the Appendix letter. For Example, we recommend the following Appendix format for each Level 1 Section in the WMP:

Appendix D. Supporting Documentation: Overview of WMP (Section 4)
Instructions: The electrical corporation must provide all detailed documentation from Section 4 in this Appendix. Any sections that do not have overflow information from the WMP should state "NA"
4.1 Primary Goal
NA
4.2 Risk Reduction Objectives
…
4.n [Section Title from WMP]
4.n.n [Section Title from WMP]
4.n.n.n [Section Title from WMP]

- Option 2: If OEIS retains all overflow information in Appendix B, the structure of the Appendix should replicate the structure of the WMP. A reader should be able to find WMP related information in Appendix B based on the Section number and title in the WMP. That is, section header numbers and titles should exactly replicate numbers and titles in the primary WMP document, even if this results in skipped section numbers in Appendix B for sections where additional/overflow information is not requested/permitted. Appendix header IDs can be qualified with the Appendix letter for improved referencing. A single supporting document

appendix should have a table of contents with at least two heading levels, with hyperlinks to each section/subsection. For Example:

Appendix B: Supporting Documentation

Instructions: The electrical corporation must provide all detailed documentation from the WMP in the corresponding sections in this Appendix. Any sections that do not have overflow information from the WMP should state "NA"

[Table of Contents]

...

B.2. Responsible Persons

B.3. Statutory Requirement Checklist

B.4. Overview of WMP
B.4.1 Primary Goal

B. 4.2 Risk Reduction Objectives
…
B.4.n [Section title]
B.4.n.n [Section title]

…

- Referencing recommendations
    - All utility WMP in-text citations to appendices should include the Appendix ID and/or page number. For example, (Appendix C, pp 34-37) or (Appendix B.4.1)
    - All figures and tables in the appendix should have the appendix letter included in the ID. For Example: Table B4.1-1

Appendix B: Risk Methodology and Assessment – recommendations

GPI provides the following recommendations for Appendix B: Risk Methodology and Assessment:

- Both Section 6.1.1 and 6.1.2 refer to detailed model documentation requirements in Appendix B. The Risk Methodology and Assessment section in Appendix B requires summary documentation similar to that required in Section 6.1.1 and 6.1.2. GPI is not necessarily opposed to this overview redundancy for the purpose of developing standalone risk modeling documentation that is subject to version control and update tracking. However, we recommend separating model documentation into a separate appendix, and perhaps separate appendices for each modelling type/ WMP application (i.e. wildfire risk planning models, PSPS risk planning models, Operational risk models). While this separation may result in redundancies for cross-cutting data and sub-model inputs (e.g. 30-year weather history assessment), the separate appendices would function as standalone model documentation that would be incrementally updated as model and sub-model updates are made, and would reduce the need for cross-referencing different sections in the Base WMP and Appendix B. In its current configuration, a WMP reader will have to navigate through 10s of pages of Appendix B maps and summaries for Sections on "Responsible Persons", "Statutory Requirements Checklist" and "Overview", before getting to the "Risk Methodology and Assessment" section; which then spreads out technical descriptions of models for the core risk components (LoRE and CoRE) of planning and operations risk models across sub-sections titled "1.1.11 Model Documentation" and 1.1.12 "Additional Models Supporting Risk Calculation." Furthermore, in its current design the reader will have to cross reference sections 1.1.11 and 1.1.12 and will have to know the relevant model and sub-models, inputs and assumptions from these two sections to assess the application aspects of WMP models i.e. planning risk models and operational risk models. Put another way, restructuring model documentation with a focus on WMP application modeling packages (i.e. wildfire

risk planning, PSPS risk planning, operating risk) will improve review and update tracking.

- "Model Version" (Appendix B, p. 9) should also include a dated update log, and change summaries with the date of implementation.

- "External Dependencies" should include the dates (metadata) of source data collection and software versions. For example, Landsat image collection date/year.

- Model documentation should include the model output refresh frequency (e.g. daily, annual, every 3-years).

- Appendix B Model Documentation "Summary Documentation" elements "purpose of the calculation/model" and "assumptions and limitations (Appendix B, p. 6)" are redundant to elements in "Detailed Model Documentation", "purpose of the mode/problem identification (Appendix B, p. 9)". GPI recommends reviewing and eliminating content redundancies within the Appendix B risk modeling and assessment section.

Reduce or remove redundancies and consolidate content specifics to the extent possible

GPI identified the following redundancies or disconnected information requests. Additional locations with redundant information and tables are provided through out our comments.

- Table 1-1 "Exemplar List and Description of Electrical Corporation-Specific WMP Mitigation Initiatives for 3-Year and 10-Year Outlooks" and Table 7-3 "Exemplar List and Description of Electrical Corporation-Specific WMP Mitigation Initiatives for 3-year and 10-year Outlooks" are identical. Tables 8-1 and 8-2, 8-11 and 8-12, 8-20 and 8-21, 8-32 and 8-33, 8-52 and 8-53, and 9-3 and 9-4 will effectively contain the same

mitigation 3-year and 10-year overview information in the first column of each table as the information currently requested in Table 1-1 and 7-3.

Recommendation: Eliminate either Table 1-1 and Table 7-3, retaining one version as a summary reference. Merge Tables 8-1, 8-2, 8-11, 8-12, 8-20, 8-21, 8-32, 8-33, 8-52, 8-53, 9-3, and 9-4 into one, or maximum two reference tables in an Appendix and/or in an excel workbook. The aggregated table should include mitigation Tracking IDs.

- Section 5.1 Service Territory requires a description of "overhead and underground circuit miles." Section 5.2 Electrical Infrastructure requires a "high level description of its infrastructure" and requires a table with quantitative descriptions (e.g. circuit miles).

  Recommendation: Subsume any electrical infrastructure descriptions in Section 5.1 into Section 5.2. Clarify what narrative information is sought regarding a description of "overhead and underground circuit miles (Section 5.1 p. 21)." Table 5-2 elements that require a combined transmission and distribution circuit mile value should be separated into transmission only and distribution only metrics. Replace the (#) as an abbreviation for the unit "number" and replace with the unit abbreviation "(n)."

Reduce the number of header levels to the maximum extent possible and separate the guidance from the WMP template structure. [Structural]

Previous comments by Cal Advocates suggested reducing the number of header levels in the WMPs. GPI supports this recommendation and provides a possible re-structuring model based on Section 7. Given time constraints we are unable to provide a similar detailed review and suggestion for each WMP Guideline Section. However, the suggestions for updated structure and consistency for Sections 7.1 can also be used as general examples for other WMP Sections.

Section 7.1 Risk Evaluation evolves down to a level 4 subheading:

Section 7 Wildfire Mitigation Strategy Development [Level (L) 1]

7.1 Risk Evaluation [L 2]

7.1.1 Approach [L 3]

7.1.2 Key Stakeholders for Decision Making [L 3]

7.1.3 Risk-Informed Prioritization [L 3]

7.1.4 Mitigation Selection Process [L 3]

7.1.4.1 Mitigation Initiatives Development Process [L 4]

7.1.4.2 Potential Mitigation Initiative Evaluation and Selection [L 4]

7.1.4.3 Mitigation Initiative Scheduling Process [L 4]

In this instance, subsection 7.1.4 is broken down into three parts at a level 4 sub-heading. The guideline description for Section 7.1.4 defines "Mitigation Selection Process" and summarizes the detailed requirements for the downstream Level 4 subsections. It is not entirely clear what the content requirements are for the parent subsection 7.1.4, such that utilities may provide a summary that does not provide material information and only serves to lengthen the WMP filings. If OEIS is seeking specific summary information in Section 7.1.4 this should be clarified.

Sections 7.1.4.1 – 3 also request substantial detail on many if not all available mitigation types and will likely constitute 10s of pages for each subsection

GPI suspects that instances such as Section 7.1.4 and some of the structural challenges with the current WMP Guideline document may arise due to combining both guidelines and the WMP template in one document. In contrast, a more formal separation between the guidelines and the filing template could facilitate a reduction in subheading levels and content requirements. In Federal and state grant cycles (e.g. a call for program/project proposals/plans) a lengthy Request For Proposal (RFP) document is issued to define the contents expected for each application element that comprises the application (i.e. plan) package. That is, requirements set forth in the RFP are not explained within the required proposal structure itself, rather the RFP provides guidance in a document structured separately from the required proposal/plan structure.

In the case of Section 7.1.4, section level adjustments combined with a separate guidance document can result in updated suggested in Table 3.

Table 3. Example of updated separate WMP Template and Guidance Document, as well as a method for reducing header levels.

Original Sections	Updated Sections in WMP Template	WMP Guidance Document
7.1.4 Mitigation Selection Process	7.1.4 Mitigation Selection Process: Mitigation Development [15 pages maximum]	Sections 7.1.4-6 provide details on the Mitigation Selection Process … [Insert description of this process from the original Section 7.1.4, followed by the guidance for each related section 7.1.4-.6]
7.1.4.1 Mitigation Initiatives Development Process	7.1.5 Mitigation Selection Process: Evaluation and Selection [15 pages maximum]	
7.1.4.2 Potential Mitigation Initiative Evaluation and Selection	7.1.6 Mitigation Selection Process: Scheduling [5 pages maximum]	
7.1.4.3 Mitigation Initiative Scheduling Process		

Benefits of this structure include better tracking of overarching concepts from parent subsections, in this case the "Mitigation Selection Process"; especially when subsections exceed level three headers and include extensive content (e.g. describing all potential wildfire mitigations considered for an entire service territory). This also eliminates the original 7.1.4 which would either include a general overview or no content depending on how utilities interpret the current guidelines. Either case has limited value.

Additional Notes on Section 7.1.4 Structure:

We also note that the content description in Section 7.1.4 includes a 3-bullet point list. The first two correlate with requested content for subsections 7.1.4.1 and 7.1.4.2. The third

bullet point states “document the results” and does not correlate with the third subsection 7.1.4.3 on Scheduling. Scheduling is referred to in the narration after the bulleted list. For consistency and clarity, the bulleted list under 7.1.4 should align with the level 4 subsections; and the requirement to “document the results” should be subsumed into the guidance for 7.1.4.2 (and its accompanying bullet summary). GPI also recommends providing additional clarity/guidance in 7.1.4.2 (or its updated version) regarding what is expected in regards to result documentation.

Mitigation “Implementation Schedule” is requested in 7.1.4.1 (Draft 2023 WMP Guidelines p. 77) and is the main subject of 7.1.4.3 (Draft 2023 WMP Guidelines p. 78). Clarify the difference between the requested information to eliminate any potential redundancies, or streamline/constrain the schedule content to one section.

Maturity Model Recommendations

The Maturity Model was updated to support scoring on four levels: (1) Capability Maturity; (2) Category Maturity; (3) Risk and Risk Component Maturity Levels; and (4) Cross Category Theme Maturity Levels. GPI appreciates the effort invested to substantially update the Maturity Model, and generally supports the updates for capability and category maturity that further support cross-category maturity assessment. Briefly, the primary maturity scores are assessed through 1,175 Maturity survey questions that provide a score for each Scoring Philosophy for each Capability. A group of Scoring Philosophies, also referred to as “Sub-capabilities” or “Sub-Capability Scoring Philosophy” (Draft Guidelines, Appendix C p. 46), define a Capability, which is scored based on the minimum score from the Scoring Philosophies. Capabilities are then grouped into Categories which are scored based on the average score of all the included Capabilities. Risk and Risk Component [Categories] scores are the average maturity score of Capability groupings from multiple Categories. Cross-Category Theme maturity is defined as the average maturity of Scoring Philosophy groupings from multiple Capabilities. GPI recommends using one term for “Sub-capability Scoring Philosophy” versus three interchangeable terms.

Figure 5. Example of Maturity Model Scoring for Scoring Philosophies, Capabilities and Categories. An alternate higher score is possible for Categories if the Scoring Philosophies are averaged (underline).

Scoring Philosophy (SP)		Capability (Cap)		Cross Category Theme		
ID	Score	ID	Score (MIN(SP))	ID	Score (AVG(SP))	*Score (AVG(Cap))*
1.2.1	4	1.2	2	CCT 1	2.29	*1.33*
1.2.3	2					
2.1.1	1	2.1	1			
2.1.2	2					
2.2.1	4	2.2	1			
2.2.2	1					
2.2.3	2					

Figure 6. Example of Maturity Model Scoring for Risk and Risk Components. An alternate higher score is possible for Risk and Risk Components if the Scoring Philosophies are averaged (underline).

Scoring Philosophy (SP)		Capability (Cap)		Risk and Risk Component		
ID	Score	ID	Score (MIN(SP))	ID	Score (AVG(Cap))	*Score (AVG(SP))*
1.1.1	1	1.1	1	RRC 1	1.00	2.11
1.1.2	2					
1.1.3	4					
1.1.4	2					
2.1.1	1	2.1	1			
2.1.2	2					
2.2.1	4	2.2	1			
2.2.2	1					
2.2.3	2					

Figure 7. Example of Maturity Model Scoring for Cross-Category Themes. An alternate, lower score is possible for Cross-Category Themes if Capabilities, or the minimum of the included Scoring Philosophies within a capability, are averaged (underline); consistent with the scoring method for Categories, and Risk and Risk Components.

Scoring Philosophy (SP)		Capability (Cap)		Cross Category Theme		
ID	Score	ID	Score (MIN(SP))	ID	Score (AVG(SP))	*Score (AVG(Cap))*
1.2.1	4	1.2	2	CCT 1	2.29	*1.33*
1.2.3	2					
2.1.1	1	2.1	1			
2.1.2	2					
2.2.1	4	2.2	1			
2.2.2	1					
2.2.3	2					

The minimum Scoring Philosophy versus average Capability maturity score calculation for Capabilities versus Categories (Fig. 4) will produce inconsistent scores for top tier maturity type Categories, Risk and Risk Components, and Cross-Category Themes (See Figures 4-6). That is, Cross Category Themes will most likely have consistently higher scores than Categories or Risk and Risk Components. Mathematically:

Capability = MIN(Scoring Philosophies)
Category = AVERAGE(Capability) = AVERAGE(MIN(Scoring Philosophies))
Risk Component = AVERAGE(Capability) = AVERAGE(MIN(Scoring Philosophies))
Cross-Category Theme = AVERAGE(Scoring Philosophies)

Recommendation: GPI recommends using either the average of the Scoring Philosophies, or the average of the minimum of Scoring Philosophies remaining within each Capability for scoring Categories, Risk and Risk Components, and Cross-Category Themes. GPI prefers using the average of the Scoring Philosophies and adding minimum and maximum

Scoring philosophy scores to inform maturity range. For Example, the reported Maturity score for "RRC1" (Fig. 5) would be 2.11 (Max: 4; Min: 1).

We are also concerned that the Risk and Risk Component Maturity Level calculation may result in maturity scores for risk components that some utilities have yet to quantify, namely contact from object likelihood of ignition. Some utilities have not developed quantitative risk planning model approaches for contact from object likelihood of ignition. However, based on the Maturity Survey Risk Component valuation approach, the combination of scores from cross-cutting Capabilities (e.g. weather modeling) that are related or perhaps foundational to the ability to model contract from object likelihood of ignition, but are not yet applied or combined in an actual calculation method, may result in a maturity score for a risk Component Capability that does not in fact exist for some utilities. Unfortunately, given the volume of the Draft 2023 Guideline document, GPI was unable to review the complete Appendix C Electric Corporation Wildfire Mitigation Maturity Model or the Maturity Model Survey and the 1,175 questions. If questions within the Maturity Model Survey are not specific to Risk Component modeling capabilities such as the status of contact from object likelihood of ignition modelling methods, inputs and assumptions, then the combinations of related modeling method, inputs and assumptions may provide limited scoring value for gauging the maturity of specific Risk Components. For example, just because a utility is monitoring and forecasting weather does not mean that they are using weather data to predict granular contact from object ignition likelihood risk.

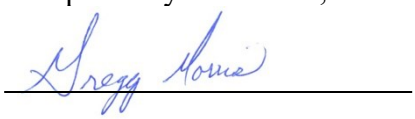
Conclusions

GPI submits these recommendations for updates to the Draft Guidance Document for the 2023 MWPs.

We urge the OEIS to adopt our recommendations herein.

Dated October 26, 2022

Respectfully Submitted,



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