BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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

PACIFICORP'S QUARTERLY REPORT ON 2020 WILDFIRE MITIGATION PLAN FOR JUNE 12, 2020 THROUGH SEPTEMBER 9, 2020

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September 9, 2020

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PacifiCorp d/b/a Pacific Power ("PacifiCorp" or "company") submits this Quarterly Report on 2020 Wildfire Mitigation Plan for June 12, 2020 through September 9, 2020 ("Quarterly Report"). This Quarterly Report addresses the Class B conditions set forth in Resolution WSD-002 and Resolution WSD-008 issued by the Wildfire Safety Division (WSD) and ratified by the California Public Utilities Commission (Commission) on June 11, 2020.

Introduction

In making a conditional approval of PacifiCorp's 2020 Wildfire Mitigation Plan, the Commission required PacifiCorp to address aspects of the plan that the Wildfire Safety Division determined required additional information or monitoring through Quarterly Reports. WSD-002 sets forth a number of guidelines which apply to all utilities, and WSD-008 sets forth the guidelines applicable to PacifiCorp only. The resolutions require that Class B Deficiencies be addressed in Quarterly Reports. (Ordering Paragraph No. 8, WSD-002 at 45; WSD-008 at 4.) Class B Deficiencies are described as the result of "insufficient detail or justification provided in WMP." (WSD-002 at 17; WSD-008 at 4.) Each Deficiency has a corresponding set of detailed

Conditions. In this Quarterly Report, PacifiCorp responds to each of the Class B deficiencies and corresponding Conditions.

I. PacifiCorp's June 12-September 9, 2020 Quarterly Report Responds to All Class B Deficiencies and Corresponding Conditions.

Resolution WSD-002 identified ten Class B Deficiencies applicable to all utilities, including:

Guidance-1, Lack of risk spend efficiency (RSE) information
Guidance-2, Lack of alternatives analysis for chosen initiatives
Guidance-4, Lack of discussion on PSPS impacts
Guidance-5, Aggregation of initiatives into programs
Guidance-6, Failure to disaggregate WMP initiatives from standard operations
Guidance-7, Lack of detail on effectiveness of "enhanced" inspection programs
Guidance-9, Insufficient discussion of pilot programs
Guidance-10, Data issues – general
Guidance-11, Lack of detail on plans to address personnel shortages
Guidance-12, Lack of detail on long-term planning

WSD-008 identified five additional Class B Deficiencies applicable to PacifiCorp specifically, including:

PC-1, PacifiCorp's WMP does not report adequate planning for climate change
PC-2, PacifiCorp has not demonstrated effective weather station utilization
PC-3, PacifiCorp did not explain how it would track effectiveness of its covered conductor initiative
PC-4, PacifiCorp's WMP lacks a QA/QC program for inspections
PC-6, PacifiCorp does not have a specific data governance wildfire mitigation program

Each of these Class B Deficiencies, and the correlating Conditions specified with respect to each individual Deficiency, are addressed in detail below. This filing also includes the following attachments:

Attachment A – Alternatives to Initiatives (Guidance 2 Worksheet)

Attachment B – Initiative Level Detail (Guidance 5 and 6 Worksheet)

Attachment C – WSD GIS Data Schema Status Report

Attachment D – PacifiCorp Weather Stations

Attachment E – PacifiCorp Slides 2020 Wildfire Mitigation Plan GIS and Data Schema

Guidance-1, Lack of risk spend efficiency (RSE) information

General Response to Deficiency: PacifiCorp agrees that a risk spend efficiency analysis is beneficial in determining whether resources are effectively allocated to initiatives that provide the greatest risk reduction benefits per dollar spent. Indeed, efficiently reducing wildfire risk is the top priority in PacifiCorp's wildfire mitigation efforts. PacifiCorp understands the WSD's desire for additional information to evaluate the efficacy of various mitigation strategies. To this end, PacifiCorp is developing new, more granular risk assessment tools and methodologies that will support more concrete and element-comparable risk spend calculations. The methodologies to be used in making those calculations are discussed at greater length below, in response to the specific conditions related to this Guidance-1. In context, however, certain over-arching issues are appropriately addressed first.

The risk spend efficiency analysis is rooted in certain assumptions, which may change as new and better information is obtained, including through this iterative process led by the WSD. The Guidance-1 conditions themselves capture the core considerations in a risk spend efficiency analysis. As indicated in conditions (i) and (ii), to complete any reasonable RSE assessment, we must be able to answer two fundamental questions:

- How much does an initiative reduce the probability of an ignition?
- If a potential ignition is avoided, how much damage is avoided?

While the initial questions themselves are relatively easy to frame, we would be remiss to suggest that such questions are easily answered. Earlier iterations of PacifiCorp's wildfire mitigation plans and General Rate Case filings and supporting documents have been cautious in

asserting risk spend efficiency conclusions in mathematically certain terms, precisely because of this difficulty.

Above all, despite the universal desire to bring numerical certainty to the risk spend calculations, PacifiCorp must emphasize that some degree of qualitative judgment has to be employed in making certain assumptions. In other words, there is some 'art' behind any calculations realistically envisioned in a risk spend efficiency analysis of various wildfire mitigation initiatives. Considering the complexity of the questions presented (and in many cases, the lack of history to support precise calculations), this is unavoidable.

As a threshold issue, there is limited data on actual ignitions and/or near-misses to support conclusions solely based on ignition data. As recognized by the WSD, it will take years to build more meaningful data sets on ignitions. For PacifiCorp, this issue is compounded by having a smaller data set generally, compared to other utilities. Fortunately, there have been few utility-related ignitions in PacifiCorp's California service territory compared to other areas of the state. PacifiCorp takes each ignition seriously but is also hesitant to overstate the statistical significance of an individual ignition event in such a small data set. Localized vegetation conditions, unique weather conditions and availability of response personnel, including fire suppression resources, make a huge difference. So too does chance itself.

Inclusion of near-miss events is important for building these data sets, and PacifiCorp appreciates the efforts to further refine the meaning of near-misses. Nonetheless, recognizing that any spark could result in an ignition depending on where and when it lands, many "near-misses" will remain unrecorded simply because there was no durable (or enduring) physical evidence of the near-miss. Even assuming these complex variables can be modeled – which PacifiCorp is attempting to do with ever-increasing sophistication and granularity – the significance of chance

remains daunting, reinforcing the need for longer-term and more broadly developed data before placing too much weight on any particular available data set.

In addition, even if there is reliable data showing clear trends in ignition risk, attributing those trends to a particular initiative can be difficult at best (and misleading at worst); we must be cautious about inferring correlation and causation relationships that have limited concrete evidence. There is limited availability of lab-developed data using proven scientific methods designed to assess the effectiveness of a specific mitigation strategy. In real world applications, there are often many variables in play, including environmental factors and other mitigation work. Even assuming data is accurate and robust, caution would be warranted in drawing conclusions based on changes in one variable in a complex system. Some initiatives might make attribution somewhat easier to formulate than others, but there will often be some overlap, making it difficult to draw any conclusions.

As a hypothetical example, suppose that a specific type of equipment failure was recognized as a specific source of ignition. Presumably, we might be able to correlate an initiative targeted specifically at this ignition type with an observable reduction in the ignition risk of that type. Thus, if a concerted program to replace such equipment with a different equipment type preceded a notable reduction in specific ignition events, we might reasonably assume a causal nexus between the initiative and a reduction of ignition risk. Nonetheless, further investigation might support an argument that the change in equipment type did not have any beneficial impact, because the reduced number of equipment failures was actually attributable to an improved inspection method able to detect the potential for failure in that specific piece of equipment. As variables are added, any correlation becomes less conclusive.

These examples are not just hypothetical. If there are a reduced number of ignition and near misses (however it is ultimately defined) associated with vegetation contacts, might that be more properly associated with vegetation management efforts or improvements in protection devices? And if covered conductor is employed, are any reductions properly attributed to other mitigation strategies?

For all of these reasons, PacifiCorp uses multiple data sets and analytical approaches to estimate the reduction in ignition risk. Because of its larger data set, reference to outage history remains meaningful, in addition to known ignition events and near-misses. Moreover, some amount of reasoned engineering judgment is employed to estimate the proper association between a reduction in ignition risk and a particular initiative. Finally, PacifiCorp does not pretend to have the only answer. While there are different perspectives, especially realizing that there are different geographies at issue, reference to the larger data sets produced by utilities with larger California service territories is sensible. PacifiCorp remains willing to adjust and refine its calculations, especially as the WSD helps develop a knowledge base related to these issues.

In addition, because of these many challenges in assembling and processing real data, it is appropriate to rely heavily on risk reduction modeling and reasoned application of engineering knowledge about how electrical equipment functions.

Along these lines, PacifiCorp is developing more advanced modeling tools to assess ignition risk, including the effectiveness of particular technologies and processes to reduce ignition probabilities.

Likewise, any calculations of the consequences of a potential wildfire remains extremely challenging. An ignition in the same exact spot can have dramatically different consequences on one day as compared to the next. It is well understood that environmental conditions, specifically

wind conditions at the time of an ignition, can have a dramatic impact. This alone is very difficult to model. Again, complex systems are implicated. For example, whether the wind is blowing east or west can have just as dramatic an impact as whether the wind is blowing at all. Indeed, conditions prevailing 24 hours after ignition can dictate whether a wildfire was contained without great consequence versus erupting into a high magnitude event. As discussed in its earlier response to WSD-008 Guidance-3 in its Remedial Compliance Plan, PacifiCorp is engaging with leading fire scientists to have better models of fire behavior, together with more localized risk assessments tied to specific sections of utility infrastructure. As referenced in response to condition (ii) below, these ongoing efforts will have a dramatic impact on estimates of wildfire consequence.

Finally, even after modeling the potential perimeters of a wildfire, damage can be difficult to quantify. Impact is mostly assessed by factoring the number of acres which have a probability of being burned in an area and the population density of that area. Even assuming that fire spread models are accurate predictors of actual fire spread (which is a challenging science in and of itself), other factors beyond population density may not be captured in existing methodologies. In individual circumstances, areas with a similar propensity to burn and comparable population densities could actually result in very different damage scenarios. First, even assuming that loss of life and personal injury can be properly estimated using established actuarial tools, it is incredibly difficult to predict with a high degree of certainty, the confluence of events which lead to suboptimal response, such as an unsuccessful evacuation. Second, structures in some areas tend to be much larger and more expensive than in other areas. Third, defensible space efforts work. If a community has made a concerted effort to employ aggressive and meaningful defensive space strategies, the damage predictions should be substantially lower

as compared to a community that fails to engage in those types of efforts. PacifiCorp is supportive of developing more sophisticated models which consider these factors (and others), and the company's modeling efforts are progressing towards these goals.

In summary, PacifiCorp appreciates the WSD's strident efforts to push for objectivity in the risk spend efficiency analysis. To that end, PacifiCorp is developing more sophisticated models to better calculate reasonable estimations of ignition risk reduction and wildfire consequence avoidance.

Response to Conditions:

Condition (i): "calculated reduction in ignition risk for each initiative in its 2020 WMP"

Response: PacifiCorp is in the process of calculating an estimated reduction in ignition risk for each initiative. This calculation is highly inter-related with the work being done for the next generation wildfire risk assessment, which PacifiCorp plans to refine for integration into its 2021 WMP, as discussed in response to Guidance-03. (*See* PacifiCorp's 2020 Wildfire Mitigation Plan Remedial Compliance Plan, filed July 27, 2020.) In that filing, PacifiCorp outlined its plan to accomplish more localized and granular risk assessments by assigning a specific risk assessment score at the grid module level. (As explained in the response to Guidance-03, a module is a section of a circuit that can be isolated by a control operation, or more precisely, as outlined in PacifiCorp's WMP, a module is bounded by a sectionalizing or automated grid control device.)

To accomplish this task, PacifiCorp is developing six risk quantification layers. Three of these layers directly implicate ignition risk reduction, namely available arc energy and short circuit ignition likelihood, utility ignition fault risk, and utility fire and equipment. These layers influence the risk assessment score for a grid module by reflecting the ignition risk associated

with the character of the facilities themselves (versus the wildfire conditions in the environment immediately surrounding the grid module). Therefore, this layer will capture the risk reduction associated with any initiative performed on that grid module. In other words, estimating the ignition risk reduction associated with each initiative will be a central part of completing this risk assessment. The use of three layers reflects a methodology focused on three component parts: section fault likelihood, equipment failure likelihood and potential fault/arc energy release. Wildfire mitigation initiatives will impact those three components to varying degrees, and the conclusions reached to complete those adjustments will correlate with the calculated risk reduction for each initiative.

Condition (ii): "calculated reduction in wildfire consequence for each initiative in its 2020 WMP"

Response: Again, this calculation is highly inter-related to the work being performed for the localized risk assessment described in the Remedial Compliance Plan and in response to Guidance-03. PacifiCorp must, however, stress one clarification regarding how this particular condition is framed. A reduction in wildfire consequence can be correlated to an initiative only after also factoring for location. While PacifiCorp intends to calculate, at a program level, the effectiveness of an initiative in reducing ignition risk, a reduction in wildfire consequence is most directly related to the specific location of a potential ignition. In other words, the wildfire consequence is driven by location, not solely initiative, and a reduction of wildfire consequence at a particular location will hold constant, regardless of which initiative brought down the ignition probability.

Along these lines, the work being done on the localized risk assessment can also be purposed to estimate the wildfire consequence associated with an initiative at a program level.

From the start, each grid module is assessed with respect to a weighted average iUTI[1] score for the module, which itself is a model designed to reflect one estimation of potential wildfire consequence (based on fire weather history, terrain, assumed fuel moisture content and inventory of available fuels, without consideration for fire suppression efforts). The three remaining risk quantification layers being used to calculate risk assessment scores for individual grid modules, namely fire weather risk, fire weather fire spread risks and tree canopy coverage, capture concepts surrounding the potential spread of a wildfire as the result of an ignition at any particular location. This modeling, combined with the weighted average iUTI score, will more accurately predict relative wildfire consequence for a specific location.

Working from that starting point, then, a reduction in wildfire consequence can be correlated to a particular initiative, based on whether work is either completed or planned for a particular location. Significantly, the initiative's effectiveness in reducing the probability of ignition, as calculated in reference to condition (i) above, combined with the location of the initiative, will then drive how much the particular initiative reduces wildfire consequence.

Stated differently, an initiative which is very effective at reducing ignition probability will reduce wildfire consequence proportionate to that reduction (holding location constant). But, in a real world application, even a significantly effective initiative will reduce wildfire consequence very little when deployed in certain areas, such as over a fundamentally non-burnable surface, like a large asphalt parking lot. Factoring location of an initiative, combined with the potential wildfire consequence associated with that location, then allows a more accurate calculation of the reduction of wildfire consequence associated with a particular

[1] iUTI (integrated utility threat index) is a concept that was developed during the CalFIRE-led statewide fire threat mapping initiative as outlined at https://www.cpuc.ca.gov/FireThreatMaps/. The company has adopted this concept as a foundation for ranking fire risk at a granular level.

initiative. PacifiCorp will estimate reduction in wildfire consequence attributable to an initiative by bringing together: (a) reduction in ignition probability; (b) the probability of destructive fire spread from a particular location; and (c) the actual or planned deployment of a particular initiative at a particular location.

Finally, PacifiCorp recognizes that there is another very significant variable: time of ignition. An ignition which occurs during elevated wildfire conditions has a remarkably different risk profile as compared to an ignition which occurs immediately after a rainstorm. Some ignition types, and related initiatives, can be correlated to heightened wildfire weather conditions. Above all, wind is a driving force behind wildfire spread. And certain types of faults (reflecting potential ignition events) are more likely to occur when there is wind, especially extreme wind. To adjust for this reality, PacifiCorp will use a multiplier to reflect the anticipated impact on wildfire consequence. Consequently, initiatives that reduce the probability of wind-related ignitions will show greater wildfire consequence reduction. As a result, hardening assets to be more resilient to wind events will be valued more highly.

Condition (iii): "the risk models used to calculate (i) and (ii) above"

Response: As explained more thoroughly above, the risk assessment models that will be used to calculate (i) and (ii) above are substantially the same models that are being used to complete a localized risk assessment and assignment of risk assessment scores at the grid module level (as described in the Remedial Compliance Plan in response to Guideance-03). When that work is complete, the cost of the initiative can then be factored to complete the risk spend efficiency analysis. (For spend amounts associated with a particular initiative, see below and the response to Guidance-05.)

Guidance-2, Lack of alternatives analysis for chosen initiatives

General Response to Deficiency: In responding the specific conditions below, PacifiCorp has systematically identified alternatives with respect to each grid hardening or vegetation management initiative. Before evaluating alternatives on individual initiatives, however, it is appropriate to consider "alternatives" at a more macro level.

First, regardless of specific design types of overhead construction, conversion to a multi-grounded system is a priority. The company intends, as it reconstructs its facilities, to construct them with multi-point grounding systems to ensure that the network is sufficiently sensitive to detecting and operating during fault conditions. Because the majority of PacifiCorp's facilities are governed by the National Electric Safety Code (NESC), which transitioned much of the underlying grounding practices in the late 1970s, the company has substantial familiarity, training and work processes with this approach. Thus, various mitigation measures must be viewed through that general lens. Additionally, the multi-grounding priority influences the logical deployment of re-conductoring activities.

Second, a preference for a general design type can have a dramatic impact on the evaluation of component parts. There are three primary design types to consider in relation to utility-related wildfire risk:

(1) **Enhanced Traditional Design** – Continue to use standard bare wire overhead design, but mitigate ignition risk by employing advanced protection schemes, excellent inspection programs, non-expulsion devices, aggressive vegetation management, asset replacement, and other initiatives designed to make standard design safer.

(2) **Covered Conductor Design** – Covered conductor has a significantly lower ignition risk, because wires are covered (but do not have shielding to properly be categorized as insulated) to prevent incidental arcing that can occur if contacted by a foreign object.

(3) **Underground Design** – Underground construction has very little associated ignition risk, because insulated wires are located below ground.

At a macro level, PacifiCorp's preferences amongst individual alternative initiatives must be taken in context with PacifiCorp's general conclusion that **covered conductor design** is the preferred general mitigation strategy in geographic areas of highest wildfire risk. Assessing alternatives at the micro, individual initiative level can be misleading without taking this macro level preference, and combined mitigation benefits, into account.

PacifiCorp endorses the fundamental proposition that traditional design can be a safe and efficient alternative. In particular, many of the individual initiatives described in PacifiCorp's WMP are specifically intended to reduce the ignition risk associated with standard bare overhead facilities. And PacifiCorp will continue to apply this general approach throughout much of its service territory. Even when facilities are properly installed and well-maintained, however, standard bare wire design will carry some degree of ignition risk. Even when operating exactly as designed – which is all that can be expected from an engineering perspective – energized wires exposed to the air have an arc-induced heat potential that could start a fire whenever there is contact with a foreign object. Covered conductor mostly eliminates this risk. Thus, covered conductor is highly preferred for wildfire risk mitigation in the highest risk area.

While the cost associated with covered conductor is significant, the avoided potential wildfire consequences warrant such an investment in the areas with the highest wildfire risk. Therefore, because of the well-known catastrophic consequences of large wildfires in northern California over the past several years, the investment in covered conductor is warranted in the designated Tier 3 areas in PacifiCorp's service territory. This has been the first WMP priority. As the work discussed above in response to Guidance-1 proceeds, PacifiCorp will continue to evaluate whether system hardening measures should be deployed in Tier 2 areas; this evaluation implicates a more difficult risk spend efficiency analysis. Moreover, this assessment is not static.

Especially as forward-looking climate change scenarios are factored into more granular risk modeling (see response to PC-1 below), the company is concerned that certain areas designated as Tier 2 may well emerge with localized risk assessment scores that warrant mitigation involving aggressive system hardening and covered conductor installations. If necessary, PacifiCorp will include these zones/modules in its hardening plans and update the WMP as appropriate.

PacifiCorp acknowledges and embraces the mitigation potential of underground design. PacifiCorp has concluded, however, consistent with other utilities, that the economic efficiency of covered conductor warrants its application over the underground design option. The ignition risk for covered conductor, deployed together with other mitigation initiatives, is comparable to the ignition risk for underground design. But the cost of underground construction is much greater than the cost of converting to covered conductor. Consequently, covered conductor is preferred as the least cost option for customers, while yielding similar mitigation benefits. Understandably, there is a separate aesthetic benefit associated with underground design. For the past several decades, many communities have decided, based on this benefit alone, to bear the additional cost of underground construction. To be clear, when there are projects involving conversion of existing facilities to covered conductor, PacifiCorp is ready and willing to convert to underground if the community is willing to bear the incremental cost. Indeed, during early conversations with community leaders about the company's mitigation plans, conversations regarding undergrounding as an option took place, and the company communicated its willingness to work with these communities to utilize Electric Tariff Rule 20 funds (as well as additional funds communities might contribute) to targeted viewscapes.

Finally, in reference to a general discussion of alternatives contemplated by Guidance-2, there is one general alternative approach that ought to be acknowledged, even though it plays a small role in most plans. Throughout these proceedings, little attention, by any party, has been given to the potential of radical right-of-way management. Regardless of how well electric infrastructure is designed or maintained, it has minimal ignition risk when located over non-burnable surfaces. Vegetation management is a topic receiving considerable attention, but its focus is on preventing vegetation contact with power lines, not generally on managing the surface of the land below the lines. Pole-clearing requirements around equipment poles is a notable exception, indicative of a wholly different strategy: removal of the fuel at the point of potential ignition. A similar strategy on a much grander scale is possible. While technically feasible, there can be, however, a significant social cost in changing the landscape. That cost appears to make such alternatives highly disfavored in most circumstances. For example, even if it were economically feasible to lay asphalt under a line, the majority of people in the community are generally opposed to such dramatic alterations to the wildland environment. Thus, alternatives such as this typically do not show as "alternatives considered" in response to condition (i) below.

Nonetheless, certain applications related to this general approach are either implemented or under consideration. First, the easier application is at the design stage of new facilities. If there are alternatives between routing new facilities over wildland vegetation versus over impervious surfaces or well-irrigated lands, designers are instructed to factor associated wildfire risk. This does not mean that no new facilities will be built in wildland areas, but, moving forward, there will be a conscious effort to avoid building new facilities in difficult to access, high-fuel areas. Second, PacifiCorp is exploring the potential of voluntary programs to reduce risk on the

distribution system. In conjunction with efforts to promote defensible space (which can greatly mitigate potential damages), landowners are encouraged to keep areas under lines green and free of fuel build up. Taken individually, such decisions have minimal impact, but in the aggregate, they can be an important tool to reduce risk. Third, PacifiCorp is exploring more encompassing options in relation to certain transmission corridors. Coordination with public land managers may prove critical in these efforts.

Response to Conditions:

Condition (i): "all alternatives considered for each grid hardening or vegetation management initiative in its 2020 WMP"

Response: for each initiative in the 2020 WMP, PacifiCorp has identified specific alternatives to that initiative, listed in column E of Attachment A: Alternatives to Initiatives, (Guidance-2 Worksheet).

Condition (ii): "all tools, models, and other resources used to compare alternative initiatives"

Response: PacifiCorp recognizes the importance of considering alternative initiatives to ensure optimal delivery of the right mix of mitigation measures. To provide a general understanding of the alternatives that the company would normally consider, it has outlined program alternatives for specific initiatives. As part of this analysis, however, any particular alternative needs to be considered, more often than not, in conjunction with other variables at issue in deployment at any particular location. Along these lines, it may not make sense to assume that one initiative can be compared to another initiative on a wholesale basis, without factoring those many other variables. Consequently, the company incorporates a qualitative analysis to identify, at a program level, the general alternatives and criteria that might elevate an alternative in certain circumstances.

Condition (iii): "how it quantified and determined the risk reduction benefits of each initiative"

Response: Many "alternatives" are themselves factored as an initiative or a portion of an initiative, and so the risk spend efficiency discussion in the response to Condition (i) of Guidance-1 is incorporated here. In addition, any independent alternatives will be assessed with the same methodology described in the response to Condition (i) of Guidance-1.

Condition (iv): "why it chose to implement each initiative over alternative options"

Response: PacifiCorp chose to implement one alternative over another because the chosen alternative should more efficiently reduce wildfire risk. With respect to each particular initiative, the company's qualitative rationale for selecting the preferred alternative is expressed in column G of Attachment A. As the risk spend efficiency analysis matures, in conjunction with more granular and localized risk assessments, PacifiCorp will continue to closely re-evaluate alternatives and challenge prior conclusions. Because of the many variables factored into the analysis, as discussed above, the company does not anticipate that the qualitative assessments will be replaced. Instead, the risk spend efficiency analysis contemplated in response to Guidance-1 will add a layer of sophistication to the evaluation of alternatives at a particular location.

Guidance-4, Lack of discussion on PSPS impacts

General Response to Deficiency: PacifiCorp welcomes the opportunity to discuss its efforts to reduce PSPS impacts. First, to date, there have fortunately been very little impacts associated with PSPS to the communities in PacifiCorp's service territory. Because PacifiCorp has not had to implement a PSPS event, the only impacts to date center on the planning activities

around PacifiCorp's PSPS program.[2] Second, PacifiCorp remains committed to implement a PSPS only if the benefits of risk reduction outweigh the harms, including the harms to the community at large. Third, by executing the initiatives described in its 2020 WMP (and barring significant changes in future risk assessments), PacifiCorp plans to greatly reduce the potential need to implement PSPS, as currently envisioned, in its California service territory.

After the planned covered conductor installation are complete, it is extremely unlikely that a PSPS would be warranted (especially on any kind of wide-scale scope or duration). PacifiCorp cannot, of course, control fire weather conditions, so the emergence of even more extreme wildfire conditions could frustrate this goal. Nonetheless, PacifiCorp is optimistic that any need for PSPS will be drastically minimized, if not eliminated entirely by the aggressive system hardening efforts outlined in the WMP and the company's vision for wildfire mitigation.

Moreover, PacifiCorp plans to stage work between now and 2023 to reduce, as much as possible, any potential impacts due to PSPS. These efforts largely track PacifiCorp's plan for installation of covered conductor.[3] High winds are the driving force behind a PSPS event, leading to uncontrollable fire spread and potentially causing utility-related ignitions. The best mitigation strategy against the risks associated with high winds is covered conductor. As discussed previously, no matter how well-designed or maintained, bare energized wires can result in ignition if foreign objects blow into the lines. Good vegetation management can reduce

[2] Considering the inherent potential for loss of power (i.e. due to storms, etc.), these planning activities have been good in many respects for both the company and customers. Regardless of whether an outage is a proactive PSPS event or the result of some uncontrollable weather event, the community needs to be prepared to respond to an emergency, even when the power is down. Thus, these impacts can be viewed as mostly positive, even if they divert some planning time and resources.

[3] As outlined in PacifiCorp's WMP, covered conductor is not installed in complete isolation; such installation integrates other initiatives, including multi-grounding, with such work done most efficiently at the time of covered conductor installation. In other words, the installation of covered conductor reflects implementation a suite of initiatives, with the covered conductor itself at the center of that effort.

the risk of blow-in, either by high risk trees or broken limbs. But even the best vegetation management cannot prevent all vegetation contact. Covered conductor, on the other hand, virtually eliminates the risk of blown-in foreign object contact, whether it be tree branches, mylar balloons, or plastic swimming pools. Stated succinctly, it is extremely unlikely that PacifiCorp would determine that it was necessary to implement a PSPS on a zone of protection where covered conductor installation is complete.

A concrete example best illustrates the approach PacifiCorp is taking to reduce the impact of PSPS. PacifiCorp has identified the Weed - Mt. Shasta - Dunsmuir corridor for potential implementation of PSPS. The most important hospital in the area is located in Mt. Shasta. In its covered conductor program, PacifiCorp's first priority is the segment of line from the substation to the hospital. As part of this project, covered conductor installation will be completed to the existing line-recloser, located slightly downstream from the hospital. With that project completed, PacifiCorp will be able to definitively commit that the hospital will not be taken out of service during a PSPS in the area. This same project will keep gas stations near the I-5 corridor powered during a potential PSPS event. Subsequent projects have similar objectives, prioritizing the most critical facilities and the highest number of customers impacted within the umbrella of protected space afforded by the covered conductor installations.

Reducing the impacts and minimizing the effects on the communities of a potential PSPS has been a central, if not the most central, factor in prioritizing the work schedule for PacifiCorp's wildfire mitigation initiatives.

Response to Conditions:

General Response: PacifiCorp respectfully submits that a reference to each individual initiative is problematic to associate with the impact on PSPS. There are over eighty potential

initiatives identified in the WMP master template, but the effect on PSPS is most material when multiple initiatives are working in conjunction with each other. The potential for PSPS is reduced when there is a composite reduction in risk across the entire spectrum of ignition potentials. Thus, the risk reduction properties of individual initiatives are the best marker of that individual initiative's impact on PSPS. Again, however, the centrality of covered conductor in PacifiCorp's wildfire mitigation program should be stressed in relation to reducing the potential of PSPS.

Condition (i): "affects its threshold values for initiating PSPS events"

Response: The word "initiate" implicates two distinct concepts. In PacifiCorp's PSPS program, certain weather measurements act as threshold values which trigger the activation of PacifiCorp's emergency operations center (EOC) and its evaluation of a potential PSPS event. In other words, hitting the thresholds "initiate" the PSPS process. Completion of mitigation work outlined in the WMP does <u>not</u> impact these threshold values, at least in this function. If weather conditions warrant, PacifiCorp will activate its EOC to evaluate current circumstances and determine whether moving forward in the PSPS process is warranted, including by communicating a notice externally and ultimately by de-energizing. In evaluating the circumstances, the EOC will continue to pay particular attention to the same weather measurements and those "threshold values" used to activate the EOC. If conditions warrant, PacifiCorp may "initiate" an actual PSPS event by proactively de-energizing a circuit or a section of a circuit. But the decision to de-energize is not controlled solely by the weather measurements. Real-time feedback from the field and public safety partners is considered, as well as the condition of the facilities potentially subject to a PSPS. Completion of mitigation work outlined in the WMP can impact the decision of whether to initiate an actual PSPS event. If

a mitigation measure has been completed on a section of system which reduces its risk, the emergency operations center may explore options to allow it to remain energized during periods of more severe fire weather conditions.

Condition (ii): "is expected to reduce the frequency (i.e. number of events) of PSPS events"

Response: As discussed above, each mitigation activity is expected to have an incremental impact in reducing the frequency of PSPS events. Where installation of covered conductor is complete, implementation of a PSPS event, as currently envisioned, is highly unlikely.

Condition (iii): "is expected to reduce the scope (i.e. number of customers impacted) of PSPS events"

Response: As discussed above, with reference to the first project and the Mt. Shasta hospital, PacifiCorp's work schedule is specifically prioritized to reduce the scope of PSPS events. As projects are completed, line segments will be taken out of scope, meaning that customers served from those lines will remain in power during a potential PSPS event in the area.

Condition (iv): "is expected to reduce the duration of PSPS events"

Response: For the same reasons that mitigation helps reduce the potential for triggering a PSPS event to begin with, mitigation should reduce the duration of PSPS events.

Condition (v): "supports its directional vision for necessity of PSPS, as outlined in Section 4.4 of its WMP"

Response: This approach directly supports PacifiCorp's directional vision related to the necessity of PSPS. In Section 4.4 of the WMP, PacifiCorp identified five discrete PSPS zones, all in Tier 3 or electrically connected to Tier 3 fire threat areas. By completing mitigation work, the company will be able to effectively remove line segments from the PSPS zone. As more and

more line segments are removed from scope, entire PSPS zones may be removed from PSPS consideration.

Guidance-5, Aggregation of initiatives into programs

General Response to Deficiency: As noted below, PacifiCorp is complying with Guidance-5 condition by fully disaggregating each initiative. PacifiCorp understands the WSD's desire for uniformity, so that "apples-to-apples" comparisons can be made with respect to individual initiatives. We will merely note, as also implicated in the more expansive discussion in response to Guidance-1 above, that certain initiatives are more effective at mitigating wildfire risk when combined rather than when considered individually. Consequently, there may be circumstances where the functionality of a combination of initiatives needs to be taken into consideration, and PacifiCorp will attempt to distinguish that issue when appropriate.

Response to Conditions:

Condition (i): "break out its programs outlined in section 5.3 into individual initiatives"

Response: PacifiCorp has disaggregated all programs into individual initiatives, which each are listed by separate line item in Attachment B: Initiative Level Detail (Guidance 5 and 6 Worksheet).

Condition (ii): "report its spend on each individual initiative"

Response: The dollar spend on each initiative in the 2020 WMP is listed in column M of Attachment B. Due to long-standing accounting practices which precede the WMP, the spend listed on certain initiatives required some degree of approximation based on a percentage of a larger accounting designation.

Condition (iii): "*describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence*"

Response: See response to Conditions (i) and (ii) of Guidance-1 and PacifiCorp's Remedial Compliance Plan addressing Guidance-03. When that work is complete, the dollar amount of an initiative expenditure can then be factored into the equation, to complete the risk spend efficiency analysis.

Condition (iv): "list all data and metrics used to evaluate effectiveness described in (iii), including the threshold values used to differentiate between effective and ineffective initiatives"

Response: See response to Conditions (i) and (ii) of Guidance and PacifiCorp's Remedial Compliance Plan addressing Guidance-03. When that work is complete, the dollar amount of an initiative expenditure can then be factored into the equation, to complete the risk spend efficiency analysis.

Condition (v): "provide the information required for each initiative in section 5.3 of the Guidelines"

Response: PacifiCorp's 2020 WMP did provide such information, except as is required to complete the risk spend efficiency analysis. Upon completion of the work described in response to Guidance-1, PacifiCorp will provide the information required for each initiative in section 5.3 of the Guidelines.

Guidance-6, Failure to disaggregate WMP initiatives from standard operations

General Response to Deficiency: To help frame this response, some historical context is useful. Over the past decade or so, there have been a number of reforms or initiatives that have integrated a number of wildfire mitigation concepts and transformed "standard" utility practice. Largely as a result of the state-wide mapping project, there are also distinctly different meanings for standard operations, including construction, inspection and maintenance, dependent on the geographic location of a facility. Consequently, it is difficult to precisely define standard practice without also making some reference to time and place. In particular, there were some substantial

amendments to the General Order regulations made and/or implemented during drafting stages of the original 2019 wildfire mitigation. At the time that those amendments became effective, they were perceived as "new" programs which augmented existing, standard programs. Even a short time later, there is an appreciation that the amendments are part of the "standard" program. Likewise, place is important. From the perspective of wildfire mitigation, what is "standard" in downtown Crescent City is no longer standard in the high fire threat districts (HFTD). Principles of regulatory cost recovery also come into play, such that initiatives, no matter how effective or innovative, can be construed as "standard" if there is an existing cost recovery mechanism in place (i.e. covered in base rates).

In responding to the conditions below, PacifiCorp is applying a broad definition of standard, meant to encompass the reality that many existing mitigation efforts are part of existing, standard operations. Specifically, any actions which are required by regulation are treated as "standard" (including requirements applicable to the HFTD only). In addition, any program that has its costs already included in the prior general rate case is treated as "standard."

In making such distinctions, however, PacifiCorp encourages all parties to remember that this distinction is most relevant from a cost recovery perspective. In particular, "standard" does not necessarily equate to either better, or worse, wildfire mitigation.

First, if certain effective practices became part of a company's standard operations earlier in time, this does not make them any less effective, even if they are now "standard." PacifiCorp has had a very low rate of reportable ignitions over the past five years. Very low ignition numbers for the past several years are the result of many years of efforts (beginning in the early 2000s through the Governor's Declared Drought Emergency and beyond) to mitigate against wildfire risk, while still holding down costs for customers.

Second, new "standard" practices reflect many thoughtful improvements of regulatory requirements which result in mandating a certain type and level of wildfire mitigation. In many circumstances, the regulatory process had to balance risk reduction efforts against the impact on customer rates. PacifiCorp believes that the Commission has made a good faith effort and been successful at balancing those interests. As we collectively gain more insight, experience and information, the Commission, and stakeholders, may come to a different determination. And, additional measures may be warranted in the future. In the meantime, however, the "standard" established by current regulatory requirements is an important reference point, reflecting a reasoned outcome in a deliberative process.

PacifiCorp stresses this distinction because the company's "standard operations" include critical wildfire mitigation efforts. Standard-done-well is the first line of defense against the wildfire risk. The company is optimistic about the potential of new programs to augment what has been done in the past. In embracing that optimism, however, PacifiCorp will also remain committed to trying to improve on what has worked well in the past.

Response to Conditions:

Condition (i): "clearly identify each initiative in Section 5.3 of its WMP as 'Standard Operations' or 'Augmented Wildfire Operations'"

Response: For each initiative in Section 5.3 of PacifiCorp's 2020 WMP, the company has designated the initiative as "Standard Operations" or "Augmented Wildfire Operations," as shown in column E of Attachment B.

Condition (ii): "report WMP required data for all Standard Operations and Augmented Wildfire Operations"

Response: PacifiCorp understands it did provide such data, except as is required to complete the risk spend efficiency analysis. Upon completion of the work described in response to Guidance-1, PacifiCorp will report additional WMP required data.

Condition (iii): "*confirm that it is budgeting and accounting for WMP activity of each initiative*"

Response: Budgeting and accounting information for each 2020 WMP initiative, where available, is included in Attachment B.

Condition (iv): "include a 'ledger' of all subaccounts that show a breakdown by initiative"

Response: For each WMP initiative, accounting information in Attachment B is reflective of either the subaccount for that specific initiative or of a reasonable estimate of the initiative-related amounts in the most detailed subaccount relative to that initiative.

Guidance-7, Lack of detail on effectiveness of "enhanced" inspection programs

General Response to Deficiency: PacifiCorp agrees with the WSD's determination that there has been some confusion regarding the meaning of 'enhanced' inspection programs, because this term has been used by different parties in different ways throughout these proceedings. There is a linguistic and conceptual issue which the Guidance-7 discussion helps to clarify. In its description of the deficiency, the WSD questions whether "numerous 'enhanced' programs are incrementally effective over routine patrol and detailed inspections." Such language is strongly suggestive that an "enhanced inspection" should be distinctly separate from the "routine inspections" performed consistent with GO 95/165. In one sense, this seems obvious. On the other hand, it is understandable that there has been some confusion. If one does something to improve the efficacy of a "routine inspection," it would be reasonable to call an improvement an "enhancement" of the existing inspection process. For example, if inspectors

use an electronic tablet to enter condition data onsite, this is typically viewed as an "enhancement." But we would not typically track the use of the tablet as a separate "program" or "initiative."

The use of the word "patrol" is also a little nuanced, especially used in conjunction with "inspection." Patrol has a relatively technical meaning in reference to the systematic visual inspections performed as part of a formal inspection program under GO 165. The word "patrol" is, however, frequently used in other contexts. For example, after an outage has been remedied, operations personnel may patrol a line before re-energizing the line to confirm that no other section of the line was damaged. Such a "patrol" is also an "inspection" – whenever operations personnel visually inspect the facilities, they are assessing the line to confirm it is working satisfactorily and looking for any observable conditions which would disrupt the normal operation of the lines. Likewise, even the term "visual inspection" can often be used to reference a patrol done outside of the formal GO 165 program.

Finally, scheduling efficiencies could justify "mixing" two otherwise severable activities. It would be very common, for example, for any enhanced inspection of a line to also entail a visual inspection of the same line. Visual inspections are, after all, relatively low tech, relying on experienced line workers, not on equipment. When personnel walk, drive, or fly a line – while looking at the facilities – they are performing a "visual inspection" (remembering, however, that someone trained to spot conditions will likely spot more conditions). Moreover, travel time is a key consideration in PacifiCorp's large geographic service territory. It can often be efficient to perform two (or more) tasks on one trip. For these reasons, it is understandable why two activities can sometimes be described as if they were part of a single program.

Thus, a few points of clarification are in order because of overlap between these terms. First, because vegetation inspections have a distinct initiative category in the WMP template, and "enhanced" vegetation inspection activity is not being addressed in this response to Guidance-9, which PacifiCorp understands is centered on the asset management and inspections program category. Second, PacifiCorp is not including the special patrol inspections performed by operations personnel during elevated risk periods, such as PSPS watch and restoration activities. Although such patrols can spot conditions (and arguably, then, a type of enhanced inspection), those activities are best addressed through the more specific PSPS discussion. Third, other patrol activities performed by line crews working in coordination with system operations are not included in this response to Guidance-9. Those activities remain best categorized in the grid operations and protocols program category.

All of this being said, for the purpose of clarifying what PacifiCorp is not including in this response, PacifiCorp appreciates the WSD's rationale in drawing a distinct line between "routine" inspections and "enhanced" inspections. In sum, it is useful to make a clear separation as we seek to determine whether a new inspection initiative is cost justified. For clarity, PacifiCorp will not use the term "enhanced" in reference to any activity undertaken as part of the formal inspection program administered under GO 165. Instead, PacifiCorp will use the term "enhanced inspection program" only for an initiative that is distinct and separate from the program as specified in GO 165. Along these lines, PacifiCorp will also categorically place any "enhancement" of the GO 165 program in the specific initiative category for "improvement of inspections."

In hindsight, use of the term "enhanced" at all has perhaps become more problematic than helpful. Perhaps the differentiation between standard and augmented, as required under Guidance-6, would be sufficient to distinguish various inspection initiatives.

The distinction, however, should not rob whatsoever emphasis from the importance of "routine" inspections. The GO 165 inspection program is a core, bedrock tool for identifying issues with equipment that could lead to safety consequences or impact reliability. Routine inspections work. They identify conditions, which then results in corrective work. Routine inspections keep equipment in good working order; they save lives; and they mitigate against the risk of utility-initiated fires.

With this understanding of "enhanced inspection program," PacifiCorp clarifies that the sole "enhanced inspection program" currently actively employed by PacifiCorp is the Infrared (IR) inspections of transmission electric lines and equipment initiative described in Section 5.3.4.5 of PacifiCorp's 2020 WMP. PacifiCorp's evaluation of the incremental effectiveness of that program is addressed in the response to the conditions below. Other initiatives potentially implicating enhanced inspection programs (i.e. using LiDAR, infrared or radio frequency technology) are best categorized as pilots, and are discussed in response to Guidance-9.

As a point of clarification, scheduling of patrol and detail inspections should have any bearing on the whether the IR initiative is incrementally effective. The IR initiative has proven effective, regardless of the frequency of routine inspections. Above all, the IR initiative is geared to identifying conditions which are not (and typically cannot be) identified through routine inspections.

Response to Conditions:

Condition (i): "the incremental quantifiable risk identified by such 'enhanced' inspection programs"

Response: Infrared technology is being used in an attempt to identify certain "hot spots" indicative of a condition. The infrared sensor identifies an unusual release of heat energy, which can be indicative of a problem with equipment; to be clear, however, heating can also be indicative or loading conditions, and thus too much attention to this parameter would yield an unacceptable number of false positives. This technology's application is a distinct initiative from normal patrols, because this approach attempts to identify conditions which would not normally be observable by the human eye. In addition, because these inspections are being conducted from the air, they provide a different angle of observation, as compared to a ground-based observation (and are different in other ways from the air-based patrols from helicopter which sometimes are used to complete regular patrol inspections). At a basic level, PacifiCorp is tracking the number of conditions that are identified through this process, as well as the costs incurred through the initiative. In addition, PacifiCorp is evaluating the significance of the conditions which may be spotted through this process and whether they reflect a greater incremental risk compared to other conditions. PacifiCorp is evaluating what impact the timing of the inspection has on its effectiveness in identifying conditions of this character.

Condition (ii): "whether it addresses the findings uncovered by 'enhanced' programs differently than findings discovered through existing inspections"

Response: On one level, PacifiCorp treats the identification of a condition similarly, regardless of what type of inspection was used to identify the condition. The condition is recorded in PacifiCorp's facility point inspection (FPI) system, and corrective work is scheduled. On a more nuanced level, however, PacifiCorp is evaluating the infrared inspection findings differently. These inspections reflect a different condition type (namely, a condition resulting in a release of heat energy), so PacifiCorp is evaluating what information or conclusions can be

drawn from identifying such a condition. For example, should they be treated with higher priority? Do they correlate with specific environmental factors or weather events?

Condition (iii): "*a detailed cost-benefit analysis of combining elements of such 'enhanced' inspections into existing inspection programs*"

Response: By clearly delineating between PacifiCorp's single enhanced inspection initiative and PacifiCorp's existing inspection programs, this condition does not apply.

Guidance-9, Insufficient discussion of pilot programs

General Response to Deficiency: PacifiCorp appreciates the opportunity to provide additional detail regarding its pilots programs and clarify issues unaddressed in the 2020 WMP.

Response to Conditions:

Condition (i): "all pilot programs or demonstrations identified in its WMP"

Response: There are 13 individual pilot programs discussed below. Considering the unique nature of a pilot program, each condition associated with Guidance-9 is answered in separate parts, organized around each individual pilot program.

Pilot Program No. 1

Name of Pilot Program: LiDAR Pole Loading Assessment Pilot Program

2020 WMP Section Reference: 5.3.3.13

Brief Description: Pole loading to accommodate safety factors and necessary specifications are included in PacifiCorp's engineering and construction standards. LiDAR data collection allows for highly accurate 3-Dimensional (3D) depictions of pole assets. These results can be used to identify potential pole loading concerns. Upon validation in the field, corrective work can be scheduled.

Condition (ii): "status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption"

Response: At this time, PacifiCorp has piloted the use of LiDAR to create structural models to calculate pole loading capacity. The pilot loading project was completed, and PacifiCorp observed positive results through improved identification of poles with pole loading concerns. The company is currently evaluating wider application of the technology and considering how to integrate this technology into other asset strategies (i.e. asset health index development).

Condition (iii): "*results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits*"

Response: The LiDAR Pole Loading Assessment Pilot produced usable and reliable structural information. While PacifiCorp has historically not experienced pole failures in its California service territory, resilient poles are an important element of a resilient electric system and reduce future ignition probability due to pole failure.

Condition (iv): "how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices"

Response: Results from the pilot were incorporated into the company's pole replacement initiative.

Condition (v): "a proposal for how to expand use of the technology if it reduces ignition risk materially"

Response: PacifiCorp is evaluating use of LiDAR pole strength modeling in compiling an asset health index.

Pilot Program No. 2

Name of Pilot Program: LiDAR Vegetation Inspection Pilot Program

2020 WMP Reference: 5.3.4.7

Brief Description: LiDAR data collection allows for highly accurate 3D modeling of vegetation in close proximity to utility assets. The modeled presentation of such data can be used to identify potential compromised clearances and evaluate vegetation threats. The identification of these hazards can help prevent fault scenarios and reduce ignition risk. However, full deployment and application remains unclear. Therefore, PacifiCorp developed and implemented a pilot project to scan and model a select subset of assets using LiDAR technology.

Condition (ii): "status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption"

Response: At this time, using LiDAR for vegetation inspection has not yet proved to be a viable mitigation initiative. PacifiCorp is currently doing additional pilot activities, particularly leveraging legacy LiDAR data to potentially improve functional application.

Condition (iii): "*results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits*"

Response: PacifiCorp observed a high degree of false positives when field verified. It is unclear whether such results were due to data processing, flight specifics or other input details that can be adjusted. When data from different vendors regarding similar locations was compared, there were substantially different results; these variances undermined faith in the results.

Condition (iv): "how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices"

Response: Elimination of tree intrusion and removal of high risk trees reduces the potential of vegetation contact faults (and, to some degree, potential fuel sources).

Condition (v): "a proposal for how to expand use of the technology if it reduces ignition risk materially"

Response: At the current time, PacifiCorp expects that the first application of this technology in its vegetation management program will be the validation of proper clearances. The next use case will likely be identification of deciduous versus coniferous trees. From a long-term perspective, the company hopes that the technology can be applied to organize and inform queuing up of cycles for "just in time" vegetation management work.

Pilot Program No. 3

Name of Pilot Program: Vegetation Management Data Analytics

2020 WMP Reference: 5.3.4.7

Brief Description: This pilot looks to use publicly available information to create a foundational, coarse 'inventory' of vegetation in proximity to equipment. The purpose of this pilot is to determine whether or not locations with higher risk of vegetation contact and/or increased need for vegetation maintenance can be identified via analysis of low-cost data layers.

Condition (ii): "status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption"

Response: The pilot is in early stages. PacifiCorp has loaded the first version of data analytics, which are now available and operational within company software tools. This first version is for exploring the potential analysis of public vegetation data sets for all of PacifiCorp's territory. A secondary analysis using higher resolution data for a small region west of Yreka is scheduled to begin in September 2020. In addition, the company plans to explore the potential application to identify certain trees as fast growing candidates for chemical maintenance.

Condition (iii): "*results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits*"

Response: Feasibility will be assessed by checking correlations between vegetation data characteristics for particular circuits or sub-circuit modules to historic vegetation maintenance and faults.

Condition (iv): "how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices"

Response: The pilot is anticipated to inform long-term risk, rather than highlighting immediate concerns. Refining the analysis and incorporating results into operational practices is expected to be an iterative process performed in consultation with vegetation management.

Condition (v): "a proposal for how to expand use of the technology if it reduces ignition risk materially"

Response: If the initial work is successful, the approach could be expanded by incorporating higher resolution and more frequently updated vegetation models.

Pilot Program No. 4

Name of Pilot Program: Vegetation Management Database Pilot Program

2020 WMP Reference: 5.3.5.6

Brief Description: PacifiCorp is planning to pilot the use of the utility's existing electronic database programs to identify, plan, track, and record completion of vegetation management activities. Foresters will begin working with the GIS department to secure digital maps consistent with the company's master version and use electronic forms and records to capture activities. This will facilitate additional granularity in reporting, additional record retention, and enhanced analytics.

Condition (ii): "status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption"

Response: The program (MapIt Fast) is currently in use in PacifiCorp's California service territory. Assuming the pilot proves beneficial, the program will continue to be implemented, with full adoption in 2021.

Condition (iii): "*results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits*"

Response: The program allows for tracking of data, including the location and number of prunes, removals, herbicide use, pole clearing activities, exceptions, outage investigations, and property owner refusals. Tracking such data facilitates audits and management of crew deployment.

Condition (iv): "how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices"

Response: The program is used to track work flow, including post inspection findings and exceptions. In some cases, exceptions may pose an ignition risk. Exceptions are identified in the program and are immediately available to the tree contractor to review, correct the exception, and track to completion.

Condition (v): "a proposal for how to expand use of the technology if it reduces ignition risk materially"

Response: PacifiCorp will continue to refine the program through implementation and use.

Pilot Program No. 5

Name of Pilot Program: Radio Frequency (RF) / Infra-red (IR) for Line Patrolman

2020 WMP Reference: 5.3.3.10 (also noted in 5.0.E)

Brief Description: This pilot involves the use of new tools (IR and RF sensors) to supplement traditional visual inspections and incorporate the capture and use of empirical data

and measurements into condition identification. Traditionally, a human inspector has assessed assets visually. These tools will give the inspector additional "eyes" with the expectation to better identify a wider range of conditions.

Condition (ii): "status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption"

Response: The pilot is in the early stages of implementation. PacifiCorp has obtained the equipment which will be used by line patrolmen and has completed the data collection forms for mobile application. The company conducted the first training sessions virtually on August 25, 2020. Line patrolmen will engage the new RF and IR tools on targeted local transmission lines over the next couple of months. After the first trials and as employees gain experience, the company will likely make modifications to sensitivity levels, equipment usage, data collection and analysis methods.

Condition (iii): "*results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits*"

Response: Similar pilots for airborne applications have yielded results in detecting leakage current for pole fire mitigation. PacifiCorp expects that this pilot will yield results over the next quarter.

Condition (iv): "how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices"

Response: Early detection of latent conditions will result in avoided fault operations that have a direct impact on ignition probability.

Condition (v): "a proposal for how to expand use of the technology if it reduces ignition risk materially"

Response: If successful, the company intends to outfit all line patrol personnel with detection equipment. Depending on the pilot's results, PacifiCorp may engage in further studies regarding applications on the distribution network.

Pilot Program No. 6

Name of Pilot Program: Sophisticated Protection Control Settings

2020 WMP Reference: 5.3.3.9

Brief Description: This pilot evaluates the optimal approaches in using sensitive and sophisticated device settings to reduce wildfire risk (and improve reliability). Devices, including relays, reclosers and fuses, all have methods by which they are programmed to operate in response to a fault condition. If there is limited coordination between devices, it can increase the probability of equipment damage, which reflects an ignition risk.

Condition (ii): "status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption"

Response: PacifiCorp developed advanced distribution line settings that were piloted in several areas the company serves (including Weed, CA and Lincoln City, OR). After experimenting and making some minor modifications, the company has adopted those settings as the company's standard. The settings profiles include normal (fast trip followed by reclosing attempts), elevated risk (fast trip followed by single reclose attempt after sufficient time to limit persistence of heat), extreme risk (no reclose attempt), and safety hold (for line worker usage during line operations where no reclosing occurs). Furthermore, the company is piloting the use of mirrored-bits (or radio communications) between substation relays and first zone line reclosers. This pilot is aimed to reduce device to device coordination time, which reduces arc energy. Initial results indicate this approach is highly valuable in locations where coordination delays are needed for proper device coordination. The goal is to maintain a high level of

reliability while still reducing potential arc ignition time or magnitude. The company has also piloted high impedance fault detection, which is currently configured to alarm upon detection. As the company gains more experience with alarming versus device operation, settings will be modified.

Condition (iii): "*results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits*"

Response: PacifiCorp has used the alternate settings developed through this pilot in recent elevated risk events. While no line operations occurred during that time, the settings were available to perform protective function. A handful of high impedance faults have been recorded (not in the high fire threat area) resulting in tuning of the algorithm.

Condition (iv): "how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices"

Response: Analysis of protective device settings is part of PacifiCorp's standard operating practices. Either field engineers, relay support personnel or protection and control team members evaluate the operations to ensure that protective devices function as expected. Those reviews determine whether there should be any subsequent changes to the network, which could include targeted inspections, device settings changes, training or further engineering analysis.

Condition (v): "a proposal for how to expand use of the technology if it reduces ignition risk materially"

Response: PacifiCorp plans to expand its use of advanced settings in Tier 2 areas, depending on the results of localized risk assessment scores (as discussed in response to Guidance-3 and PacifiCorp's Remedial Compliance Plan). As equipment is replaced for any reason, PacifiCorp plans to further incorporate the advanced settings protocols.

<u>Pilot Program No. 7</u>

Name of Pilot Program: Fault Detection/Line Monitoring

2020 WMP Reference: 5.3.3.9

Brief Description: This pilot explores the use of continuous monitoring sensors, including both line sensors and station relays, for fault identification and detection.

Condition (ii): "status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption"

Response: The company has completed approximately 1/3 of transmission relays with fault detecting relays (and has outlined plans for the remainder to be completed); line sensor piloting (LineScope) has been completed and been found to be valuable in minimizing risk while maximizing reliability results; further installations are scheduled for Q3 & Q4, in addition to lower priority locations being completed during 2021. Single ended traveling wave is being piloted in four locations on three local transmission lines; the first installation's design was completed in late August and is to be constructed during Q3 2020.

Condition (iii): "*results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits*"

Response: Substantial benefits have been experienced with the fault detection devices that have been placed, however no widespread metrics have yet been created due to the recent nature of the installations.

Condition (iv): "how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices"

Response: As addressed in Sophisticated Protection Control Settings, the device's event data is analyzed to guide response and correction actions.

Condition (v): "a proposal for how to expand use of the technology if it reduces ignition risk materially"

Response: The company will continue to advance its multiyear installation plan. Further, the company will expand its use of fault detection equipment in areas where elevated risk scores are identified as it completes its element (zone of protection/module) analysis. As equipment is replaced due to its asset health indexing processes or when reactive reliability improvements are needed it will further incorporate viable fault detection equipment.

Pilot Program No. 8

Name of Pilot Program: Distribution Fault Anticipation (DFA) and Wave Form Analysis

2020 WMP Section Reference: 5.3.2.2

Brief Description: PacifiCorp is pursuing the use of distribution fault anticipation (DFA) technology through piloting with Texas A&M. In addition, the company is investigating application of waveform analytics with Oakridge National Lab (ORNL) through the Department of Energy's Grid Modernization Lab Consortium partnership. While PacifiCorp did not identify continuous monitoring sensors as an initiative in its WMP, both of these technologies can be considered "continuous monitoring sensors."

Condition (ii): "status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption"

Response: PacifiCorp has contracted with Texas A&M to facilitate the DFA pilot, and the first installation at Weed substation (on two circuits) is in design. PacifiCorp plans to issue a construction bid package in mid-September 2020, with construction planned for Q4 2020. The collaboration with ORNL regarding wave form analytics is in early scoping stages.

Condition (iii): "*results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits*"

Response: No results have yet been produced. The first results are expected at Weed substation no sooner than second quarter 2021.

Condition (iv): "how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices"

Response: If DFA delivers the expected early detection of wave form deviations, PacifiCorp anticipates this technology to be highly effective at reducing fault operations, which consequentially reduces ignition probability.

Condition (v): "a proposal for how to expand use of the technology if it reduces ignition risk materially"

Response: If successful, PacifiCorp will install DFA when replacing substation/circuit relays where communication networks exist. Depending on the result of the pilot, PacifiCorp may consider near-time replacements. For those portions of the network with limited communications options, alternative communications strategies will be considered.

Pilot Program No. 9

Name of Pilot Program: Arc Energy Fault Modeling

2020 WMP Reference: 5.1.2

Brief Description: The pilot uses time current characteristic modeling capability, within a load modeling tool and under a variety of fault conditions, to evaluate protective devices and their settings that result in fault current (amps) for a period of time (seconds) for a length of conductor (feet). Such results create a range of arc energy risks that can then be minimized by re-coordinating the protection control systems for the given circuit.

Condition (ii): "status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption"

Response: PacifiCorp completed the pilot in PSPS areas described in the WMP. Based on a review of the pilot results and system records, certain equipment has been updated. PacifiCorp

expanded the pilot to other HFTD during 2020, with long term adoption intended over the next five years.

Condition (iii): "*results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits*"

Response: The results of the pilot were used to identify locations where the fault potential (based on the similarity to modeled configurations) reflected a higher risk of damaged equipment or ignition.

Condition (iv): "how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices"

Response: PacifiCorp used the modeling results to identify locations where there was a higher risk of a fault. Use of this information allows for system network changes to preempt such a risk condition.

Condition (v): "a proposal for how to expand use of the technology if it reduces ignition risk materially"

Response: PacifiCorp plans to focus pilot expansion on elevated risk areas. As the company develops risk assessment scores for individual grid modules, it will use these results to prioritize areas for study of arc energy risks. Long term, the company anticipates incorporating the methodology into its planning study process.

Pilot Program No. 10

Name of Pilot Program: Pyregence Ignition Modeling

2020 WMP Reference: 5.3.1.2-5.3.1.5

Brief Description: As part of the California Energy Commission's Next Generation Utility Wildfire Toolset, PacifiCorp has supported the grant development and participated in a technical advisory committee role to create practical tools for utility operations and engineering

personnel to deploy as part of their wildfire mitigation and risk management activities. The Pyregence Ignition modeling tool employs "match drop" simulation along specific corridors. This tool will allow a utility to strategically target the wildfire risk associated with particular assets over a forecast period (up to five days) in support of operational decisions, including PSPS segmentation designs.

Condition (ii): "status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption"

Response: The pilot project is in trial use and expected to migrate to widespread application over the next two quarters. The pilot product was first shared with technical advisory committee (TAC) members in March, 2020. Since that time, PacifiCorp has rendered the forecast products into its engineering and operations environment.

Condition (iii): "*results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits*"

Response: A designated PacifiCorp platform has been created and network characteristics, including circuit zones of protection-level details has been provided to the Pyregence team, which is overlaying its calculation engine onto this base data.

Condition (iv): "how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices"

Response: The modeling process allows for short-term analysis of risk events within the electrical network. Such information will be used to elevate operational actions within the network in alignment with those areas which signal elevated risk.

Condition (v): "a proposal for how to expand use of the technology if it reduces ignition risk materially"

Response: As results are assessed and company tools modified to rapidly incorporate the results of analysis, the information will be broadly shared across the business to allow a common

perspective of elevated wildfire risk areas at any given point in time. Such information also facilitates effective deployment of local resources in response to the elevated risks.

Pilot Program No. 11

Name of Pilot Program: Advanced weather monitoring and weather stations

2020 WMP Reference: 5.3.2.1

Brief Description: This pilot focuses on exploring of the benefits of RAWS (remote automatic weather system) stations versus micro weather stations. The company is installing multiple RAWS station, to participate in the RAWS weather network and to calibrate RAWS stations with previously-deployed microstation. Participation in the RAWS weather network may enhance coordination with public safety partners and utility situational awareness. In particular, improved situational awareness may support modifications of system operations in response to risk periods that are weather dependent. Calibration between public and private weather systems may improve correlation between weather systems and their sensitivities to specific patterns, notably improving coordination between NIFC (National Interagency Fire Center) and USFS (United States Forest Service) and utility situational awareness.

Condition (ii): "status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption"

Response: PacifiCorp has received RAWS stations and microstations and plans to complete installations during the month of September, 2020. Weather stations are being placed in Klamath Glen, Smith River, Cave Junction/Patricks Creek, Hornbrook, Fort Jones/Scott Valley, McCloud, Alturas, and Montague. (See response to PC-2 and Attachment D for graphic illustration.) PacifiCorp is installing two RAWS stations in its California service territory, at Klamath Glen and Smith River. (PacifiCorp is also installing additional RAWS stations in Oregon, including two just north of the state line in Grants Pass area.).

Condition (iii): "*results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits*"

Response: Good results with initial base system of microstations informing risk and enhancing operational response during elevated risk periods.

Condition (iv): "how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices"

Response: The pilot for weather station placement doesn't correlate to ignitions or faults; insight into weather patterns as detected by the company's weather station has allowed for strategic actions of its operational plans including modifying system protection settings, pre-risk line and vegetation patrols and strategic siting of line personnel during elevated risk periods.

Condition (v): "a proposal for how to expand use of the technology if it reduces ignition risk materially"

Response: While the company has not yet identified an ideal weather station density it expects to continue to enhance its weather network, particularly as it evaluates the RAWS to microstation correlations.

Pilot Program No. 12

Name of Pilot Program: Risk Modeling Pilot

2020 WMP Reference: 5.3.1.2

Brief Description: The purpose of this pilot is to develop new methodologies in wildfire risk assessment. The project, including status, results, and a wide range of potential applications, are described in greater detail in PacifiCorp's response to Guidance-3, as set forth in the Remedial Compliance Plan, filed July 27, 2020.

Guidance-10, Data issues – general

General Response to Deficiency: PacifiCorp appreciates the willingness of the WSD to consider some of the logistical challenges in providing GIS data. Consistent with the Wildfire Safety Division (WSD) Geographic Information System (GIS) Data Reporting Requirements and Schema for California Electrical Corporations, PacifiCorp has prepared its WSD GIS Data Schema Report, which is provided as Attachment C: WSD GIS Data Schema Status Report.

In its WSD GIS Data Schema Report, PacifiCorp completed all of the required fields and identified where GIS data is currently available and was submitted in the 2020 WMP, as well as areas where creation of required GIS data requires translation and extraction from other data repositories, changes to data capture policies and processes, or completion of a physical inventory to compile required data with subsequent data extraction and translation efforts to follow. Data currently available in GIS format will be translated to the new WMP data schema and provided with the company's 2021 WMP filing. Where significant effort and dedicated resources are required to develop and implement data extraction and translation, PacifiCorp anticipates additional dialogue with the WSD regarding how compliance can be accomplished in the most efficient manner. Along the same lines, efforts focused to inventory assets or compile additional data will follow.

Guidance-11, Lack of detail on plans to address personnel shortages

General Response to Deficiency: PacifiCorp does not have a personnel shortage that would frustrate completion of the planned wildfire mitigation activities in its California service territory, not is it currently forecasting any personnel shortage. The company is confident that it has adequate current personnel to accomplish the planned mitigation initiative objectives in the 2020 WMP, and it will update plans appropriately if that assessment changes.

With respect to line construction services needed to complete WMP initiatives, the company will deploy internal and external resources. For line services performed by company personnel, the close proximity of the company's more densely populated Oregon and Washington service territories alleviate any personnel shortage concerns (if there were any). In its California service territory, PacifiCorp has dedicated craft line personnel in the following numbers: 20 Linemen, 3 Communication Technician, 2 Relay Technician, and 3 Substation Wiremen. In juxtaposition to those numbers, PacifiCorp has craft line personnel in Oregon and Washington available to support California operations, in the following numbers: 219 Linemen, 13 Communication Technicians, 20 Relay Technician, and 36 Substation Wiremen.

Construction activity is supplemented through the use of contract line resources, as needed. And a large percentage of vegetation management activities are performed by contracted resources. In Section 5.5 of the 2020 WMP, PacifiCorp outlined that qualified contractor resources are an "area of concern." PacifiCorp will continue to monitor this issue. At this time, however, contractors are sufficiently available for the construction activities associated with the California wildfire mitigation efforts. The concern is more squarely focused on cost, because the abundance of work will have a direct impact on the price bid by contractor. It also has an impact on cost through the use of overtime and extended travel time.

Response to Conditions:

Condition (i): "a listing and description of its programs for recruitment and training of personnel, including for vegetation management"

PacifiCorp's recruitment and training strategies for key positions rely on collaboration with stakeholders, including local management, labor relations and community relationships. With respect to the recruitment and training of craft personnel, PacifiCorp has multi-year apprenticeship programs. This approach ensures that a pipeline of trained employees are ready to

either backfill vacant positions or expand the internal workforce as needed. An apprenticeship includes classroom and job site training, with mandatory assessments before successfully completing the program. PacifiCorp currently has 44 apprentices, in the following numbers: 24 Linemen, 2 Relay Tech, 8 Estimators, and 10 Metermen.

With respect to vegetation management, PacifiCorp's recruitment and training strategies focus on management of the contractual relationship with independent contractors. PacifiCorp's vegetation management program is a 100% contracted front-line resource, managed by internal management and the company's eight utility foresters. PacifiCorp requires that its utility foresters are certified arborists and certified utility specialists by the International Society of Arboriculture (ISA). PacifiCorp is not directly responsible for the training of the vegetation management workforce who are employees of an independent contractor. All of PacifiCorp's master contracts with vegetation management service providers, however, include contractual requirements for contractors to provide qualified and trained individuals to safely accomplish the work. This includes International Society of Arboriculture (ISA) certification for working in proximity to energized conductors.

Condition (ii): "a description of its strategy for direct recruiting and indirect recruiting via contractors and subcontractors"

PacifiCorp works with contractors to evaluate the work volume on the planning horizon that is available for contractors to bid. Visibility into available work in a geographical area allows the contractors to effectuate their own recruitment and retention strategies. Specific to vegetation management, Pacific Power has master level agreements with three vendors based on region. This allows resource flexibility as the three vendors have resource pools that extend beyond PacifiCorp's service territory. In 2020, PacifiCorp was able to increase the number of

vegetation management crews working in its western state territories (California, Oregon, and Washington) to 129, of which 27 are dedicated to work in California.

Condition (iii): "its metrics to track the effectiveness of its recruiting programs, including metrics to track the percentage of recruits that are newly trained, percentage from out of state, and the percentage that were working for another California utility immediately prior to being hired"

PacifiCorp regularly reviews the effectiveness of participation in California-specific career fairs, such as the annual Northwest Lineman Career Fair in Oroville, California, and online recruitment opportunities that target local communities. Adjustments to outreach efforts are made based on the number of qualified applicants received from specific sources. The company regularly researches new opportunities to notify qualified individuals of career opportunities. The company tracks the recruitment process primarily through the following metrics: number of applicants; number of qualified applicants; number of qualified minority, women, disabled and veteran applicants; number of declined offers; length of employment; training delivered to newly hired employees; training delivered to all employees; and internal employee movement (e.g. from one job classification to another or from one location to another).

Guidance-12, Lack of detail on long-term planning

General Response to Deficiency: PacifiCorp agrees with the WSD that a more detailed discussion of utilities' long-term wildfire mitigation plans would be useful, including in assessing how particular initiatives align with a utility's long-term plan. From a long-term perspective, there has been an emphasis on wildfire mitigation for at least a decade. But the pace undeniably accelerated in recent years, and the long-term vision can quickly evolve in that type of environment. Against the background of the 2017 and 2018 fire seasons, through significant legislative action and regulatory action including the opening of two rulemakings on the wildfire issue, considerable energy has been devoted to planning immediate and near-term mitigation

activities which include execution of initiatives detailed in utilities' 2019 and 2020 WMPs. While a long-term vision has been influencing PacifiCorp's planning process every step of the way, the company will make a greater effort to share the details of that long-term vision, and how individual initiatives align with it, in future WMP filings.

PacifiCorp stresses that any long-term view needs to be, first and foremost, flexible and adaptive to new information and emerging technologies. PacifiCorp's long-term planning is rooted in developing a reliable "framework" for future decision making, rather than a long-term plan based on absolute numerical certainty. For this reason, PacifiCorp was hesitant to set forth specific 10 year figures in many template boxes in the 2020 WMP. Even now, the company is unable to identify definite projects beyond the current timeline for completion of finite Tier 3 hardening projects currently scheduled for completion in 2023. PacifiCorp can, however, do a better job of describing the framework that the company expects to use in making future decisions on a long-term basis. There are a number of factors which influence this decision-making framework.

First, a critical area compelling flexibility in long-term planning is the evolving nature of wildfire risk assessment, both with respect to ignition probability and consequence probability. As discussed in PacifiCorp's prior response to Guidance-03, in its Remedial Compliance Plan, the company is at an important juncture in adding another layer of sophistication to utility wildfire risk assessments, by developing a more granular and localized risk assessment associated with specific utility assets. Based on the good work of the state-wide mapping process (itself a long and deliberative process), PacifiCorp's wildfire mitigation emphasis in the last two years has been to implement transformative system hardening in the Tier 3 areas of PacifiCorp's service territory. These are impactful mitigation activities and significantly reduce any risk of a

catastrophic event. As discussed in response to Guidance-04 above, PacifiCorp further anticipates that these efforts will drastically reduce, if not essentially eliminate the potential for PSPS (as currently conceived) in those Tier 3 areas.

PacifiCorp does not, however, believe that it will be appropriate to simply copy this Tier 3 approach and replicate it across the entirety of its Tier 2 area. Instead, PacifiCorp anticipates that more localized and granular wildfire risk modeling may identify pockets of higher profile risk areas in Tier 2, reflecting Tier 3 type risk in those isolated areas of Tier 2. In other words, certain circuits or segments of circuits may be identified for system hardening work similar to what PacifiCorp is doing in Tier 3 under the WMP. In addition, more granular risk assessments may even offer insight into whether particular initiatives might be more effectively applied in certain areas versus other areas (or even at certain times versus other times). In sum, our evolving understanding of wildfire risk assessment is going to be a significant factor in the framework for long-term wildfire mitigation planning.

Second, PacifiCorp will continue to evaluate the effectiveness of individual initiatives. For example, from a dollar perspective, the conversion of existing lines to covered conductor reflects the highest magnitude of mitigation activity. While the basic technology has been around for a long time, very recent improvements in its performance and durability have fundamentally altered the dynamics of the design. Ongoing assessments of actual performance in the field will provide critical information about these deployments. At this time, as discussed in response to Guidance-2 above, PacifiCorp strongly believes that covered conductor has emerged as a highly effective wildfire mitigation technology. It also carries significant reliability benefits, giving it a dual purpose advantage. Accordingly, covered conductor conversions are an important part of PacifiCorp's long-term wildfire mitigation vision, including in certain Tier 2 areas (with

locations of such applications to be determined by the more advanced risk assessment work currently being done). If, however, the underlying conclusions of the effectiveness of this strategy are drawn into question, PacifiCorp is not "locked" into supporting this technology at the level currently anticipated. Especially because the development of covered conductor with additional layers of sheathing and its widespread application as a wildfire mitigation strategy is relatively novel, the company plans to continue its evaluation and its risk spend efficiency analysis of covered conductor. Historically covered conductor was deployed mostly to improve reliability, particularly to reduce incidental contact from vegetation and wildlife, not as a wildfire mitigation strategy. As these proceedings continue to explore the issue, PacifiCorp remains interested in lessons other utilities and stakeholders are able to share. In short, the preferred initiatives may change based on new information.

Third, PacifiCorp will continue to evaluate the potential for new initiatives suitable for wide spread application. If a new technology or new process emerges as an effective wildfire mitigation strategy, it could have a lasting impact on the entire long-term plan. Most wildfire mitigation strategies work in coordination with other strategies. And certain strategies (e.g. covered conductor) can reduce the incremental effectiveness of a different strategy (e.g. enhanced vegetation inspections), as compared to looking at that strategy in a vacuum. As discussed in response to Guidance-09, PacifiCorp is currently engaged in a number of pilot programs, each of which has the capacity to be proven effective for widespread application in a manner which could greatly impact long-term planning. The universe of potential new initiatives is not, however, limited by those specific pilots discussed in the response to Guidance-09. PacifiCorp is closely observing what the other utilities in California are doing. As those utilities adapt to the greater challenges posed by Santa Ana and Diablo winds, PacifiCorp believes that

innovations pushed forward by those companies can be excellent indicators of strategies that PacifiCorp can evaluate for application in the climate and environment of its northern California service territory. The company also continues to monitor developments outside the state of California, both in the United States (e.g. Texas) and internationally (e.g. Australia). Indeed, the pilot programs discussed in response to Guidance-09 have been heavily influenced by these observations and collaboration with experts in other jurisdictions.

Fourth, PacifiCorp is intrigued by the potential impacts to wildfire mitigation of other trends in the electric utility industry. The rapidly shifting electric utility landscape makes normative and inflexible long-term planning difficult – but, at the same time, the pace of change offers intriguing potential benefits in developing a responsive and flexible long-term planning framework. Furthermore, while PacifiCorp may not always be able to predict exactly how and when the electric utility landscape will change, the company's long-term vision for wildfire mitigation includes the ability to consider trends and adapt, where appropriate, to the changing grid topology and associated power flow.

Response to Conditions:

Condition (i): "its expected state of wildfire mitigation in 10 years, including 1) a description of wildfire mitigation capabilities in 10 years, 2) a description of its grid architecture, lines, and equipment"

Response: While PacifiCorp wants to remain flexible in its long-term planning, enough work has been done over the past decade to sketch an outline of how the 10 year plan is likely to look. From a nuts and bolts perspective, PacifiCorp will again emphasize the importance of doing "standard" well, no matter what new information and new technologies emerge. It may be perceived as business as usual, but tried-and-tested programs have a history of working. Over the past decade, PacifiCorp has focused on these programs to both mitigate against the wildfire risk

and to improve reliability. A critical aspect of PacifiCorp's 10 year program is to continue these gains. For example, the inspect and correct program will return better mitigation (and reliability) returns when it is repeatedly emphasized year-after-year, versus ever being in a situation where it has to make up ground from a lack of emphasis in prior years.

Moving from the "standard" to the "augmented" programs, PacifiCorp anticipates that it will likely be pursuing similar strategies in the years after 2023, as were employed in Tier 3 areas from 2019-2023. The core of these strategies will include: (i) multi-point grounding to ensure sensitivity to fault conditions; (ii) additional reclosers and other sectionalizing equipment, allowing for isolation strategies and wildfire mitigation relay settings; (iii) fuse coordination, including with deployment, where appropriate, of non-expulsion devices; and (iv) covered conductor conversions, including pole replacements and other line elements as necessary. The specific locations will be highly dependent on the more localized and granular risk assessments that PacifiCorp is currently developing (as described in response to Guidance-03).

Condition (ii): "a year-by-year timeline for reaching these goals"

Response: PacifiCorp plans to complete its more localized and granular risk assessments prior to the filing of the 2021 WMP and, leveraging that work, will conduct more sophisticated risk spend efficiency analysis, as discussed in response to Guidance-1. This work will be essential to setting a timeline for additional discrete projects within the 10 year timeframe.

Condition (iii): "*a list of activities that will be required to achieve this end goal*"

Response: Recognizing the value of having a framework for making decisions in the long-term planning process, PacifiCorp's 10 year outlook stresses process activities versus project-specific timelines. From this perspective, the wildfire mitigation plan itself has been proven to be the most important activity. As discussed above, one major activity required to

facilitate long-term planning is completion of the more localized and granular risk assessments contemplated in response to Guidance-03. PacifiCorp plans to have risk scores for every individual grid module in the HFTD. (A module is a section of a circuit that can be isolated by a control operation; a module is bounded by a sectionalizing or automated grid control device.)

Condition (iv): "a description of how the electrical corporation's three-year WMP is a step on the way to this 10-year goal"

Response: Above all, as discussed in response to prior Guidance conditions, completing the work contemplated in the 2020 WMP will have a profound impact by dramatically reducing the risk profile in the Tier 3 areas of PacifiCorp's service territory. This work itself is a major component of the 10-year goal, and mitigation of the Tier 3 risk will then facilitate greater resource allocation to Tier 2 areas. In the 2021 WMP and beyond, PacifiCorp will apply its continuously maturing risk assessments, to identify discrete projects planned for the extended 10-year timeframe. As reflected in the response to condition (iii) of this Guidance, the WMP itself is a key activity in the framework for making long-term decisions. As part of the WMP process, utilities complete a progress check on stated project goals and timelines. Preparation of a WMP allows for considerable reflection on programs and re-evaluation of priorities. Above all, the plan requires an annual assessment of the effectiveness of wildfire mitigation initiatives, which is critical information for framing future long-term planning.

The section below is responsive to the five Class B deficiencies and correlating conditions of WSD-008, applicable to PacifiCorp specifically.

PC-1, PacifiCorp's WMP does not report adequate planning for climate change

General Response to Deficiency: To address this deficiency, PacifiCorp will clarify certain elements in its 2020 WMP. As indicated in the previous discussion, PacifiCorp perceives

climate change as a top macro trend of concern. Indeed, PacifiCorp identified climate change as the *number one* macro trend of concern. (*See* Table 19 of PacifiCorp's 2020 WMP.) PacifiCorp does not, however, perceive that this issue necessarily implicates a separate planning process. Instead, the company believes that the impacts of climate change are assessed through the same risk assessment tools and fire modeling work utilized to develop the WMP.

To clarify its earlier comments, PacifiCorp recognizes climate change as likely being the greatest driving force behind revisions in upcoming risk assessments. As reflected in the term, "climate change," the phenomenon of increased levels of greenhouse gases in the atmosphere is changing the climate. Thus, when Section 5.3.1.2 of the 2020 WMP outlines PacifiCorp's initiative for climate-driven risk map modeling, climate change is at the center of the process.

In its 2020 WMP, PacifiCorp agrees it could have been more explicit in the role of climate change in ongoing climate-driven risk map modeling. PacifiCorp is deeply concerned that climate change could result in stronger Santa Ana winds in its service territory (also called Diablo winds in the northern part of the state). As discussed elsewhere in these responses, PacifiCorp is proud of its history of relatively few utility-related ignitions over the past many years. (And the company believes that this is objective, data-driven support for continuing solid standard operational practices.) With humility, however, PacifiCorp recognizes that dealing with fierce Santa Ana or Diablo winds presents a level of challenge that PacifiCorp has not historically had to face. In PacifiCorp's service territory, high winds are typically experienced simultaneous with substantial precipitation, changing the fire risk paradigm substantially. The utilities serving the large areas subject to Santa Ana or Diablo types of winds have had greater challenges.

PacifiCorp ranked climate change the top macro trend, and focused on wind speeds in its 2020 WMP Section 5.3.1.2, because climate change induced increases in wind severity could radically impact PacifiCorp's risk assessments. PacifiCorp is also painfully aware that other climate change impacts could significantly increase wildfire risk. For example, Table 19 noted the impact to live and dead fuel moisture levels, as well as to tree mortality. As the forests of northern California become drier due to climate change, PacifiCorp's wildfire risk is seriously exacerbated, particularly if it coincides with changing weather patterns for when high winds impact its service territory.

If climate change continues to increase the wildfire risk, PacifiCorp is also worried about the customer impact of its cost of service. PacifiCorp has a massive geographic territory relative to number of customers.[4] A large geographic territory equates to many line miles per customer. With the notably expensive characteristic of aggressive wildfire mitigation, PacifiCorp is deeply concerned that increased winds and drying forests, caused by climate change, could dramatically impact customer costs. If the more extreme risk continues to move north, the length of lines to serve more remote areas becomes an even larger issue. As the cost to install and maintain lines per mile increases, there are fewer customers to share that incremental increase in cost.

On a positive note, PacifiCorp is encouraged about advancements in fire science modeling, and a key component of those advancements is a better understanding of long-term climate forecasting. Along these lines, PacifiCorp is participating in the Pyregence initiative, discussed more below. A better understanding of climate change will impact and better inform the entire risk assessment process. And better information allows for better wildfire mitigation planning.

[4] PacifiCorp's service area has a population density of approximately four customers per square mile.

To this end, however, PacifiCorp will also voice a comment. Considerable work was done to complete the state-wide mapping process, resulting in an objective delineation of the Tier 2 and Tier 3 areas in the HFTD. PacifiCorp is hesitant to break from this process based on any future trend projections. While PacifiCorp disagreed with others regarding certain discrete issues that arose during the mapping project (particularly as it calibrated the effect of these approaches on its legacy fire history), as a whole it was very positive process and established a baseline set of expectations, particularly since it was coupled with many rule changes in existing General Orders. It reflected a deliberative process which allowed a large variety of stakeholders to make input. For all of the reasons discussed in the response to Guidance-03 in the Remedial Compliance Plan, PacifiCorp understands that it may make some individualized adjustments to this framework based on ongoing risk assessments of an increasingly granular and localized nature. When talking about such a macro trend such as climate, we also need to be thinking, however, about the potential of an update to the state-wide wildfire risk assessment map.

Response to Conditions:

Condition (i): "describe how it incorporates climate change into risk models"

Response: Climate change has always been a central factor in PacifiCorp's risk models, precisely because climate is a central input in those models. Admittedly, those models have typically focused on the "current state" of risk. Therefore, the modeling captures the impacts of climate change already realized. As utilities and stakeholders alike have tried to develop better and more sophisticated models as well as implement the first stages of aggressive wildfire mitigation, PacifiCorp believes that the focus on the current state has been appropriate. As our tools and understanding have improved, however, PacifiCorp recognizes the value to incorporating additional forward-looking models to better aid long-term planning efforts.

To this end, PacifiCorp is energetically participating in the Pyregence Consortium[5] which is developing and facilitating new, cutting-edge wildfire risk modeling tools to aid forward-looking mitigation planning. Heide Caswell, PacifiCorp's Director of Transmission & Distribution Asset Performance/Wildfire Mitigation, is on the Pyregence Technical Advisory Committee. On the specific issue of climate change, there is an entire workgroup devoted to this issue. In fact, "Climate Change & Fire" is one the four workgroups (the other three are: "Extreme Weather," Fire Science," and "Fire Forecasts"). More information about the climate change workgroup is available at: https://pyregence.org/scenario-analyses. PacifiCorp expects that these efforts will integrate a forward-looking understanding of potential climate change impacts into future iterations of PacifiCorp's wildfire risk modeling and wildfire risk assessment. Finally, as this work matures, PacifiCorp intends to incorporate a changing underlying fire risk approach which accounts for credible climate change scenarios. The company outlined in its prior response to Guidance-03, its roadmap for fire risk quantification, which allows for electric equipment and the appropriate topology to be overlaid against a variety of risk influencers to allow for quantification and prioritization of mitigation measures. PacifiCorp anticipates climate change scenarios will weigh more heavily in those future risk assessments.

Condition (ii): "outline in detail how it plans to use these risk models to deploy wildfire initiatives"

Response: Application of the risk models is somewhat dependent on the results of the future modeling efforts. If next generation fire science models yield similar results, there would be little cause to change current planning initiatives. More and better information is good – but it might not be different. If that modeling confirms that risk is best perceived from a "flat

[5] https://pyregence.org/

perspective" – meaning a relatively uniform geographic treatment irrespective of seasonal weather variation – PacifiCorp will likely deploy initiatives consistent with the current plan (absent, of course, technological improvements, etc., outside the risk modeling efforts). If, on the other hand, modeling developments reveal concrete and reliable variations of risk on both or either (i) a more localized and granular level or (ii) a time-sensitive level, then PacifiCorp will evaluate whether initiatives can be deployed to maximize efficiencies in risk reduction based on that risk modeling. Finally, we must recognize the unfortunate reality that future risk modeling may predict even more severe wildfire risk than currently projected. In that case, the risk spend efficiency analysis for many initiatives would presumably shift towards justification of more aggressive initiative deployment, whose cost, higher or lower, would be justified due to the incremental reduction in risk.

PC-2, PacifiCorp has not demonstrated effective weather station utilization

General Response to Deficiency: As indicated in the WMP, PacifiCorp plans to install 10 additional weather stations in 2020. When the WMP was filed, PacifiCorp had not yet finalized the locations for these weather station installations. Accordingly, the locations for 2020 installations were not included in the 2020 WMP document. PacifiCorp can now report that, in the interim, final locations were selected for the 2020 and that the locations chosen by PacifiCorp align extremely well with the guidance provided by WSD in PC-2.

Response to Conditions:

Condition (i): "explain in detail how it chooses to locate its weather stations and explain gaps or areas of lower weather station density"

Response: Because of the importance of localized, real-time weather data to any PSPS program, PacifiCorp's main priority in 2019 was locating weather stations in and around defined proactive de-energization zones. PacifiCorp's service territory, especially its territory in the

HFTD, is sparsely populated, and much of the area is state, federal and tribal lands. There is limited amount of developed infrastructure, including weather stations. Prior to the siting of PacifiCorp's 2019 station installations, only a handful of National Weather Station and National Interagency Fire Stations existed, and they weren't generally located proximate to the populations which would have been impacted by PSPS. As result, peppering those stations in the vicinity to support situational awareness for PSPS was deemed highest priority.

The company engaged REAX to provide input regarding the best placement of stations, considering topography and climate trends. After the target locations were established, PacifiCorp reviewed those locations with the National Weather Service office in Medford, Oregon (which supports Siskiyou County, California for much of its weather forecasting). All data collected by these stations is communicated into MesoWest (operated by the University of Utah), which aggregates all climate data and makes it publicly available, on a 10 minute refresh.

Going into 2020, PacifiCorp's perspective was very similar to comments expressed in PC-2, and PacifiCorp has focused on better coverage across its whole service territory and near populated communities bordering Tier 2 areas. PacifiCorp is expanding the system to establish a more macro understanding across its service territory, including outside the PSPS areas. PacifiCorp has continued to work with REAX to determine the most efficient locations. The analysis uses distance and elevation change from a particular circuit zone to the closest weather stations in the area to determine locations reflecting data gaps. Thereafter, the company engaged weather experts, including at the National Weather Service and participants of the Pyregence project, and fire response professionals, including at the Bureau of Land Management (BLM) and the National Interagency Fire Center, to consider the proposed locations. The company is also integrating the use of BLM's RAWS network (by installing 10 stations throughout

California, Oregon and Washington) to provide information within its operational awareness rubric, in addition to informing the National Interagency Fire Council's understanding of weather inputs.

The actual 2020 weather station installations are in process and should be complete within weeks of filing of these responses, before the end of September 2020. The location of those weather stations is shown on Attachment D: PacifiCorp Weather Stations. As displayed in the map, new stations being installed in 2020 cover Scott's Valley, Hornbrook and the greater Yreka operating area. Other population clusters near Tier 2 boundaries are addressed, including Alturas. For clarity, however, it is worth noting that there is no plan to extend PSPS to such areas. The expansion of the weather station network is solely intended to expand PacifiCorp's general situational awareness, improve risk modeling efforts in those areas, and, as suggested by the WSD, develop a better understanding of how weather systems are moving across the entire territory.

As indicated in the 2020 WMP, PacifiCorp plans to install 15 more weather stations in 2021-23. The company will engage in a similar process to that used in 2020, looking to topography, climate trends, and the proximity of other stations to continue to fill any gaps in the territory wide network.

Condition (ii): "provide a cost/benefit analysis of the impact of having a higher density of weather stations across its territory"

Response: In juxtaposition against the societal costs of PSPS, the direct costs of weather modeling with poor or insufficient data, and the benefits of more informed risk assessments, PacifiCorp has determined that the installation and maintenance costs to have a higher density of weather station across its territory is justified. As risk assessment becomes more granular and localized, as discussed previously in reference to Guidance-03, the company will continue to

evaluate the cost/benefit of additional weather stations in its service territory. The company anticipates that additional stations will be recommended as that work matures.

PC-3, PacifiCorp did not explain how it would track effectiveness of its covered conductor initiative

General Response to Deficiency: PacifiCorp intends to track the effectiveness of the covered conductor program exactly how suggested in the statement of the correlating condition. This omission was simply an oversight in the 2020 WMP.

Response to Conditions:

Condition: "present and explain a methodology for tracking and measuring the effectiveness of its covered conductor installations at reducing the frequency and probability of (1) outages for top 10 outage causes based on best available historical data, and (2) ignitions for all CPUC reportable ignitions"

Response: PacifiCorp agrees that referencing (1) the top 10 outage causes based on best available historical data and (2) ignitions for all CPUC reportable ignitions is the best way to track effectiveness.

PC-4, PacifiCorp's WMP lacks a QA/QC program for inspections

General Response to Deficiency: This issue implicates some of the same questions regarding "standard operations" versus "augmented wildfire operations" discussed in response to Guidance-6. In the WMP, PacifiCorp indicated that it did not "have a specific asset management and inspections program for wildfire risk mitigation that is focused on quality assurance/quality control of inspections." More precisely, PacifiCorp does not have a separate QA/QC program administered outside of the normal inspection process and budget. In other words, it does not track associated costs in a separate memorandum account. Accordingly, the QA/QC program is labelled as a standard operation and supported by the normal inspection budget.

This administrative treatment should not, however, dictate a particular conclusion about the QA/QC program, and its support of wildfire mitigation goals. Again, the standard operations are not = weak on wildfire mitigation. The basic QA/QC program is appropriate; field-verifying randomly selected inspection results is best practices, in any industry. And PacifiCorp does feel a heightened sense of urgency in administering its inspection program generally, including in performing QA/QC on the inspection results. For example, data is reviewed continuously to confirm that inspections in the HFTD are meeting acceptable standards of performance.

Response to Conditions:

Condition (i): "provide details in specific asset management and inspection quality control, including providing planned spend information for these initiatives"

Response: Like many similar programs at other utilities, PacifiCorp's QA/QC of inspections is completed by selecting an appropriate percentage of inspection results, with locations determined at random from all zones to ensure coverage across PacifiCorp's entire service territory, and then field-checking the facility points at question. Because there are additional inspections occurring in the HFTD, there are then necessarily (although randomized over time) more QA/QC reviews of inspections in the HFTD. This approach is consistent with standard QA/QC methodology and statistical science. The planned spend information for this initiative is listed in column M of Attachment B: Guidance-5&6 Worksheet.

PC-6, PacifiCorp does not have a specific data governance wildfire mitigation program

General Response to Deficiency: Considerable data is stored in regularly maintained systems, which are used for a variety of functions. The company will coordinate with the WSD to assemble data in a manner which addresses the WSD's needs. It may be technically feasible to translate and extract all data relevant to wildfire mitigation initiatives from these systems into a centralized repository to support WMP efforts. As this process moves forward, however, the

company urges the WSD to keep in mind that PacifiCorp has only roughly 45,000 customers, who have to bear the cost of developing new data software solutions tailored to a specific purpose, and that a narrowly and precisely defined data structure will reduce flexibility in evaluating alternative correlations within data sets. As such, substantial governance around processes which need to be flexible to new theories and analysis may not be the optimal approach. In the interest of controlling costs passed to customers, PacifiCorp attempts to manage transitions to new data management processes using a deliberative and efficient approach.

PacifiCorp engages in collaborative research on utility ignitions. As a threshold issue, PacifiCorp supports the WSD's efforts to compile data on observed ignitions related to electric facilities, including near-misses, and looks forward to further collaboration regarding this data. PacifiCorp is also cautious, however, about over-emphasizing the statistical significance of observed ignitions in the field, especially at this early stage. As discussed in response to Guidance-1, PacifiCorp has a very small data set to evaluate. Even with larger data sets of actual ignitions from other utilities, there are scale issues with placing too much weight on that type of data. Along these lines, PacifiCorp believes that lab-based and computer modeled ignition research is most valuable. To that end, PacifiCorp has focused collaborative ignition research efforts on evaluating new technologies that show potential to reduce ignition probability. A number of examples are discussed in the response to Guidance-9. Moreover, PacifiCorp remains ready and willing to participate in additional collaborative research efforts with other electric utilities in California. Some degree of formal process can be useful to help facilitate such efforts. Technical workshops focused on the exchange of research on utility ignitions is an effective procedure to disseminate such research.

Response to Conditions:

Condition (i): "list and describe its data collection and governance policies"

Response: On July 21, 2020, PacifiCorp made a presentation of its 2020 Wildfire Mitigation Plan GIS Data and Schema, in which the company outlined and explained the multiple data collection, processing, and storage systems that are used in support of wildfire mitigation work. For convenience, a copy of the presentation slides is provided as Attachment E: PacifiCorp Slides - 2020 Wildfire Mitigation Plan GIS and Data Schema. In summary, PacifiCorp has robust systems for collecting and storing data. These systems were historically developed to support operation of the transmission and distribution electrical network. Appropriate units of the company are able to access data in conjunction with those operations, and PacifiCorp personnel working on WMP activities are able to access that data as needed. PacifiCorp looks forward to working with WSD to provide data in the formats requested by the WSD.

Condition (ii): "describe how it plans to track key aspects of WMP data"

Response: PacifiCorp plans to track data in the manner described in its 2020 Wildfire Mitigation Plan GIS Data and Schema. As outlined in response to Guidance-10, PacifiCorp anticipates working with the WSD to accomplish data sharing goals in an efficient manner. In summary, PacifiCorp plans to collect and store data in its well-developed systems designed to support ongoing transmission and distribution operations. At regular intervals, and as otherwise needed, the company will pull and assemble data to support risk assessment activities, plan future wildfire mitigation projects, track project progress, and evaluate the effectiveness of various wildfire mitigation initiatives.

Conclusion

PacifiCorp submits these responses to each of the Class B Deficiencies and associated

Conditions in both WSD-002 and WSD-008.

Respectfully submitted,

/s/ Tim Clark

September 9, 2020

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Attachment A

Attachment A: Alternatives to Initiatives (Guidance-2 Worksheet)

INITIATIVE NAME AND DESCRIPTION				ALTERNATIVES TO INITIATIVES		
WMP Section Reference	Category	Initiative from WMP	PacifiCorp Applicable Initiative? [Yes/No]	List of alternatives Considered	Notes	Rationale for Selection
5.3.3.1	Grid Design & System Hardening	Capacitor maintenance and replacement program	Yes	1. Infrastructure Upgrade (capacity) 2. Voltage modification	Eliminate the need for capacitors through significant infrastructure capacity upgrade Use voltage modifications rather than line drop compensation to minimize placement of devices	Selection represents the lowest cost in the short/long term
5.3.3.2	Grid Design & System Hardening	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Yes	1. Asset Replacement	Replace assets on first malfunction which would result in a large cost increase and resource requirement	Selection represents the lowest cost in the short/long term
5.3.3.3	Grid Design & System Hardening	Covered conductor installation – transmission	Yes	1. Underground Infrastructure	Underground systems	Selection represents the lowest cost in the short/long term
5.3.3.3	Grid Design & System Hardening	Covered conductor installation – distribution	Yes	1. Underground Infrastructure 2. Covered conductor with crossarm construction	Underground systems Good alternative where impact loads are not expected, i.e. light incidental contact only	Selection represents the lowest cost in the short/long term
5.3.3.4	Grid Design & System Hardening	Covered conductor maintenance	No			
5.3.3.5	Grid Design & System Hardening	Crossarm maintenance, repair, and replacement	No			

5.3.3.6	Grid Design & System Hardening	Distribution pole replacement and reinforcement, including with composite poles	Yes	1. Change in Policy 2. Widespread system strength modeling program	Changes in Emergency Response practices to staff and stock additional materials and expedite restoration – expected to be high additional cost in comparison to acceleration of spend Snapshot of pole strength would quickly be outdated and generate backlog needing to be addressed	Selection represents the lowest cost in the short/long term
5.3.3.6	Grid Design & System Hardening	Transmission pole replacement and reinforcement, including with composite poles	Yes	1. Change in Policy 2. Widespread system strength modeling program	Changes in Emergency Response practices to staff and stock additional materials and expedite restoration - Extremely high additional cost in comparison to acceleration of spend Snapshot of pole strength would quickly be outdated and generate backlog needing to be addressed	Selection represents the lowest cost in the short/long term
5.3.3.7	Grid Design & System Hardening	Expulsion fuse replacement	Yes	1. Asset Relocation 2. Installation of fast acting protective devices not operating on overcurrent, i.e. fusesaver	Remove fuses or move lines or fuses outside of the FHCA - Probably not practical given customer base and needs for P&C schemes/reliability In targeted areas expected to be optimal device, particularly when protective coordination curve options are limited	Selection best aligns with existing (or future) grid topology
5.3.3.8	Grid Design & System Hardening	Grid topology improvements to mitigate or reduce PSPS events	Yes	1. Expansion of PSPS Application	Instead of topology improvements, we could increase the scope of PSPS events	Selection reduces the need for PSPS related events
5.3.3.9	Grid Design & System Hardening	Installation of system automation equipment	Yes	1. Expansion of PSPS Application	System automation equipment supports faster detection of faults to reduce risk. Alternatively, the use of PSPS events could be expanded.	Selection reduces the need for PSPS related events
5.3.3.10	Grid Design & System Hardening	Maintenance, repair, and replacement of connectors, including hotline clamps	No			
5.3.3.11	Grid Design & System Hardening	Mitigation of impact on customers and other residents affected during PSPS events	No			

5.3.3.12	Grid Design & System Hardening	Other corrective action	No			
5.3.3.13	Grid Design & System Hardening	Pole loading infrastructure hardening and replacement program based on pole loading assessment program	Yes	1. Expansion of PSPS Application 2. Replace poles based on criteria rather than calculations	If we were not confident in pole loading, we may reduce PSPS thresholds or change the scope? Likely to overcompensate for "guidelines" and unnecessarily replacing specific poles, however may be an appropriate approach as patterns for calculation families become more established	Selection reduces the need for PSPS related events
5.3.3.14	Grid Design & System Hardening	Transformers maintenance and replacement	Yes	1. Infrastructure Upgrade (capacity) 2. Install larger amounts of secondary conductor	An alternate, in certain cases, may be to increase the capacity of transformers so that the loading experienced is incredibly light, extending the life of the transformer and perhaps limiting maintenance requirements (or at least reducing the frequency) Where customer densities support such a tradeoff may be appropriate	Selection represents the lowest cost in the short/long term
5.3.3.15	Grid Design & System Hardening	Transmission tower maintenance and replacement	No			
5.3.3.16	Grid Design & System Hardening	Undergrounding of electric lines and/or equipment	No			
5.3.3.17	Grid Design & System Hardening	Updates to grid topology to minimize risk of ignition in HFTDs	No			
5.3.3.18	Grid Design & System Hardening	Other - Replace small size Cu conductor	Yes	1. Installation of additional fuse locations 2. Expansion of PSPS Application	Will also result in additional ignition risks unless new fuse locations are non-expulsion Without the ability of the infrastructure to support advanced protection and control, PacifiCorp may have to expand PSPS applications due to heightened risk	Selection best aligns with existing (or future) grid topology

5.3.5.1	Vegetation Management & Inspections	Additional efforts to manage community and environmental impacts	Yes	1. Change in Policy	Electing not to participate in this joint effort would results in the projects not being completed and is contrary to the goals underpinning SB901 and the company's WMP	Selection best aligns with existing (or future) grid topology
5.3.5.2	Vegetation Management & Inspections	Detailed inspection of vegetation around distribution electric lines and equipment	Yes	1. Alternate Method/Technology	Current pilot project not yet viable as a replacement to visual inspections, whether LiDAR, satellite data or drone usage	Alternatives not yet technical feasible/market ready
5.3.5.3	Vegetation Management & Inspections	Detailed inspection of vegetation around transmission electric lines and equipment	Yes	1. Alternate Method/Technology	Current pilot project not yet viable as a replacement to visual inspections whether LiDAR, satellite data or drone usage	Alternatives not yet technical feasible/market ready
5.3.5.4	Vegetation Management & Inspections	Emergency response vegetation management due to red flag warning or other urgent conditions	No			
5.3.5.5	Vegetation Management & Inspections	Fuel management and reduction of slash (from vegetation management activities)	Yes	1. Asset Replacement 2. Biofuel	Alternatively, additional lines could be rebuilt with "fire-proof" materials As consumers of slash become more obvious may be a possible outlet of the leavings	Selection represents the lowest cost in the short/long term
5.3.5.6	Vegetation Management & Inspections	Improvement of inspections	Yes	3. None - Compliance Requirement	Compliance Requirement - No alternatives considered	Compliance Requirement
5.3.5.7	Vegetation Management & Inspections	LiDAR inspections of vegetation around distribution electric lines and equipment	No			
5.3.5.8	Vegetation Management & Inspections	LiDAR inspections of transmission electric lines and equipment	No			
5.3.5.9	Vegetation Management & Inspections	Other discretionary inspection of vegetation around distribution electric lines and equipment, beyond inspections mandated by rules and regulations	No			

5.3.5.10	Vegetation Management & Inspections	Other discretionary inspection of vegetation around transmission electric lines and equipment, beyond inspections mandated by rules and regulations	No			
5.3.5.11	Vegetation Management & Inspections	Patrol inspections of vegetation around transmission electric lines and equipment	No			
5.3.5.12	Vegetation Management & Inspections	Patrol inspections of vegetation around transmission electric lines and equipment	No			
5.3.5.13	Vegetation Management & Inspections	Quality assurance/ quality control of inspections	Yes	1. None - Compliance Requirement	Supports compliance requirements - no alternatives considered	Compliance Requirement
5.3.5.14	Vegetation Management & Inspections	Recruiting and training of vegetation management personnel	No			
5.3.5.15	Vegetation Management & Inspections	Remediation of at-risk species	No			
5.3.5.16	Vegetation Management & Inspections	Removal and remediation of trees with strike potential to electric lines and equipment	No			
5.3.5.17	Vegetation Management & Inspections	Substation vegetation inspections	No			
5.3.5.18	Vegetation Management & Inspections	Substation vegetation management	No			
5.3.5.19	Vegetation Management & Inspections	Vegetation inventory system	No			

5.3.5.20	Vegetation Management & Inspections	Vegetation management to achieve clearances around electric lines and equipment	Yes	1. None - Compliance Requirement	Compliance Requirement - No alternatives considered	Compliance Requirement
5.3.5.21	Vegetation Management & Inspections	Other/not listed - Radial Pole Clearing	Yes	2. Asset Replacement 3. Additional Pole Clearing (exempt poles)	Alternatively, additional lines could be rebuilt with "fire-proof" materials Certain locations and corridors may best be protected by fuel removal that could damage pole lines	Selection represents the lowest cost in the short/long term

Attachment B

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Attachment B: Initiative Level Detail Worksheet

Disaggregation of Programs (Guidance-5), Augmented versus Standard Operations (Guidance-6)

INITIATIVE NAME AND DESCRIPTION				FINANCIAL AND ACCOUNTING INFORMATION									
WMP Section Reference	Category	Initiative from WMP	PacifiCorp Applicable Initiative? [Yes/No]	Is Initiative Standard Operations, Augmented, or Combination?	If Combined Program: Proposed Method to Separate	Is Initiative budgeted and accounted for? [Yes/No]	Type of Expenditure (Capital or Expense)	Is Initiative Spending Currently Individual Tracked? [Yes/No]	If Yes, Current Method to Track Initiative Spend [Spending Sub-Account, etc.]	If No, Planned method to track initiative spend	Spending/Scope Planned vs. As Needed Program	Current 2020 Spend ($)	Total 2020 Planned Spend ($)
5.3.1.1	Risk Assessment and Mapping	A summarized risk map showing the overall ignition probability and estimated wildfire consequence along electric lines and equipment	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Statistical order for internal FTE WMP tracking	Planned	$ 38,889	$ 38,889
5.3.1.2	Risk Assessment and Mapping	Climate-driven risk map modeling based on various	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Statistical order for internal FTE WMP tracking	Planned	$ 38,889	$ 38,889
5.3.1.3	Risk Assessment and Mapping	Ignition probability mapping showing the probability of ignition along the electric lines and equipment	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Statistical order for internal FTE WMP tracking	Planned	$ 38,889	$ 25,000
5.3.1.4	Risk Assessment and Mapping	Initiative mapping and estimation of wildfire and PSPS risk-reduction impact	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Statistical order for internal FTE WMP tracking	Planned	$ 38,889	$ 38,889
5.3.1.5	Risk Assessment and Mapping	Match drop simulations showing the potential wildfire consequence of ignitions that occur along the electric lines and equipment	No										
5.3.1.6	Risk Assessment and Mapping	Weather-driven risk map an modeling based on various relevant weather scenarios	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Statistical order for internal FTE WMP tracking	Planned	$ 38,889	$ 38,889
5.3.1.7	Risk Assessment and Mapping	Other/not listen [only is an initiative cannot feasibly be classified within those listen above]	No										
5.3.2.1	Situational Awareness and Forecasting	Advanced weather monitoring and weather stations	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Capital	Yes	Specific Orders	N/A	Planned	$ 120,000	$ 166,000
5.3.2.2	Situational Awareness and Forecasting	Continuous monitoring sensors	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Capital	yes	Specific Orders	N/A	Planned	$ -	$ 112,000
5.3.2.3	Situational Awareness and Forecasting	Fault indicators for detecting faults on electric lines and equipment	No										
5.3.2.4	Situational Awareness and Forecasting	Forecast of a fire risk index, fire potential index, or similar	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Statistical order for internal FTE WMP tracking	Planned	$ 38,889	$ 38,889
5.3.2.5	Situational Awareness and Forecasting	Personnel monitoring areas of electric lines and equipment in elevated fire risk conditions	Yes	Augmented Wildfire Operations	Not Combined - N/A	No	Expense	No	N/A	Specific Orders	As Needed, Not specifically planned	$ -	$0 Not a specifically budgeted item
5.3.2.6	Situational Awareness and Forecasting	Weather forecasting and estimating impacts on electric lines and equipment	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Statistical order for internal FTE WMP tracking	Planned	$ 38,889	$ 38,889

5.3.2.7	Situational Awareness and Forecasting	Other/not listen [only is an initiative cannot feasibly be classified within those listen above]	No										
5.3.3.1	Grid Design & System Hardening	Capacitor maintenance and replacement program	Yes	Standard Operations	Not Combined - N/A	yes	Mixed	Yes	GRC (Part of SOP)	N/A	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.3.2	Grid Design & System Hardening	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Yes	Standard Operations	Not Combined - N/A	yes	Mixed	Yes	GRC (Part of SOP)	N/A	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.3.3	Grid Design & System Hardening	Covered conductor installation – transmission	Yes	Augmented Wildfire Operations	Not Combined - N/A	yes	Capital	yes	Specific Orders	N/A	Planned	$ -	$ 5,800,000
5.3.3.3	Grid Design & System Hardening	Covered conductor installation – distribution	Yes	Augmented Wildfire Operations	Not Combined - N/A	yes	Capital	yes	Specific Orders	N/A	Planned	$ 1,000,000	$ 13,000,000
5.3.3.4	Grid Design & System Hardening	Covered conductor maintenance	No										
5.3.3.5	Grid Design & System Hardening	Crossarm maintenance, repair, and replacement	No										
5.3.3.6	Grid Design & System Hardening	Distribution pole replacement and reinforcement, including with composite poles	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Capital	yes	Specific Orders	N/A	Planned	$ -	$ 329,000
5.3.3.6	Grid Design & System Hardening	Transmission pole replacement and reinforcement, including with composite poles	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Capital	yes	Specific Orders	N/A	Planned	$ -	$ 3,672,000
5.3.3.7	Grid Design & System Hardening	Expulsion fuse replacement	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Capital	yes	Specific Orders	N/A	Planned	$ -	$0 No specific planned spend in 2020
5.3.3.8	Grid Design & System Hardening	Grid topology improvements to mitigate or reduce PSPS events	Yes	Augmented Wildfire Operations	Not Combined - N/A	NO	Capital	No	N/A	Specific Orders	Planned	$ -	$0 No specific planned spend in 2020
5.3.3.9	Grid Design & System Hardening	Installation of system automation equipment	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Capital	Yes	Specific Orders	N/A	Planned	$ 500,000	$ 3,023,013
5.3.3.10	Grid Design & System Hardening	Maintenance, repair, and replacement of connectors, including hotline clamps	No										
5.3.3.11	Grid Design & System Hardening	Mitigation of impact on customers and other residents affected during PSPS events	No										
5.3.3.12	Grid Design & System Hardening	Other corrective action	No										
5.3.3.13	Grid Design & System Hardening	Pole loading infrastructure hardening and replacement program based on pole loading assessment program	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	Yes	Specific Orders	N/A	Planned	$ -	$0 No specific planned spend in 2020
5.3.3.14	Grid Design & System Hardening	Transformers maintenance and replacement	Yes	Standard Operations	Not Combined - N/A	Yes	Mixed	Yes	GRC (Part of SOP)	N/A	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.3.15	Grid Design & System Hardening	Transmission tower maintenance and replacement	No										
5.3.3.16	Grid Design & System Hardening	Undergrounding of electric lines and/or equipment	No										
5.3.3.17	Grid Design & System Hardening	Updates to grid topology to minimize risk of ignition in HFTDs	No										
5.3.3.18	Grid Design & System Hardening	Other - Replace small size Cu conductor	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Capital	Yes	Specific Orders	N/A	Planned	$ -	$ 498,000
5.3.4.1	Asset Management & Inspections	Detailed inspections of distribution electric lines and equipment	Yes	Standard Operations	Not Combined - N/A	yes	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend

5.3.4.2	Asset Management & Inspections	Detailed inspections of transmission electric lines and equipment	Yes	Standard Operations	Not Combined - N/A	yes	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.4.3	Asset Management & Inspections	Improvements of inspections	No										
5.3.4.4	Asset Management & Inspections	Infrared inspections of distribution electric lines and equipment	No										
5.3.4.5	Asset Management & Inspections	Infrared inspections of transmission electric lines and equipment	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	Yes	Specific Orders	N/A	Planned	$ 70,000	$ 44,100
5.3.4.6	Asset Management & Inspections	Intrusive pole inspections - Distribution	Yes	Standard Operations	Not Combined - N/A	yes	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.4.6	Asset Management & Inspections	Intrusive pole inspections - Transmission	Yes	Standard Operations	Not Combined - N/A	yes	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.4.7	Asset Management & Inspections	LiDAR inspections of distribution electric lines and equipment	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	Yes	Specific Orders	N/A	Planned	$ -	$0 No specific planned spend in 2020
5.3.4.8	Asset Management & Inspections	LiDAR inspections of transmission electric lines and equipment	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	Yes	Specific Orders	N/A	Planned	$ -	$0 No specific planned spend in 2020
5.3.4.9	Asset Management & Inspections	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	No										
5.3.4.10	Asset Management & Inspections	Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations	No										
5.3.4.11	Asset Management & Inspections	Patrol inspections of distribution electric lines and equipment	Yes	Standard Operations	Not Combined - N/A	yes	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.4.12	Asset Management & Inspections	Patrol inspections of transmission electric lines and equipment	Yes	Standard Operations	Not Combined - N/A	yes	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.4.13	Asset Management & Inspections	Pole loading assessment program to determine safety factor	No										
5.3.4.14	Asset Management & Inspections	Quality assurance/ quality control of inspections	Yes	Augmented Wildfire Operations	Not Combined - N/A	no	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.4.15	Asset Management & Inspections	Substation inspections	Yes	Standard Operations	Not Combined - N/A	yes	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.4.16	Asset Management & Inspections	Other/not listen [only is an initiative cannot feasibly be classified within those listen above]	No										
5.3.5.1	Vegetation Management & Inspections	Additional efforts to manage community and environmental impacts	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Create specific orders	As Needed, Not specifically planned	$ -	$0 Not a specifically budgeted item
5.3.5.2	Vegetation Management & Inspections	Detailed inspection of vegetation around distribution electric lines and equipment	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	Yes	Specific classification within system of record (PVM)	N/A	Planned	$ 1,000,000	$ 1,422,792
5.3.5.3	Vegetation Management & Inspections	Detailed inspection of vegetation around transmission electric lines and equipment	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	Yes	Specific classification within system of record (PVM)	N/A	Planned	$ 5,000	$ 723,897

5.3.5.4	Vegetation Management & Inspections	Emergency response vegetation management due to red flag warning or other urgent conditions	No										
5.3.5.5	Vegetation Management & Inspections	Fuel management and reduction of slash (from vegetation management activities)	Yes	Augmented Wildfire Operations	Not Combined - N/A	no	Expense	No	N/A	Specific classification within system of record (PVM)	As Needed, Not specifically planned	$ -	$0 Not a specifically budgeted item
5.3.5.6	Vegetation Management & Inspections	Improvement of inspections	Yes	Standard Operations	Not Combined - N/A	yes	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.5.7	Vegetation Management & Inspections	LiDAR inspections of vegetation around distribution electric lines and equipment	No										
5.3.5.8	Vegetation Management & Inspections	LiDAR inspections of transmission electric lines and equipment	No										
5.3.5.9	Vegetation Management & Inspections	Other discretionary inspection of vegetation around distribution electric lines and equipment, beyond inspections mandated by rules and regulations	No										
5.3.5.10	Vegetation Management & Inspections	Other discretionary inspection of vegetation around transmission electric lines and equipment, beyond inspections mandated by rules and regulations	No										
5.3.5.11	Vegetation Management & Inspections	Patrol inspections of vegetation around transmission electric lines and equipment	No										
5.3.5.12	Vegetation Management & Inspections	Patrol inspections of vegetation around transmission electric lines and equipment	No										
5.3.5.13	Vegetation Management & Inspections	Quality assurance/ quality control of inspections	Yes	Standard Operations	Not Combined - N/A	yes	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.5.14	Vegetation Management & Inspections	Recruiting and training of vegetation management personnel	No										
5.3.5.15	Vegetation Management & Inspections	Remediation of at-risk species	No										
5.3.5.16	Vegetation Management & Inspections	Removal and remediation of trees with strike potential to electric lines and equipment	No										
5.3.5.17	Vegetation Management & Inspections	Substation vegetation inspections	No										
5.3.5.18	Vegetation Management & Inspections	Substation vegetation management	No										
5.3.5.19	Vegetation Management & Inspections	Vegetation inventory system	No										
5.3.5.20	Vegetation Management & Inspections	Vegetation management to achieve clearances around electric lines and equipment	Yes	Standard Operations	Not Combined - N/A	Yes	Expense	Yes	GRC (Part of SOP)	N/A	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.5.21	Vegetation Management & Inspections	Other/not listed - Radial Pole Clearing	Yes	Combination	System of record (PVM) tracks LRA separately	Yes	Expense	Yes	Specific classification within system of record (PVM)	N/A	Planned	$ 500,000	$ 1,770,144
5.3.6.1	Grid Operations & Protocols	Automatic recloser operations	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Capital	Yes	Specific Orders	N/A	As Needed, Not specifically planned	$ -	$0 Not a specifically budgeted item
5.3.6.2	Grid Operations & Protocols	Crew-accompanying ignition prevention and suppression resources and services	No										

5.3.6.3	Grid Operations & Protocols	Personnel work procedures and training in conditions of elevated risk	Yes	Standard Operations	Not Combined - N/A	yes	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.6.4	Grid Operations & Protocols	Protocols for PSPS re-energization	Yes	Standard Operations	Not Combined - N/A	yes	Expense	No	N/A	GRC (Part of SOP)	Planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.6.5	Grid Operations & Protocols	PSPS events and mitigation of PSPS impacts	No										
5.3.6.6	Grid Operations & Protocols	Stationed and on-call ignition prevention and suppression resources and services	Yes	Standard Operations	Not Combined - N/A	No	Expense	No	N/A	Create specific orders	As Needed, Not specifically planned	$ -	$0 Not a specifically budgeted item
5.3.6.7	Grid Operations & Protocols	Other/not listen [only is an initiative cannot feasibly be classified within those listen above]	No										
5.3.7.1	Data Governance	Centralized repository for data	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Statistical order for internal FTE WMP tracking	Planned	$ 38,889	$ 38,889
5.3.7.2	Data Governance	Collaborative research on utility ignition and/or wildfire	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Statistical order for internal FTE WMP tracking	Planned	$ 38,889	$ 38,889
5.3.7.3	Data Governance	Documentation and disclosure of wildfire-related data and algorithms	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Statistical order for internal FTE WMP tracking	Planned	$ 38,889	$ 38,889
5.3.7.4	Data Governance	Tracking and analysis of near miss data	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Statistical order for internal FTE WMP tracking	Planned	$ 38,889	$ 38,889
5.3.7.5	Data Governance	Other/not listen [only is an initiative cannot feasibly be classified within those listen above]	No										
5.3.8.1	Resource Allocation Methodology	Allocation methodology development and application	No										
5.3.8.2	Resource Allocation Methodology	Risk reduction scenario development and analysis	No										
5.3.8.3	Resource Allocation Methodology	Risk spend efficiency analysis	No										
5.3.8.4	Resource Allocation Methodology	Other/not listen [only is an initiative cannot feasibly be classified within those listen above]	No										
5.3.9.1	Emergency Planning & Preparedness	Adequate and trained workforce for service restoration	Yes	Standard Operations	Not Combined - N/A	No	Expense	No	N/A	GRC (Part of SOP)	As Needed, Not specifically planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.9.2	Emergency Planning & Preparedness	Community outreach, public awareness, and communication efforts	Yes	Standard Operations	Not Combined - N/A	No	Expense	No	N/A	GRC (Part of SOP)	As Needed, Not specifically planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.9.3	Emergency Planning & Preparedness	Customer support in emergencies	Yes	Standard Operations	Not Combined - N/A	No	Expense	No	N/A	GRC (Part of SOP)	As Needed, Not specifically planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.9.4	Emergency Planning & Preparedness	Disaster and emergency preparedness plan	Yes	Standard Operations	Not Combined - N/A	No	Expense	No	N/A	GRC (Part of SOP)	As Needed, Not specifically planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.9.5	Emergency Planning & Preparedness	Preparedness and planning for service restoration	Yes	Standard Operations	Not Combined - N/A	No	Expense	No	N/A	GRC (Part of SOP)	As Needed, Not specifically planned	$0 Incremental Spend	$0 No Incremental Spend
5.3.9.6	Emergency Planning & Preparedness	Protocols in place to learn from wildfire events	Yes	Standard Operations	Not Combined - N/A	Yes	Expense	No	N/A	GRC (Part of SOP)	As Needed, Not specifically planned	$0 Incremental Spend	$0 No Incremental Spend

5.3.9.7	Emergency Planning & Preparedness	Other/not listen [only is an initiative cannot feasibly be classified within those listen above]	No										
5.3.10.1	Stakeholder Cooperation & Community Engagement	Community engagement	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Create specific orders	As Needed, Not specifically planned	$ -	$0 Not a specifically budgeted item
5.3.10.2	Stakeholder Cooperation & Community Engagement	Cooperation and best practice sharing with agencies outside of CA	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Create specific orders	As Needed, Not specifically planned	$ -	$0 Not a specifically budgeted item
5.3.10.3	Stakeholder Cooperation & Community Engagement	Cooperation with suppression agencies	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Create specific orders	As Needed, Not specifically planned	$ -	$0 Not a specifically budgeted item
5.3.10.4	Stakeholder Cooperation & Community Engagement	Forest service and fuel reduction cooperation and joint roadmap	Yes	Augmented Wildfire Operations	Not Combined - N/A	Yes	Expense	No	N/A	Create specific orders	As Needed, Not specifically planned	$ -	$0 Not a specifically budgeted item
5.3.10.5	Stakeholder Cooperation & Community Engagement	Other/not listen [only is an initiative cannot feasibly be classified within those listen above]	No										

Attachment C

WSD Data Schemas Draft V2 (2020-09-09) - Asset Point

Point Column | **Camera Field Name** | **Alias** | **Data Type** | **Characteristic** | **Description** | **Data provided in latest submission? (Yes/ No)** | **Availability Explanations** | **Data procurement actions** | **Estimated delivery timeframe** | **Confidential? (Yes/No)**

1	AssetID	Asset ID	text(50)	PK	Unique ID for a specific camera. It should be a traceable stable ID within the utility's operations/processes. Primary key for the Camera table.	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	No
3	AssetType	Asset Type	text(10)		Type of point asset. Required value: Camera	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	No
4	MakeandManufacturer	Make and Manufacturer	text(50)		What is the make and manufacturer of the asset? Enter "Unknown" if this cannot be determined.	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	Yes
5	ModelNumber	Model Number	text(30)		Model number of the asset. Enter "Unknown" if this cannot be determined.	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	Yes
6	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	No
7	County	County	text(60)		County in which asset is located.	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	No
8	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	Yes
9	LastMaintenanceDate	Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	Yes
10	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	Yes
11	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	Yes
12	UsefulLifespan	Useful Lifespan	integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	Yes
13	CameraHeight	Camera Height (feet)	float		Height of camera (in feet) above the ground below it.	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	Yes
14	CameraURL	Camera URL	text(255)		Website address for camera video feed (if publicly available).	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	No
15	AssetLatitude	Asset Latitude	float		Latitude coordinate of asset (in decimal degrees).	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	No
16	AssetLongitude	Asset Longitude	float		Longitude coordinate of asset (in decimal degrees).	No	Device/Asset Not Currently Installed	Data will be procured consistent with requirements if installed	Once installed	No

Point Column | **Connection Device Field Name** | **Alias** | **Data Type** | **Characteristic** | **Description** | **Data provided in latest submission? (Yes/ No)** | **Availability Explanations** | **Data procurement actions** | **Estimated delivery timeframe** | **Confidential? (Yes/No)**

1	AssetID	Asset ID	text(50)	PK	Unique ID for a specific connection device. It should be a traceable stable ID within the utility's operations/processes. Primary key for the Connection Device table.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
3	AssetType	Asset Type	text(50)		Type of point asset. Required value: Line connection device	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
4	AssetOHUG	Asset OH or UG	text(30)	Domain	Is the asset overhead or underground? Possible values: Overhead Underground Unknown	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
5	ConnectionDeviceType	Connection Device Type	text(30)	Domain	What type of connection device is the asset? Possible values: Splice Connector Clamp Other – See comment. Unknown	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
6	ConnectionDeviceTypeComment	Connection Device Type Comment	text(30)		Connection device type not listed in the options above.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
7	ConnectionDeviceSubtype	Connection Device Subtype	text(30)	Domain	What is the specific subtype of the connection device? Automatic Splice Crimp Splice Explosive Sleeve Splice (i.e. permanent, fused) 3-bolt Parallel Groove Unknown Other – See comment.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
8	ConnectionDeviceSubtypeComment	Connection Device Subtype Comment	text(30)		Connection device subtype not listed in the options above.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
9	AssociatedNominalVoltagekV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
10	AssociatedOperatingVoltagekV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
11	FromStructureID	From Structure ID	text(50)	FK	ID of the structure upstream of the span of line containing a connection device. This structure may be a support structure (e.g., pole or tower) if the span is overhead, and it may be something else (e.g., manhole, vault, etc.) if the span is underground. Foreign key to the Support Structure table.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
12	ToStructureID	To Structure ID	text(50)	FK	ID of the structure upstream of the span of line containing a connection device. This structure may be a support structure (e.g., pole or tower) if the span is overhead, and it may be something else (e.g., manhole, vault, etc.) if the span is underground. Foreign key to the Support Structure table.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
13	CircuitID	Circuit ID	text(50)	FK	ID of circuit associated with asset. This will be a unique standardized identification name of the circuit. Foreign key to all the related asset line tables.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
14	CircuitName	Circuit Name	text(255)		P	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
15	SubstationID	Substation ID	text(50)	FK	ID of substation associated with asset. Foreign key to the Substation table.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
16	SubstationName	Substation Name	text(50)		Name of substation associated with asset.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
17	MakeandManufacturer	Make and Manufacturer	text(50)		What is the make and manufacturer of the asset? Enter "Unknown" if this cannot be determined.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
18	ModelNumber	Model Number	text(30)		Model number of the asset. Enter "Unknown" if this cannot be determined.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
19	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No

20	County	County	text(50)		County in which asset is located.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
21	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
22	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
23	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
24	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
25	UsefulLifespan	Useful Lifespan	Integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
26	ExemptionStatus	Exemption Status	text(10)	Domain	Is the asset exempt per California Public Resources Code (PRC) 4292? PRC 4292 requires clearance around support structures on which certain equipment is mounted in certain areas. Possible values: Yes No Unknown N/A	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
27	AssetLatitude	Asset Latitude	float		Latitude coordinate of asset (in decimal degrees).	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
28	AssetLongitude	Asset Longitude	float		Longitude coordinate of asset (in decimal degrees).	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No

Point	Customer Meter									
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	MeterID	Meter ID	text(50)	PK	Unique ID for a specific meter. It should be a traceable stable ID within the utility's operations/processes. Primary key for the Customer Meter table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	AssetType	Asset Type	text(30)		Type of point asset. Required value: Customer meter	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	CircuitID	Circuit ID	text(50)	FK	ID of circuit associated with asset. This will be a unique standardized identification name of the circuit. Foreign key to all the related asset line tables.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	CircuitName	Circuit Name	text(255)		Name of circuit associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	SubstationID	Substation ID	text(50)	FK	ID of substation associated with asset. Foreign key to the Substation table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	SubstationName	Substation Name	text(30)		Name of substation associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	MakeandManufacturer	Make and Manufacturer	text(50)		What is the make and manufacturer of the asset? Enter "Unknown" if this cannot be determined.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	ModelNumber	Model Number	text(30)		Model number of the asset. Enter "Unknown" if this cannot be determined.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	County	County	text(50)		County in which asset is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
13	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
15	AssetLatitude	Asset Latitude	float		Latitude coordinate of asset (in decimal degrees).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
16	AssetLongitude	Asset Longitude	float		Longitude coordinate of asset (in decimal degrees).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Point	Fuse									
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	AssetID	Asset ID	text(50)	PK	Unique ID for a specific fuse. It should be a traceable stable ID within the utility's operations/processes. Primary key for the Fuse table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
3	AssetOHUG	Asset OH or UG	text(30)	Domain	Is the asset overhead or underground? Possible values: Overhead Underground Unknown	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
4	AssociatedNominalVoltagekV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	AssociatedOperatingVoltagekV	AssociatedOperatingVoltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	SubstationID	Substation ID	text(50)	FK	ID of substation associated with asset. Foreign Key to the Substation table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	SubstationName	Substation Name	text(50)		Name of substation associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	CircuitID	Circuit ID	text(50)	FK	ID of circuit associated with asset. This will be a unique standardized identification name of the circuit. Foreign key to all the related asset line tables.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	CircuitName	Circuit Name	text(255)		Name of circuit associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	MakeandManufacturer	Make and Manufacturer	text(50)		What is the make and manufacturer of the asset? Enter "Unknown" if this cannot be determined.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	ModelNumber	Model Number	text(30)		Model number of the asset. Enter "Unknown" if this cannot be determined.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

12	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
13	County	County	text(50)		County in which asset is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
14	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
15	LastMaintenanceDate	Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
16	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
17	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
18	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
19	UsefulLifespan	Useful Lifespan	integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
20	ExemptionStatus	Exemption Status	text(10)	Domain	Is the asset exempt per California Public Resources Code (PRC) 4292? PRC 4292 requires clearance around support structures on which certain equipment is mounted in certain areas. Possible values: Yes No Unknown N/A	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
21	FuseRating	Fuse Rating (A)	float		The nominal current rating of the fuse in amperes.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
22	AssetType	Asset Type	text(30)	Domain	Type of fuse device. Possible values: Bridged Current limiting Expulsion Fused elbow Unknown Other – See comment.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
23	AssetTypeComment	Asset Type Comment	text(50)		Fuse asset type not listed in the options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
24	AssetSubtype	Asset Subtype	text(30)		What is the specific subtype of the fuse device?	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
25	AssetLatitude	Asset Latitude	float		Latitude coordinate of asset (in decimal degrees).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
26	AssetLongitude	Asset Longitude	float		Longitude coordinate of asset (in decimal degrees).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No

Point	Lightning Arrestor									
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	AssetID	Asset ID	text(50)	PK	Unique ID for a specific lightning arrestor. It should be a traceable stable ID within the utility's operations/processes. Primary key for the Lighting Arrestor table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
3	AssetType	Asset Type	text(30)		Type of point asset. Required value: Lightning arrestor	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
4	AssociatedNominalVoltagekV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	AssociatedOperatingVoltagekV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	SupportStructureID	Support Structure ID	text(50)		Unique ID for support structure to which a lightning arrestor is attached. It should be a traceable stable ID within the utility's operations/processes.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	SubstationID	Substation ID	text(50)		ID of substation associated with asset. Foreign Key to the Substation table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	SubstationName	Substation Name	text(50)	FK	Name of substation associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	CircuitID	Circuit ID	text(50)	FK	ID of circuit associated with asset. This will be a unique standardized identification name of the circuit. Foreign key to all the related asset line tables.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	CircuitName	Circuit Name	text(255)		Name of circuit associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	MakeandManufacturer	Make and Manufacturer	text(50)		What is the make and manufacturer of the asset? Enter "Unknown" if this cannot be determined.	No Data does not exist – inventory required		Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
12	ModelNumber	Model Number	text(30)		Model number of the asset. Enter "Unknown" if this cannot be determined.	No Data does not exist – inventory required		Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
13	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
14	County	County	text(50)		County in which asset is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
15	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
16	LastMaintenanceDate	Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
17	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
18	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
19	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
20	UsefulLifespan	Useful Lifespan	integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
21	ExemptionStatus	Exemption Status	text(10)	Domain	Is the asset exempt per California Public Resources Code (PRC) 4292? PRC 4292 requires clearance around support structures on which certain equipment is mounted in certain areas. Possible values: Yes No Unknown N/A	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes

22	ArrestorRating	Arrestor Rating (kV)	float		Rating of the lightning arrestor in kilovolts.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
23	AssetLatitude	Asset Latitude	float		Latitude coordinate of asset (in decimal degrees).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
24	AssetLongitude	AssetLongitude	float		Longitude coordinate of asset (in decimal degrees).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No

Point	Substation									
Column	**Field Name**	**Alias**		**Characteristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	SubstationID	Substation ID	text(50)	PK	ID of substation associated with asset. Primary key for the Substation table.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	AssetType	Asset Type	text(30)		Type of point asset. Required value: Substation	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	SubstationName	Substation Name	text(50)		Name of substation.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
5	SubstationNominalVoltagekV	Substation Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) ratings associated with the substation. Include all applicable voltages separated by slashes (e.g., "230/139/69/12"). Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	AssociatedOperatingVoltagekV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) ratings associated with the substation. Include all applicable voltages separated by slashes (e.g., "230/139/69/12"). Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	SubstationRating	Substation Rating	float		Power rating of the substation in mega volt amps (MVAs).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	SubstationType	Substation Type	text(10)	Domain	Type of substation. Possible values: Network Loop Radial	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
10	County	County	text(50)		County in which asset is located.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
11	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
13	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	AssetLatitude	Asset Latitude	float		Latitude coordinate of asset (in decimal degrees).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
15	AssetLongitude	Asset Longitude	float		Longitude coordinate of asset (in decimal degrees).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

Point	Support Structure									
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	SupportStructureID	Support Structure ID	text(50)	PK	Unique ID for support structure. It should be a traceable stable ID within the utility's operations/processes. Primary key enabling connection to the "Support Structure Crossarm Detail" table.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	AssetType	Asset Type	text(30)		Type of point asset. Required value: Support structure	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	SubstationID	Substation ID	text(50)	FK	ID of substation associated with asset. Foreign Key to the Substation table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
6	County	County	text(50)		County in which asset is located.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
7	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	LastMaintenanceDate	Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	LastIntrusiveDate	Last Intrusive Date	date		Date of the last intrusive. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
13	UsefulLifespan	Useful Lifespan	integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	SupportStructureType	Support Structure Type	text(30)	Domain	Type of support structure. Possible values: Pole Tower Other – See comment.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
15	SupportStructureTypeComment	Support Structure Type Comment	text(30)		Support structure type analogous to a pole or tower and not listed in the options above. Note: Crossarms are support structures for which the WSD is requesting data, but they are addressed in a separate field at the end of this able and involve related tables.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
16	SupportStructureMaterial	Support Structure Material	text(30)	Domain	Material from which pole, tower, or crossarm is made. Possible values: Wood Metal Composite Wrapped wood Concrete Other – See comment.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
17	SupportStructureMaterialComment	Support Structure Material Comment	text(30)		Support structure material not listed in the options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
18	SupportStructureMaterialSubtype	Support Structure Material Subtype	text(30)		The subtype of structure material. For example, if a wood pole, the type of wood (i.e. Douglas Fir, Cedar, etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
19	Underbuild	Underbuild	text(3)	Domain	Does the line support multiple transmission or primary distribution circuits? Possible values: Yes No	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
20	ConstructionGrade	Construction Grade	text(10)	Domain	Grade of construction, in accordance with GO 95, Rule 42. Possible Values: Grade A Grade B Grade C	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
21	CrossarmAttached	Crossarm Attached	text(10)	Domain	Is one or more crossarms attached to the support structure? Possible values: Yes No Unknown	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
22	AssetLatitude	Asset Latitude	float		Latitude coordinate of asset (in decimal degrees).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
23	AssetLongitude	Asset Longitude	float		Longitude coordinate of asset (in decimal degrees).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

Table	Support Structure Crossarm Detail									
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**

1	AssetID	Asset ID	text(50)	PK	Unique ID for a specific support structure crossarm. It should be a traceable stable ID within the utility's operations/processes. Primary key for the Support Structure Crossarm Detail table.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
2	SupportStructureID	Support Structure ID	text(50)	FK	Unique ID for specific support structure. It should be a traceable stable ID within the utility's operations/processes. Foreign key enabling connection to the "Support Structures" feature class.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
3	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
4	AssetType	Asset Type	text(10)		Type of point asset. Required value: Crossarm	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
5	AssociatedNominalVoltagekV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	AssociatedOperatingVoltagekV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	CircuitID	Circuit ID	text(50)	FK	ID of circuit associated with asset. This will be a unique standardized identification name of the circuit. Foreign key to all the related asset line tables.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	CircuitName	Circuit Name	text(255)		Name of circuit associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	LastMaintenanceDate	Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
12	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
13	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
14	UsefulLifespan	Useful Lifespan	integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
15	CrossarmConfiguration	Crossarm Configuration	text(30)	Domain	Configuration of crossarm. Possible values: Single Arm Double Arm Alley Arm	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
16	CrossarmLength	Crossarm Length (inches)	float		Length of crossarm in inches.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
17	CrossarmWidth	Crossarm Width (inches)	float		Width of crossarm in inches.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
18	CrossarmHeight	Crossarm Height (inches)	float		Height of crossarm in inches.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
19	CrossarmMaterial	Crossarm Material	text(30)	Domain	Material from which pole, tower, or crossarm is made. Possible values: Wood Metal Composite Other – See comment.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
20	CrossarmMaterialComment	Crossarm Material Comment	text(30)		Crossarm material not listed in the options above.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
21	CrossarmMaterialSubtype	Crossarm Material Subtype	text(30)		The subtype of structure material. For example, if a wood pole, the type of wood (i.e. Douglas Fir, Cedar, etc.).	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
22	BraceType	Brace Type	text(30)	Domain	The type of brace supporting the crossarm. Possible values: V brace Flat brace Other – See comment.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
23	BraceTypeComment	Brace Type Comment	text(30)		Brace type not listed in the options above.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
24	CrossarmOrientation	Crossarm Orientation	text(10)	Domain	Orientation of crossarm. Possible values: In-line Buck	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
25	Balance	Balance	text(30)	Domain	Balancing status of crossarm. Possible values: Balanced Unbalanced (i.e., end of line)	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes

Point	Switchgear									
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	AssetID	Asset ID	text(50)	PK	Unique ID for a specific switchgear asset. It should be a traceable stable ID within the utility's operations/processes. Primary key for the Switchgear table.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	AssetType	Asset Type	text(30)		Type of point asset. Required value: Switchgear	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	AssetOHUG	Asset OH or UG	text(30)	Domain	Is the asset overhead or underground? Possible values: Overhead Underground Unknown	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
5	AssociatedNominalVoltagekV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	AssociatedOperatingVoltagekV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	SupportStructureID	Support Structure ID	text(50)	FK	Unique ID for support structure to which a switchgear asset is attached. It should be a traceable stable ID within the utility's operations/processes. Foreign key to the Support Structure table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	SubstationID	Substation ID	text(50)	FK	ID of substation associated with asset. Foreign Key to the Substation table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	SubstationName	Substation Name	text(50)		Name of substation associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

10	CircuitID	Circuit ID	text(50)	FK	ID of circuit associated with asset. This will be a unique standardized identification name of the circuit. Foreign key to all the related asset line tables.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	CircuitName	Circuit Name	text(255)		Name of circuit associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	MakeandManufacturer	Make and Manufacturer	text(50)		What is the make and manufacturer of the asset? Enter "Unknown" if this cannot be determined.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
13	ModelNumber	Model Number	text(30)		Model number of the asset. Enter "Unknown" if this cannot be determined.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
14	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
15	County	County	text(50)		County in which asset is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
16	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
17	LastMaintenanceDate	Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
18	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
19	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
20	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
21	UsefulLifespan	Useful Lifespan	integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
22	ExemptionStatus	Exemption Status	text(10)	Domain	Is the asset exempt per California Public Resources Code (PRC) 4292? PRC 4292 requires clearance around support structures on which certain equipment is mounted in certain areas. Possible values: Yes No Unknown N/A	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
23	CurrentRating	Current Rating (A)	float		Nominal current rating of the switchgear in amperes.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
24	AssetClass	Asset Class	text(30)	Domain	Is the asset associated with transmission or distribution? Possible values: Distribution Transmission	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
25	SCADAEnabled	SCADA Enabled	text(3)	Domain	Can supervisory control and data acquisition (SCADA) be utilized with the asset? Possible values: Yes No N/A	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
26	SwitchgearType	Switchgear Type	text(30)		Type of switchgear (switch, cut-out fuse, circuit breaker, etc.)	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
27	SwitchgearSubtype	Switchgear Subtype	text(30)		Specific type of switch, cut-out fuse, circuit breaker, etc.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	No
28	SwitchgearInsulatingMedium	Switchgear Insulating Medium	text(30)		Medium (air, gas, oil, etc.) providing insulation for switchgear asset. Be specific.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
29	AssetLatitude	Asset Latitude	float		Latitude coordinate of asset (in decimal degrees).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
30	AssetLongitude	Asset Longitude	float		Longitude coordinate of asset (in decimal degrees).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

Point	**Transformer**									
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	TransformerID	Transformer ID	text(50)	PK	Unique ID for a specific transformer. It should be a traceable stable ID within the utility's operations/processes. Primary key enabling connection to the "Transformer Detail" table.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	SupportStructureID	Support Structure ID	text(50)	FK	Unique ID for support structure to which transformer is attached. It should be a traceable stable ID within the utility's operations/processes. Foreign key to the Support Structure table.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	AssetType	Asset Type	text(30)		Type of point asset. Required value: Transformer	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
5	AssetOHUG	Asset OH or UG	text(30)	Domain	Is the asset overhead or underground? Possible values: Overhead Underground Unknown	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
6	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
7	County	County	text(50)		County in which asset is located.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
8	InaBank	Ina Bank	text(30)	Domain	Does a single point represent multiple assets that exist in a bank arrangement (i.e., transformer bank)? Possible values: Yes (if multiple transformers are represented by a single point, use additional related tables as needed) No Unknown N/A	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
9	QuantityinBank	Quantity in Bank	integer		How many transformers exist in a bank arrangement (if applicable)? Enter "-99" if unknown.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
10	AssetLatitude	Asset Latitude	float		Latitude coordinate of asset (in decimal degrees).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
11	AssetLongitude	Asset Longitude	float		Longitude coordinate of asset (in decimal degrees).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

Table	**Transformer Detail**									
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	AssetID	Asset ID	text(50)	PK	Unique ID for a specific switchgear asset. It should be a traceable stable ID within the utility's operations/processes. Primary key for the Transformer Detail table.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	TransformerID	Transformer ID	text(50)	FK	Unique ID for a specific transformer. It should be a traceable stable ID within the utility's operations/processes. Foreign key enabling connection to the "Transformer" feature class.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	TransformerSubtype	TransformerSubtype	text(100)	Domain	Specific subtype of the transformer. Possible values: Single phase pad-mounted Single phase subsurface Single phase overhead Three phase pad-mounted Three phase subsurface Three phase overhead	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes

4	AssociatedNominalVoltagekV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	AssociatedOperatingVoltagekV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	SubstationID	Substation ID	text(50)	FK	ID of substation associated with asset. Foreign Key to the Substation table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	SubstationName	Substation Name	text(50)		Name of substation associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	CircuitID	Circuit ID	text(50)	FK	ID of circuit associated with asset. This will be a unique standardized identification name of the circuit. Foreign key to all the related asset line tables.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	CircuitName	Circuit Name	text(255)		Name of circuit associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	MakeandManufacturer	Make and Manufacturer	text(50)		What is the make and manufacturer of the asset? Enter "Unknown" if this cannot be determined.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
11	ModelNumber	Model Number	text(30)		Model number of the asset. Enter "Unknown" if this cannot be determined.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
12	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
13	LastMaintenanceDate	Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
15	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
16	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
17	UsefulLifespan	Useful Lifespan	integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
18	ExemptionStatus	Exemption Status	text(30)	Domain	Is the asset exempt per California Public Resources Code (PRC) 4292? PRC 4292 requires clearance around support structures on which certain equipment is mounted in certain areas. Possible values: Yes No Unknown N/A	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
19	TransformerRating	Transformer Rating (kVAs)	float		Nominal electrical load capacity in kilovolt amps (kVAs).	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes

Point	Weather Station									
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	StationID	Station ID	text(50)	PK	The equivalent to the "Asset ID" field from other feature classes. Station ID for the weather station. It should enable data users to look up the data collected by the weather station. Primary key for the Weather Station table.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	AssetType	Asset Type	text(30)		Type of point asset. Required field: Weather station	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	MakeandManufacturer	Make and Manufacturer	text(30)		What is the make and manufacturer of the asset? Enter "Unknown" if this cannot be determined.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
5	ModelNumber	Model Number	text(30)		Model number of the asset. Enter "Unknown" if this cannot be determined.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
6	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
7	County	County	text(50)		County in which asset is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
8	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
9	LastMaintenanceDate	Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
10	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
11	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
12	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
13	UsefulLifespan	Useful Lifespan	integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
14	WeatherStationURL	Weather Station URL	text(255)		Website address for weather station information (if publicly available).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
15	AssetLatitude	Asset Latitude	float		Latitude coordinate of asset (in decimal degrees).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
16	AssetLongitude	Asset Longitude	float		Longitude coordinate of asset (in decimal degrees).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

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Line	Transmission Line								
Column	Field Name	Alias	Data Type	Characteristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	CircuitID	Circuit ID	text(50)	PK	Unique ID for a specific circuit. It should be a traceable stable ID within the utility's operations/processes. Primary key enabling connection to the "Transmission Line Detail" table.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	LineClass	Line Class	text(30)		Classification of line asset. Required value: Transmission	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	CircuitName	Circuit Name	text(255)		Name of circuit associated with asset.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
5	County	County	text(150)		County in which asset is located. If the line crosses multiple counties, list all counties separated by commas.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
6	ConductorType	Conductor Type	text(30)	Domain	Type of conductor. Possible values: Bare Covered Unknown	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	AssetOHUG	Asset OH or UG	text(30)	Domain	Is the asset overhead or underground? Possible values: Overhead Underground Unknown	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
8	NominalVoltagekV	Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	OperatingVoltagekV	Operating Voltage (kV)	float		Operating voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	SubstationID	Substation ID	text(50)	FK	ID of substation associated with asset. Foreign key to the Substation table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	SubstationName	Substation Name	text(50)		Name of substation associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	ConductorMaterial	Conductor Material	text(50)	Domain	Conductor material. Possible values: All aluminum conductor (AAC) All aluminum alloy conductor (AAAC) Aluminum conductor aluminum reinforced (ACAR) Aluminum conductor steel reinforced (ACSR) Copper (Cu) Other – See comment.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
13	ConductorMaterialComment	Conductor Material Comment	text(50)		Conductor material not listed in the options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	ConductorSize	Conductor Material Comment	text(30)		Size of conductor (e.g. No. 4 Cu or 1/0 ACSR).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
15	ConductorOD	Conductor Overall Diameter (inches)	float		Overall diameter of the conductor in inches.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
16	ConductorCodeName	Conductor Code Name	text(30)		Codename of the conductor. For example, "Lapwing," "Sparrow," etc.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
17	Terminal1	Terminal 1	text(50)		Substation name of first terminal.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
18	Terminal2	Terminal 2	text(50)		Substation name of second terminal.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
19	Terminal3	Terminal 3	text(50)		Substation name of third terminal.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
20	Terminal4	Terminal 4	text(50)		Substation name of fourth terminal.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
21	Terminal5	Terminal 5	text(50)		Substation name of fifth terminal.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
22	Terminal(s)	Terminal(s)	text(50)		Substation name of other terminals.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
23	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
24	LastMaintenanceDate	Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
25	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
26	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
27	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
28	UsefulLifespan	Useful Lifespan	integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
29	AmpacityRating	Ampacity Rating (A)	float		Nominal ampacity rating of the conductor, in amperes).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
30	Greased	Greased	text(10)	Domain	Is the conductor greased to prevent water intrusion? Possible values: Yes No Unknown	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Line	Primary Distribution Line								
Column	Field Name	Alias	Data Type	Characteristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	CircuitID	Circuit ID	text(50)	PK	P Unique ID for a specific circuit. It should be a traceable stable ID within the utility's operations/processes. Primary key enabling connection to the "Primary Distribution Lines Detail" table.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(30)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	LineClass	Line Class	text(30)		Classification of line asset. Required value: Primary distribution	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	CircuitName	Circuit Name	text(255)		Name of circuit associated with asset.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
5	County	County	text(150)		County in which asset is located. If the line crosses multiple counties, list all counties separated by commas.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
6	ConductorType	Conductor Type	text(10)	Domain	Type of conductor. Possible values: Bare Covered Unknown	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	AssetOHUG	Asset OH or UG	text(30)	Domain	Is the asset overhead or underground? Possible values: Overhead Underground Unknown	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
8	NominalVoltagekV	Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	OperatingVoltagekV	Operating Voltage (kV)	float		Operating voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	SubstationID	Substation ID	text(50)	FK	ID of substation associated with asset. Foreign key to the Substation table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	SubstationName	Substation Name	text(50)		Name of substation associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	ConductorMaterial	Conductor Material	text(50)	Domain	Conductor material. Possible values: All aluminum conductor (AAC) All aluminum alloy conductor (AAAC) Aluminum conductor aluminum reinforced (ACAR) Aluminum conductor steel reinforced (ACSR) Copper (Cu) Other – See comment.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
13	ConductorMaterialComment	Conductor Material Comment	text(50)		Conductor material not listed in the options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	ConductorSize	Conductor Size	text(30)		Size of conductor (e.g. No. 4 Cu or 1/0 ACSR).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
15	ConductorOD	Conductor Overall Diameter (inches)	float		Overall diameter of the conductor in inches.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
16	ConductorCodeName	Conductor Code Name	text(30)		Codename of the conductor. For example, "Lapwing," "Sparrow," etc.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
17	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
18	LastMaintenanceDate	Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
19	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
20	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
21	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
22	UsefulLifespan	Useful Lifespan	integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
23	AmpacityRating	Ampacity Rating (A)	float		Nominal ampacity rating of the conductor, in amperes).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
24	Greased	Greased	text(10)	Domain	Is the conductor greased to prevent water intrusion? Possible values: Yes No Unknown	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Line	Secondary Distribution Line								
Column	Field Name	Alias	Data Type	Characteristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	CircuitID	Circuit ID	text(50)	PK	Unique ID for a specific circuit. It should be a traceable stable ID within the utility's operations/processes. Primary key enabling connection to the "Secondary Distribution Lines Detail" related table. This ID is expected to be based on the circuit name of the secondary line's associated primary distribution line.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
3	LineClass	Line Class	text(30)		Classification of line asset. Required value: Secondary distribution	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
4	CircuitName	Circuit Name	text(255)		Name of circuit associated with asset. This name is expected to be based on the circuit name of the secondary line's associated primary distribution line.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
5	County	County	text(150)		County in which asset is located. If the line crosses multiple counties, list all counties separated by commas.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
6	ConductorType	Conductor Type	text(30)	Domain	Type of conductor. Possible values: Open wire Triplex Other – See comment.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	ConductorTypeComment	Conductor Type Comment	text(30)		Conductor type not listed in the options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	AssetOHUG	Asset OH or UG	text(30)	Domain	Is the asset overhead or underground? Possible values: Overhead Underground Unknown	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
9	NominalVoltagekV	Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	OperatingVoltagekV	Operating Voltage (kV)	float		Operating voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A. Enter "-99" if N/A.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	SubstationID	Substation ID	text(50)	FK	ID of substation associated with asset. Foreign key to the Substation table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	SubstationName	Substation Name	text(50)		Name of substation associated with asset.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
13	ConductorMaterial	Conductor Material	text(50)	Domain	Conductor material. Possible values: All aluminum conductor (AAC) All aluminum alloy conductor (AAAC) Aluminum conductor aluminum reinforced (ACAR) Aluminum conductor steel reinforced (ACSR) Copper (Cu) Other – See comment.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	ConductorMaterialComment	Conductor Material Comment	text(50)		Conductor material not listed in the options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
15	ConductorSize	Conductor Size	text(30)		Size of conductor (e.g. No. 4 Cu or 1/0 ACSR).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
16	ConductorOD	Conductor Overall Diameter (inches)	float		Overall diameter of the conductor in inches.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
17	ConductorCodeName	Conductor Code Name	text(30)		Codename of the conductor. For example, "Lapwing," "Sparrow," etc.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
18	LastInspectionDate	Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
19	LastMaintenanceDate	Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
20	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
21	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
22	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
23	UsefulLifespan	Useful Lifespan	Integer		The number of years an asset is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
24	AmpacityRating	Ampacity Rating (A)	float		Nominal ampacity rating of the conductor, in amperes).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

25	Greased	Greased	text(10)	Domain	Is the conductor greased to prevent water intrusion? Possible values: Yes No Unknown	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes	

WSD Data Schemas Draft V2 (2020-09-09) - PSPS Event

Column	Field Name	Alias	Data Type	Characteristic	Description	Provided in 10-Day Post-Event Report? (Yes/ No)	Can be reported within 30-Days Post-Event? (Yes/No)	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	EventID	Event ID	text(50)	PK	A unique standardized identification name of the unique event. Primary key enabling connection to PSPS event feature classes.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
2	CircuitID	Circuit ID	text(50)	FK	A unique standardized identification name of the circuit that was de-energized. Foreign key to all the related asset line tables.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
3	CircuitName	Circuit Name	text(255)		Name of circuit associated with asset.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
4	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
5	SubstationID	Substation ID	text(50)		A unique standardized identification name of the substation/feeder feeding the circuit that was de-energized during the PSPS event. Foreign Key to the Substation table.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
6	SubstationName	Substation Name	text(50)		Name of substation associated with asset.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
7	IsolationDevice	Isolation Device	text(30)	Domain	The device which isolated the circuit during the PSPS event. Possible values: Circuit Breaker Fuse Switch Other – See comment.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
8	IsolationDeviceComment	Isolation Device Comment	text(50)		Isolation device not listed in the options above.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
9	IsolationDeviceID	Isolation Device ID	text(50)	FK	A unique standardized identification name of the isolation device. Should match the value in the "AssetID" field of the isolation device's point data in the "Switchgear" feature class. A foreign key. AKA AssetID.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
10	EOCActivationDate	EOC Activation Date	date		Date IOU's emergency operation center (EOC) was activated in YYYY-MM-DD format. Do not include time.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
11	EOCActivationTime	EOC Activation Time	date		Time IOU's emergency operation center was activated. Must be in the "hh:mm:ss" format.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
12	StartDate	Start Date	date		Start date of the PSPS event in YYYY-MM-DD format. Do not include time.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
13	StartTime	Start Time	date		Start time of the PSPS event (i.e. when the first de-energization occurred). Must be in the "hh:mm:ss" format.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
14	AllClearDate	All Clear Date	date		Date the weather event precipitating the PSPS event cleared the area, and the utility began inspection and restoration efforts. Must be in YYYY-MM-DD format. Do not include time.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
15	AllClearTime	All Clear Time	date		Time the weather event precipitating the PSPS event cleared the area, and the utility began inspection and restoration efforts. Must be in the "hh:mm:ss" format.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
16	AllLoadUpDate	All Load Up Date	date		Date last customer was fully restored following the PSPS event. Must be in YYYY-MM-DD format. Do not include time.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
17	AllLoadUpTime	All Load Up Time	date		Time the last customer was fully restored following the PSPS event and "All Load Up" was declared. Must be in the "hh:mm:ss" format.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
18	PredictedDurationMinutes	Predicted Duration Minutes	integer		Anticipated duration of PSPS event's circuit shutoff after it is initiated. Must be reported in whole number minutes.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
19	ActualDurationMinutes	Actual Duration Minutes	integer		Actual duration of PSPS event's circuit shutoff. This would be determined after restoration and must be reported in whole number minutes.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
20	DurationPredictionError	Duration Prediction Error	integer		"PredictedDurationMinutes" minus "ActualDurationMinutes". Positive values indicate shorter than predicted PSPS outage duration; negative values indicate longer than predicted PSPS outage duration.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
21	TotalCustomerMinutes	Total Customer Minutes	integer		"ActualDurationMinutes" multiplied by "TotalCustomers". This field features total customer minutes impacted across the circuit.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
22	TotalCustomerHours	Total Customer Hours	integer		"TotalCustomerMinutes" divided by 60. This field features total customer hours impacted across the circuit.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
23	TotalCustomers	Total Customers	integer		Total impacted customers. This is not necessarily a sum of all customer category values listed below because medical baseline customers may also be in other customer categories.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
24	ResidentialCustomers	Residential Customers	integer		Total residential customers.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
25	MedicalBaselineCustomers	Medical Baseline Customers	integer		Total medical baseline customers.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
26	CommercialIndustrialCusto	Commercial Industrial Customers	integer		Total commercial/industrial customers.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
27	OtherCustomers	Other Customers	integer		Total customers that do not fall within residential or commercial/industrial (as requested under Decision 12-04-024).	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
28	CriticalInfrastructure	Critical Infrastructure	integer		Number of critical infrastructure locations (in accordance with Decision 19-05-042 as modified by D.20-05-051) impacted by the PSPS event.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
29	CriticalInfrastructureDurati	Critical Infrastructure Duration	integer		Duration of critical infrastructure locations (in accordance with Decision 19-05-042) de-energized during the PSPS event. Must be reported in whole number minutes.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
30	CriticalInfrastructureImpac	Critical Infrastructure Impact	integer		"CriticalInfrastructure" multiplied by "CriticalInfrastructureDuration". This field features the total PSPS impact on critical infrastructure.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
31	County	County	text(150)		County in which asset is located. If the line crosses multiple counties, list all counties separated by commas.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
32	WindRisk	Wind Risk	text(3)	Domain	Was high wind a driving risk factor in the PSPS decision? Possible values: Yes No	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
33	RelativeHumidityRisk	Relative Humidity Risk	text(3)	Domain	P	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
34	TemperatureRisk	Temperature Risk	text(3)	Domain	Was high temperature a driving risk factor in the PSPS decision? Possible values: Yes No	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
35	VegetationRisk	Vegetation Risk	text(3)	Domain	Was a higher probability of vegetation interference a driving risk factor in the PSPS decision? Possible values: Yes No	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
36	AssetRisk	Asset Risk	text(3)	Domain	Was a higher probability of asset failure a driving risk factor in the PSPS decision? Possible values: Yes No	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
37	DeadFuelRisk	Dead Fuel Risk	text(3)	Domain	Was a high presence of dead fuel a driving risk factor in the PSPS decision? Possible values: Yes No	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
38	LiveFuelRisk	Live Fuel Risk	text(3)	Domain	Was a high presence of live fuel a driving risk factor in the PSPS decision? Possible values: Yes No	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
39	RedFlagWarningRisk	Red Flag Warning Risk	text(3)	Domain	Was the presence of a Red Flag Warning risk day a driving factor in the PSPS decision? Possible values: Yes No	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
40	OtherRisk	Other Risk	text(3)	Domain	Was some other form of risk (not covered by the fields above) a driving risk factor in the PSPS decision? Possible values: Yes No	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes
41	OtherRiskReason	Other Risk Reason	text(100)		Brief description of what the "OtherRisk" category is if there is a "Yes" value under the "OtherRisk" field. Possible example statements include things like "vehicle collision," "reported ignition," etc. Enter "N/A" if the value for "OtherRisk" is "No."	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Not Currently Available	Data will be procured consistent with requirements if deployed	Within 30 days of deployment	Yes

Line PSPS Event Line

Column	Field Name	Alias	Data Type	Characteristic	Description	Provided in 10-Day Post-Event Report? (Yes/ No)	Can be reported within 30-Days Post-Event? (Yes/No)	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	PspsEventLineID	PSPS Event Line ID	text(50)	PK	An underscore delimited concatenation of "EventID"+"_"+"CircuitID." Primary key for the PSPS Event Line table.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
2	EventID	Event ID	text(50)	FK	A unique standardized identification name of the unique event. Foreign key enabling connection to "PSPS Event Log" table.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
3	CircuitID	Circuit ID	text(50)	FK	A unique standardized identification name of the circuit that was de-energized. Foreign key to all the related asset line tables.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
4	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
5	County	County	text(150)		County in which asset is located. If the line crosses multiple counties, list all counties separated by commas.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes

Polygon PSPS Event Polygon

Column	Field Name	Alias	Data Type	Characteristic	Description	Provided in 10-Day Post-Event Report? (Yes/ No)	Can be reported within 30-Days Post-Event? (Yes/No)	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	PspsEventPolygonID	PSPS Event Polygon ID	text(50)	PK	Primary key for PSPS Event Polygons.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
2	EventID	Event ID	text(50)	FK	A unique standardized identification name of the unique event. Foreign key enabling connection to "PSPS Event Log" table.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
3	CircuitID	Circuit ID	text(50)	FK	A unique standardized identification name of the circuit that was de-energized. Foreign key to all the related asset line tables.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
4	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
5	County	County	text(150)		County in which asset is located. If the line crosses multiple counties, list all counties separated by commas.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes

Point PSPS Event Customer Meter Point

Column	Field Name	Alias	Data Type	Characteristic	Description	Provided in 10-Day Post-Event Report? (Yes/ No)	Can be reported within 30-Days Post-Event? (Yes/No)	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	PspsEventMeterID	PSPS Event Meter ID	text(50)	PK	An underscore delimited concatenation of "EventID"+"_"+"AssetID." Primary key for the PSPS Event Customer Meter Point.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
2	EventID	Event ID	text(50)	FK	A unique standardized identification name of the unique event. Foreign key enabling connection to "PSPS Event Log" table.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
3	AssetID	Circuit ID	text(50)	FK	Unique ID for a specific meter. It should be a traceable stable ID within the utility's operations/processes. Foreign key to the Meter table.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
4	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
5	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset damage point intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes
6	County	County	text(150)		County in which asset is located. If the line crosses multiple counties, list all counties separated by commas.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data exists	Requires data translation and extraction process	Within 10 days of deployment	Yes

Point PSPS Event Damage Point

Column	Field Name	Alias	Data Type	Characteristic	Description	Provided in 10-Day Post-Event Report? (Yes/ No)	Can be reported within 30-Days Post-Event? (Yes/No)	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	DamageEventID	Damage Event ID	text(50)	PK	ID value for an individual PSPS event. Event ID values for damage points should match event ID values in corresponding PSPS event GIS data. Primary key enabling connection to PSPS event conductor, support structure, and other asset damage detail tables.							
2	EventID	Event ID	text(50)	FK	A unique standardized identification name of the unique event. Foreign key enabling connection to "PSPS Event Log" table.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
3	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
4	FuelBedDescription	Fuel Bed Description	text(150)	Domain	Type of fuel bed existing under damage location. Possible values: Fire-resistive fuel bed - Fuel bed not conducive to propagating fire where damage occurred (e.g. asphalt, concrete, gravel, etc.). Grass fuel model - Fuel bed comprised of annual grasses where damaged occurred. Brush fuel model - Fuel bed comprised of mainly brush or shrubs where damage occurred (e.g. chamise, manzanita, chaparral, scotch broom, etc.). Timber fuel model - Fuel bed comprised of a timber where damaged occurred (e.g. forests, timber litter, logging slash, etc.). Other – See comment.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
5	FuelBedDescriptionComme	Fuel Bed Description Comment	text(150)		Fuel bed description not listed in the options above.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
6	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the asset damage point intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
7	County	County	text(150)		County in which asset damage is located. If the line crosses multiple counties, list all counties separated by commas.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
8	Latitude	Latitude	float		Latitude of point in decimal degrees.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
9	Longitude	Longitude	float		Longitude of point in decimal degrees.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes

Table PSPS Event Conductor Damage Detail

Column	Field Name	Alias	Data Type	Characteristic	Description	Provided in 10-Day Post-Event Report? (Yes/ No)	Can be reported within 30-Days Post-Event? (Yes/No)	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	PspsCdID	PSPS Conductor Damage ID	text(50)	PK	Primary key for the PSPS Event Conductor Damage Detail table.							
2	DamageEventID	Damage Event ID	text(50)	FK	ID value for an individual PSPS event. Event ID values for damage points should match event ID values in corresponding PSPS event GIS data. Foreign key enabling connection to "PSPS Event Damage Points" feature class.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
3	DateofDamage	Date of Damage	date		Date or estimated date damage occurred in YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
4	EstimatedTimeofDamage	Time of Damage	date		Estimated time damage occurred. Must be in the "hh:mm:ss" format.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
5	AssetID	Asset ID	text(50)	FK	Unique ID for a specific point asset. It should be a traceable stable ID within the utility's operations/processes. Foreign key to the related asset point tables.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
6	Asset	Asset	text(10)		Specific type of asset that is damaged. Required value: Conductor	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes

7	NominalVoltageKV	Nominal Voltage (kV)	float									
8	OperatingVoltageKV	Operating Voltage (kV)	float		Nominal voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
9	FromDevice	From Device	text(50)	FK	Operating voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
10	ToDevice	To Device	text(50)	FK	The upstream support structure asset ID. Foreign key to the related asset point tables. AKA AssetID.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
11	FeederID	FeederID	text(50)	FK	The downstream support structure asset ID. Foreign key to the related asset point tables. AKA AssetID.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
12	ConductorMaterial	Conductor Material	text(50)	Domain	Circuit/feeder ID for the damaged span of line. Foreign to the related asset line tables.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
13	ConductorMaterialComme	Conductor Material Comment	text(50)		Conductor material. Possible values: All aluminum conductor (AAC) All aluminum alloy conductor (AAAC) Aluminum conductor aluminum reinforced (ACAR) Aluminum conductor steel reinforced (ACSR) Copper (Cu) Other – See comment.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
14	ConductorType	Conductor Type	text(10)	Domain	Conductor material not listed in the options above. Type of conductor. Possible values: Bare Covered Unknown	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
15	ConductorLength	Conductor Length (feet)	float		Conductor length in feet based on GIS data.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
16	FailedEquipmentDescriptio	Failed Equipment Description	text(100)		Equipment that contributed to the conductor damage. Write "Unknown" or "N/A" as appropriate.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
17	ExternalForceDescription	External Force Description	text(100)		Force responsible for causing the conductor damage.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
18	SubstationName	Substation Name	text(50)		Name of substation associated with asset.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
19	SubstationID	Substation ID	text(50)		ID of substation associated with asset. Foreign Key to the Substation table.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
20	SubstationType	Substation Type	text(10)	Domain	Type of substation. Possible values: Radial Loop Network	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
21	Cause	Cause	text(30)	Domain	High-level category for PSPS event cause. Possible values: Object contact Equipment failure Wire-to-wire contact Contamination Utility work/Operation Vandalism/Theft Unknown Other – See comment.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
22	CauseComment	Cause Comment	text(30)		Cause category not listed in options above.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
23	EnergizedOnGround	Energized On Ground	text(10)	Domain	Did the damaged conductor make contact with the ground while energized? Possible values: Yes No Unknown	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
24	ManufacturerModelID	Manufacturer Model ID	text(50)		The manufacturer and asset model specifications that would enable one to identify exactly what type of equipment was involved with the damage. If some sort of model or part code/name is not available, at least record the manufacturer name. Write "Unknown" if no manufacturer info can be determined based on information available in the field. "Unknown" values should be reviewed by other IOU staff after data collection and filled in from existing databases or other sources if possible.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
25	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
26	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
27	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "InstallationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
28	UsefulLifespan	Useful Lifespan	integer		The number of years an asset would have been expected to have a useful functioning existence prior to damage. Use -99 for unknown.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
29	LikelyArcing	Likely Arcing	text(10)	Domain	Was arcing likely because of the damage? Possible values: Yes No Unknown	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
30	DamageType	Damage Type	text(30)	Domain	Type of damage sustained. Possible values: Asset damage Asset failure Equipment damage Equipment failure Veg contact Object contact	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
31	DamageDescription	Damage Description	text(30)	Domain	Description of damage. Possible values: Broken conductor Damaged conductor Kite in line Pine needles on line Tree bark on line Tree branch on line Tree leaning into line Tree leaning toward line Wire-to-wire contact Other – See comment.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
32	DamageDescriptionComme	Damage Description Comment	text(30)		Damage category not listed in the options above and/or additional relevant details about damage	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes

Table	PSPS Event Support Structure Damage Detail											
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Provided in 10-Day Post-Event Report? (Yes/ No)**	**Can be reported within 30-Days Post-Event? (Yes/No)**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	PspsSsdID	PSPS Support Structure ID	text(50)	PK	Primary key for the PSPS Event Support Structure Damage Detail table.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
2	DamageEventID	Damage Event ID	text(50)	FK	ID value for an individual PSPS event. Event ID values for damage points should match event ID values in corresponding PSPS event GIS data. Foreign key enabling connection to "PSPS Event Damage Points" feature class.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
3	DateofDamage	Date of Damage	date		Date or estimated date damage occurred in YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
4	EstimatedTimeofDamage	Time of Damage	date		Estimated time damage occurred. Must be in the "hh:mm:ss" format.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
5	AssetID	Asset ID	text(50)	FK	Unique ID for a specific point asset. It should be a traceable stable ID within the utility's operations/processes. Foreign key to the related asset point tables.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
6	Asset	Asset	text(30)	Domain	Specific type of asset that is damaged. This list of dropdown menu items should be modified by each IOU to cover the assets most likely to be involved in PSPS damage. Possible values: Pole Tower Crossarm Secondary arms Other – See comment.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
7	AssetComment	Asset Comment	text(30)		Asset not listed in the options above.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
8	FeederID	Circuit ID	text(50)	FK	Circuit/feeder ID for the damaged span of line. Foreign to the related asset line tables.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
9	NominalVoltageKV	Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
10	OperatingVoltageKV	Operating Voltage (kV)	float		Operating voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
11	SupportStructureMaterial	Support Structure Material	text(30)	Domain	Material of which support structure is made. Possible values: Wood Metal Composite Wrapped wood Concrete Other – See comment.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
12	MaterialComment	Material Comment	text(30)		Support structure material not listed in the options above.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
13	ManufacturerModelID	Manufacturer Mode IID	text(50)		The manufacturer and asset model specifications that would enable one to identify exactly what type of equipment was involved with the damage. If some sort of model or part code/name is not available, at least record the manufacturer name. Write "Unknown" if no manufacturer info can be determined based on information available in the field. "Unknown" values should be reviewed by other IOU staff after data collection and filled in from existing databases or other sources if possible.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
14	InstallationDate	Installation Date	date		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
15	InstallationYear	Installation Year	integer		Year of asset installation. Use four digits. Enter "-99" if unknown.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes

16	EstimatedAge	Estimated Age	text(10)	Domain	The age of the asset in years. Only fill this out if the "InstallationYear" and "installationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
17	UsefulLifespan	Useful Lifespan	integer		The number of years an asset would have been expected to have a useful functioning existence prior to damage. Use -99 for unknown.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
18	LikelyArcing	Likely Arcing	text(10)	Domain	Was arcing likely because of the damage? Possible values: Yes No Unknown	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
19	DamageType	Damage Type	text(30)	Domain	Type of damage sustained. Possible values: Asset damage Asset failure Equipment damage Equipment failure Veg contact Object contact	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
20	DamageDescription	Damage Description	text(30)	Domain	Description of damage. Possible values: Broken pole Damaged pole Broken tower Damaged tower Broken crossarm Damaged crossarm Other – See comment.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
21	DamageDescriptionComm	Damage Description Comment	text(30)		Damage category not listed in the options above and/or additional relevant details about damage	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not yet required	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes

Table	PSPS Event Other Asset Damage Detail											
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Provided in 10-Day Post-Event Report? (Yes/ No)**	**Can be reported within 30-Days Post-Event? (Yes/No)**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	PspsOadID	PSPS Other Asset Damage ID	text(50)	PK	Primary key for the PSPS Event Other Asset Damage Detail table.							
2	DamageEventID	Damage Event ID	text(50)	FK	ID value for an individual PSPS event. Event ID values for damage points should match event ID values in corresponding PSPS event GIS data. Foreign key enabling connection to "PSPS Event Damage Points" feature class.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
3	DateofDamage	Date of Damage	date		Date or estimated date damage occurred in YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
4	EstimatedTimeofDamage	Time of Damage	date		Estimated time damage occurred. Must be in the "hh:mm:ss" format.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
5	AssetID	Asset ID	text(50)	FK	Unique ID for a specific point asset. It should be a traceable stable ID within the utility's operations/processes. Foreign key to the related asset point tables.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
6	Asset	Asset	text(30)	Domain	Specific type of asset that is damaged. This list of dropdown menu items should be modified by each IOU to cover the assets most likely to be involved in PSPS damage. Possible values: Down guy Neutral Service neutral Span guy Tie wire Wood pin Anchor Other – See comment.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
7	AssetComment	Asset Comment	text(30)		Asset not listed in the options above.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
8	FeederID	Circuit ID	text(50)	FK	Circuit/feeder ID for the damaged span of line. Foreign to the related asset line tables.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
9	NominalVoltagekV	Nominal Voltage (kV)	float			No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
10	OperatingVoltagekV	Operating Voltage (kV)	float		Nominal voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
11	ManufacturerModelID	Manufacturer Model ID	text(50)		Operating voltage (in kilovolts) of conductor. Do not use more than two decimal places. Enter "-99" if N/A. The manufacturer and asset model specifications that would enable one to identify exactly what type of equipment was involved with the damage. If some sort of model or part code/name is not available, at least record the manufacturer name. Write "Unknown" if no manufacturer info can be determined based on information available in the field. "Unknown" values should be reviewed by other IOU staff after data collection and filled in from existing databases or other sources if possible.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
12	InstallationDate	Installation Date	date			No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
13	InstallationYear	Installation Year	integer		Date the asset was installed. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
14	EstimatedAge	Estimated Age	text(10)	Domain	Year of asset installation. Use four digits. Enter "-99" if unknown. The age of the asset in years. Only fill this out if the "InstallationYear" and "installationDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is an "InstallationYear" value)	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
15	UsefulLifespan	Useful Lifespan	integer		The number of years an asset would have been expected to have a useful functioning existence prior to damage. Use -99 for unknown.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
16	ExemptionStatus	Exemption Status	text(10)	Domain	Is the asset exempt per California Public Resources Code (PRC) 4292? PRC 4292 requires clearance around support structures on which certain equipment is mounted in certain areas. This field that may be most efficiently filled out by IOU technical staff after field collection. Possible values: Yes No Unknown N/A	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
17	LikelyArcing	Likely Arcing	text(10)	Domain	Was arcing likely because of the damage? Possible values: Yes No Unknown	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
18	DamageType	Damage Type	text(30)	Domain	Type of damage sustained. Possible values: Asset damage Asset failure Equipment damage Equipment failure Veg contact Object contact	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
19	DamageDescription	Damage Description	text(30)	Domain	Description of damage. Possible values: Broken down guy Broken hand tie Broken neutral Broken service neutral Broken guy wire Broken tie wire Broken tree branch near line Broken pin Broken insulator Damaged crossarm Guy and anchor damage Tree branch on transformer Other – See comment.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
20	DamageDescriptionComm	Damage Description Comment	text(30)		Damage category not listed in the options above and/or additional relevant details about damage	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes

Table	PSPS Damage Photo Log											
Column	**Field Name**	**Alias**	**Data Type**	**Characteristic**	**Description**	**Provided in 10-Day Post-Event Report? (Yes/ No)**	**Can be reported within 30-Days Post-Event? (Yes/No)**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	PhotoID	Photo ID	text(100)	PK	Number or other label for a photo of the asset that enables the point to be linked to GIS data. If more than one photo is taken, enter additional IDs with separation commas. A primary key for the "PSPS Damage Photo Log" table. Photo format: Geotagged JPEG or PNG. Use format: UtilityName_DistrictID_InspectorInitial_PspsDamage_YYYYMMDD_PhotoNumber. For example, "UtilityG&E_A8_PspsDamage_20200703_1.png".	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
2	FuelBedPhotoID	Fuel Bed Photo ID	text(100)	PK	Number or other label for a photo of the fuel bed below the damaged asset that enables the point to be linked to GIS data. If more than one photo is taken, enter additional IDs with separation commas. A primary key for the "PSPS Damage Photo Log" table.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes
3	DamageEventID	Damage Event ID	text(100)	FK	Foreign key to the damage point tables.	No PSPS actions initiated; not yet required	Yes, anticipated to be	No PSPS actions initiated; not ye	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	Within 30 days of deployment	Yes

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Point	Wire Down Event								
Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timef	Confidential? (Yes/No)
1	WireDownID	Wire Down ID	text(50)	PK	Unique ID for the wire down event. Primary key for the Wire Down Point table.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	WireDownDate	Wire Down Date	date		The start date of the wire down event. Use YYYY-MM-DD format. Leave blank if unknown.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	WireDownYear	Wire Down Year	integer		The year that the risk event occurred. Use four digits.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
5	SuspectedWireDownCause	Suspected Wire Down Cause	text(30)	Domain	High-level category for wire down event cause. Possible values: Object contact Equipment failure Wire-to-wire contact Contamination Utility work/Operation Vandalism/Theft Unknown Other – See comment.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
6	SuspectedWireDownCauseComment	Suspected Wire Down Cause Comment	text(30)		Suspected wire down cause description not listed in the options above.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
7	ObjectContact	Object Contact	text(30)	Domain	Description of object involved in the contact if the value of "SuspectedWireDownCause" is "Object contact." Enter N/A for this field if the value of "SuspectedWireDownCause" is not "Object contact." Possible values: Vegetation contact Animal contact Balloon contact Vehicle contact - car pole Vehicle contact - aircraft 3rd party contact (e.g. 3rd party tree trimmer) Unknown N/A	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
8	EquimentFailure	Equiment Failure	text(30)	Domain	Description of failed or damaged equipment or component involved if "SuspectedWireDownCause" value is "Equipment failure." Enter N/A for this field if the value of "SuspectedWireDownCause" is not "Equipment failure." Possible values: Anchor/ guy Capacitor bank Conductor Connector device Crossarm Fuse Insulator and bushing Lightning arrestor Pole Recloser Relay Sectionalizer Splice Switch Tap Tie wire Transformer Voltage regulator/ booster Unknown Other – See comment. N/A	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
9	EquipmentFailureComment	Equipment Failure Comment	text(30)		Equipment failure description not listed in the options above.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
10	AssociatedNominalVoltagekV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
11	AssociatedOperatingVoltagekV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
12	SpanLength	Span Length (feet)	float		The length of a single-phase conductor, in feet, as measured between the "FromDevice" and "ToDevice."	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
13	TotalSplices	Total Splices	integer		The total number of splices in the span of conductor involved in the wire down event. In the event of wire down events occurring over multiple spans, include the total number of splices in all failed spans.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
14	MaxSplices	Maximum Splices	integer		The maximum number of splices in an individual phase conductor involved in the wire down event.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
15	MultipleDown	Multiple Down	text(3)	Domain	Was more than one span of conductors impacted by the wire down event? Possible values: Yes No	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
16	ConductorMaterial	Conductor Material	text(50)	Domain	Material of the conductor involved in the wire down event. Possible values: All aluminum conductor (AAC) All aluminum alloy conductor (AAAC) Aluminum conductor aluminum reinforced (ACAR) Aluminum conductor steel reinforced (ACSR) Copper (Cu) Other – See comment.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
17	ConductorMaterialComment	Conductor Material Comment	text(50)		Conductor material description not listed in the options above.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
18	ConductorSize	Conductor Size	text(30)		Size (e.g. No. 4, 1/0, etc.) of the conductor involved in the incident, in AWG or KCMIL.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
19	ConductorOD	Conductor Overall Diameter (inches)	float		Overall diameter of the conductor, in inches.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
20	ConductorCodeName	Conductor Code Name	text(30)		The code name of the conductor involved in the wire down event. For example, Lapwing, Sparrow, Merlin, etc.	no	Data does not exist Data does not exist – inventory required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
21	ConductorRating	Conductor Rating	float		The nominal ampacity rating of the conductor involved in the wire down event, in amperes.	no	Data does not exist – inventory required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
22	OutageStatus	Outage Status	text(3)	Domain	Was there an outage associated with the event? Possible values: Yes No	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
23	ToutageID	Transmission Outage ID	text(50)	FK	A unique ID for the transmission outage event. Foreign key to the Transmission Outages table.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
24	DoutageID	Distribution Outage ID	text(50)	FK	A unique ID for the distribution outage event. Foreign key to the Distribution Outages table.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
25	Energized	Energized	text(3)	Domain	Was the conductor energized while in contact with a grounded object during the event? If the wire down event did not result in contact with a grounded object, then enter N/A for this field. Possible values: Yes No N/A	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
26	IgnitionStatus	Ignition Status	text(3)	Domain	Was there an ignition associated with the wire down event? Possible values: Yes No	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
27	WireDownNotes	Wire Down Notes	text(100)		Additional information or notes available for the wire down event and not captured in other fields.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
28	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the outage intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
29	City	City	text(50)		City in where the wire down event is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
30	County	County	text(50)		County in where the wire down event is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
31	District	District	text(100)		Operating district where the wire down occurred.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
32	Latitude	Latitude	float		Latitude of event point in decimal degrees	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
33	Longitude	Longitude	float		P	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

Point	Ignition								
Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	IgnitionID	Ignition ID	text(50)	PK	Unique ID for the ignition event. Primary key for the Ignition Point table.	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	FireStartTime	Fire Start Time	date		The start time of the event. Must be in the "hh:mm:ss" format.	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	FireStartDate	Fire Start Date	date		The start date of the event. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
5	FireStartYear	Fire Start Year	Integer		The year that the risk event occurred. Use four digits.	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
6	FireDetectionMethod	Fire Detection Method	text(30)	Domain	The method by which the utility first learned of the ignition event. Possible values: Public Satellite Camera Utility staff Fire agency Other – Comment.	no	Data exists but not in GIS form	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
7	FireDetectionMethodComment	Fire Detection Method Comment	text(30)		Fire detection method description not listed in the options above.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
8	SuspectedInitiatingCause	Suspected Initiating Cause	text(30)	Domain	The suspected initiating event of the ignition. Possible values: Object contact Equipment failure Wire-to-wire contact Contamination Utility work/Operation Vandalism/Theft Unknown Other – See comment.	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
9	SuspectedInitiatingCauseComment	Suspected Initiating Cause Comment	text(30)		Suspected initiating event of the ignition cause description not listed in the options above.	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
10	ObjectContact	Object Contact	text(30)	Domain	Description of object involved in contact if "Object contact" is value of "SuspectedInitiatingEvent". If "Object contact" is not the value of "SuspectedInitiatingEvent," then enter N/A for this field. Possible values: Vegetation contact Animal contact Balloon contact Vehicle contact - car pole Vehicle contact - aircraft 3rd party contact (e.g. 3rd party tree trimmer) Unknown N/A	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

11	EquimentFailure	Equiment Failure	text(30)	Domain	Description of equipment involved in ignition, if "Equipment failure" is value of "SuspectedInitiatingEvent". If "Equipment failure" is not the value of "SuspectedInitiatingEvent," then enter N/A for this field. Possible values: Anchor/ guy Capacitor bank Conductor Connector device Crossarm Fuse Insulator and bushing Lightning arrestor Pole Recloser Relay Sectionalizer Splice Switch Tap Tie wire Transformer Voltage regulator/ booster Unknown Other – See comment. N/A	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
12	AssociatedNominalVoltagekV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
13	AssociatedOperatingVoltagekV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
14	SubstationID	Substation ID	text(50)	FK	Unique ID of the substation supplying the involved circuit. Foreign key to Substation table.	no	Data exists but not in GIS form	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
15	SubstationName	Substation Name	text(50)		Name of the substation supplying the involved circuit.	no	Data exists but not in GIS form	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
16	OtherCompanies	Other Companies	text(50)		Affected companies from the event.	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
17	EquipmentType	Equipment Type	text(30)	Domain	The type of equipment involved in the ignition event. Possible values: Overhead Pad-mounted Subsurface	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
18	Determination	Determination	text(30)	Domain	The entity relied upon to make the determination of "SuspectedInitiatingEvent" above. Possible values: Utility personnel Fire Agency Other – See comment	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
19	DeterminationComment	Determination Comment	text(50)		Determination entity description not listed in the options above.	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
20	FacilityContacted	Facility Contacted	text(50)	Domain	The first facility that was contacted by an outside object. Only to be used if "Object contact" is selected as "SuspectedInitiatingEvent". Possible values: Electric Facility Pole Communication Facility	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
21	ContributingFactor	Contributing Factor	text(30)	Domain	Factors suspected as contributing to the ignition. Possible values: Weather External Force Human Error Other – See comment Unknown	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
22	ContributingFactorComment	Contributing Factor Comment	text(30)		Contributing factor description not listed in the options above.	Yes, 2020 WMP and CPUC Decision 14-12-015 filings	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
23	RFWStatus	Red Flag Warning Status	text(3)	Domain	Was there a red flag warning (RFW) issued by the National Weather Service (NWS) in effect at the ignition location at the time of ignition? Possible values: Yes No	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
24	RFWIssueDate	Red Flag Warning Issue Date	date		The date on which the NWS issued the RFW in effect at the ignition location at the time of the ignition event. Leave blank if there was no RFW in effect at the time of ignition at the ignition location. Also leave blank if unknown. Use YYYY-MM-DD format.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
25	RFWIssueTime	Red Flag Warning Issue Time	date		The time at which the NWS issued the RFW in effect at the ignition location at the time of the ignition event. Leave blank if there was no RFW in effect at the time of ignition at the ignition location. Must be in the "hh:mm:ss" format.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
26	FWWStatus	Fire Weather Watch Status	text(3)	Domain	Was there a fire weather watch (FWW) issued by the National Weather Service (NWS) in effect at the ignition location at the time of ignition? Possible values: Yes No	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
27	FWWIssueDate	Fire Weather Watch IssueDate	date		The date on which the NWS issued the FWW in effect at the ignition location at the time of the ignition event. Leave blank if there was no FWW in effect at the time of ignition at the ignition location. Also leave blank if unknown. Use YYYY-MM-DD format.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
28	FWWIssueTime	Fire Weather Watch IssueTime	date		The time at which the NWS issued the FWW in effect at the ignition location at the time of the ignition event. Leave blank if there was no FWW in effect at the time of ignition at the ignition location. Must be in the "hh:mm:ss" format.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
29	HWWStatus	High Wind Warning Status	text(3)	Domain	Was there a high wind warning (HWW) issued by the National Weather Service (NWS) in effect at the ignition location at the time of ignition? Possible values: Yes No	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
30	HWWIssueDate	High Wind Warning IssueDate	date		The date on which the NWS issued the HWW in effect at the ignition location at the time of the ignition event. Leave blank if there was no HWW in effect at the time of ignition at the ignition location. Also leave blank if unknown. Use YYYY-MM-DD format.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
31	HWWIssueTime	High Wind Warning IssueTime	date		The time at which the NWS issued the HWW in effect at the ignition location at the time of the ignition event. Leave blank if there was no HWW in effect at the time of ignition at the ignition location. Must be in the "hh:mm:ss" format.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
32	OriginLandUse	Origin Land Use	text(10)	Domain	Status of land at origin of ignition. Possible values: Rural Urban	CPUC Decision 14-12-015, 2019 filing on 4/1/2020	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
33	MaterialAtOrigin	Material At Origin	text(30)	Domain	Fuel material for the ignition origin. Possible values: Vegetation Structure Other – See comment	CPUC Decision 14-12-015, 2019 filing on 4/1/2020	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
34	MaterialAtOriginComment	Material At Origin Comment	text(30)		Material at origin description not listed in the options above.	CPUC Decision 14-12-015, 2019 filing on 4/1/2020	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
35	FuelBedDescription	Fuel Bed Description	text(100)	Domain	Type of fuel bed existing at the damage location. Possible values: Fire-resistive fuel bed - Fuel bed not conducive to propagating fire where damage occurred (e.g. asphalt, concrete, gravel, etc.). Grass fuel model - Fuel bed comprised of annual grasses where damaged occurred. Brush fuel model - Fuel bed comprised of mainly brush or shrubs where damage occurred (e.g. chamise, manzanita, chaparral, scotch broom, etc.). Timber fuel model - Fuel bed comprised of a timber where damaged occurred (e.g. forests, timber litter, logging slash, etc.). Other – See comment.	CPUC Decision 14-12-015, 2019 filing on 4/1/2020	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
36	FuelBedDescriptionComment	Fuel Bed Description Comment	text(100)		Fuel bed description not listed in the options above.	CPUC Decision 14-12-015, 2019 filing on 4/1/2020	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
37	FireSize	Fire Size	text(30)	Domain	Size, in acres unless otherwise indicated, of fire resulting from the ignition. Possible values: Structure-only <3 meters of linear travel <0.25 0.26-9.99 100-299 300-999 1,000-4,999 >5,000 Unknown	CPUC Decision 14-12-015, 2019 filing on 4/1/2020	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
38	SuppressedBy	Suppressed By	text(30)	Domain	Entity responsible for suppressing ignition. Possible values: Customer Fire agency Self-extinguished Utility Unknown	CPUC Decision 14-12-015, 2019 filing on 4/1/2020	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
39	SuppressingAgency	Suppressing Agency	text(30)		If the "SupressedBy" is "Fire Agency", enter the fire department name.	CPUC Decision 14-12-015, 2019 filing on 4/1/2020	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
40	FireInvestigation	Fire Investigation	text(30)	Domain	Whether the fire authority having jurisdiction investigated the ignition and the status of the investigation. Possible values: Yes – Complete Yes – Pending No	no	Data exists but not in GIS form	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
41	FireAHJ	Fire AHJ	text(100)		If there was an investigation of the ignition by a fire authority having jurisdiction, enter the fire agency name.	no	Data exists but not in GIS form	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	No
42	OutageStatus	Outage Status	text(3)	Domain	Was there an outage associated with the event? Possible values: Yes No	CPUC Decision 14-12-015, 2019 filing on 4/1/2020	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
43	ToutageID	Transmission Outage ID	text(50)	FK	A unique ID for the transmission outage event. Foreign key to the Transmission Outages table.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
44	DoutageID	Distribution Outage ID	text(50)	FK	A unique ID for the distributoin outage event. Foreign key to the Distribution Outages table.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
45	IgnitionNotes	Ignition Notes	text(100)		Additional information regarding the ignition event. All additional data fields collected by the utility that are not included in this ignition schema shall be included in this field.	CPUC Decision 14-12-015, 2019 filing on 4/1/2020	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
46	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the ignition event intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
47	City	City	text(50)		City in where the ignition event is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
48	County	County	text(50)		County in where the ignition event is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
49	District	District	text(100)		Operating district where the ignition occurred.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
50	Latitude	Latitude	float		Latitude of event point in decimal degrees.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
51	Longitude	Longitude	float		Longitude of event point in decimal degrees.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

Point	Transmission Outage									
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	ToutageID	Transmission Outage ID	text(50)	PK	The unique ID for outage event. Primary key for the Transmission Outages table.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	EventYear	Event Year	integer		The year outage started. Use four digits.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	OutageStartDate	Outage Start Date	date		The date outage started. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
5	OutageStartTime	Outage Start Time	date		The time outage started. Must be in the "hh:mm:ss" format.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
6	OutageEndDate	Outage End Date	date		The date of full restoration.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
7	OutageEndTime	Outage End Time	date		The time of full restoration. Must be in the "hh:mm:ss" format.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
8	OutageDuration	Outage Duration	date		The total time to restore all customers from the first customer out. Must be in the "hh:mm:ss" format.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
9	CMI	Total Customer-Minutes Interrupted	float		Total customer-minutes interrupted associated with the outage. Not more than two decimal places.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
10	CustomersOutMomentary	Customers Out Momentary	integer		Total number of unique customers that experienced an outage lasting 5 minutes or less.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

11	CustomersOutSustained	Customers Out Sustained	integer		Total number of unique customers that experienced an outage lasting longer than 5 minutes.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
12	CustomerCount	Customer Count	integer			No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
13	OutageInterval	Outage Interval	text(30)	Domain	The total number of customers impacted by the outage. Indication of whether the subject outage was momentary (i.e. 5 minutes or less) or sustained (i.e. longer than 5 minutes). Possible values: Momentary Sustained	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
14	AssociatedNominalVoltageKV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
15	AssociatedOperatingVoltageKV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
16	OtherCompanies	Other Companies	text(150)		Affected companies from the event.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
17	OutageClass	Outage Class	text(30)		The class of circuit involved in the outage. Possible Values: Transmission	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
18	SubstationID	Substation ID	text(50)	FK	Unique ID for the source substation feeding the circuit impacted by the outage. Must be traceable stable ID within a specific asset class. Foreign key to Substation table.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
19	RecloserSetting	Recloser Setting	text(30)	Domain	If the subject circuit is equipped with reclosing capabilities, indicate whether the reclose function was enabled or disabled at the time of the outage. If the subject circuit is not equipped with reclosing capabilities assign N/A. Possible values: Enabled Disabled N/A	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
20	IsolationDeviceType	Isolation Device Type	text(30)	Domain	Type of protective device that operated. Possible values: Circuit Breaker Fuse Lightning Arrestor Switch Other – See comment	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
21	IsolationDeviceTypeComment	Isolation Device Type Comment	text(30)		Isolation device type description not listed in the options above.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
22	BasicCause	Basic Cause	text(30)	Domain	High-level category for event cause. Possible values: Object contact Equipment failure Wire-to-wire contact Contamination Utility work/Operation Vandalism/Theft Unknown Other – See comment.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
23	BasicCauseComment	Basic Cause Comment	text(30)		Basic cause description not listed in the options above.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
24	BasicCauseObject	Basic Cause Object	text(30)	Domain	Description of object involved in contact if "Object contact" is value of "BasicCause." Possible values: Vegetation contact Animal contact Balloon contact Vehicle contact - car pole Vehicle contact - aircraft 3rd party contact (e.g. 3rd party tree trimmer) Unknown N/A	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
25	BasicCauseObjectComment	Basic Cause Object Comment	text(30)		Basic cause object description not listed in the options above.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
26	DamagedDevice	Damaged Device	text(30)	Domain	The device type that failed or experienced damage which initiated the outage. Possible Values: Anchor/ guy Capacitor bank Conductor Connector device Crossarm Fuse Insulator and bushing Lightning arrestor Pole Recloser Relay Sectionalizer Splice Switch Tap Tie wire Transformer Voltage regulator/ booster Unknown Other – See comment. N/A	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
27	DamagedDeviceComment	Damaged Device Comment	text(30)		Damaged device description not listed in the options above.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
28	ExpulsionFuseOperation	Expulsion Fuse Operation	text(3)		Did an expulsion fuse operate during the outage? Enter N/A if the subject circuit is not equipped with expulsion type fuses. Possible values Yes No N/A	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
29	OutageDescription	Outage Description	text(100)		Description or additional information for the outage.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
30	MED	Major Event Day	text(3)		If all outages on a certain date exceed a statistical limit called Major Event Day (MED), this flag is set against outages associated with that day and typically excluded from certain types of reports. Possible values Yes No	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
31	SupplementalCause	Supplemental Cause	text(50)		The supplemental cause of the outage.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
32	SupplementalCauseDescription	Supplemental Cause Description	text(100)		Please describe the supplemental cause of the outage.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
33	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the outage intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
34	LocationOrAddress	Location or Address	text(100)		Address or location description for the outage location.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
35	City	City	text(50)		City in where the outage event is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
36	County	County	text(50)		County in where the outage event is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
37	District	District	text(100)		Operating district where the outage event occurred.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
38	Latitude	Latitude	float		Latitude of event point in decimal degrees.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
39	Longitude	Longitude	float		Longitude of event point in decimal degrees.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

Point Column	Transmission VM Outage Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	TvmOutageID	Transmission VM Outage ID	text(50)	PK	The unique ID for outage caused by vegetation. Primary key for the Transmission VM Outages table.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	ToutageID	Outage ID	text(50)	FK	Foreign key to the Transmission Outages table.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	EventYear	Event Year	int		The year outage started. Use four digits.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
5	DateOut	Date Out	date		The date outage started. Use YYYY-MM-DD format. Leave blank if unknown.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
6	TimeOut	Time Out	time		The time outage started. Must be in the "hh:mm:ss" format.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
7	InspectionDate	Inspection Date	date		Date of inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
8	SubstationID	Substation ID	text(50)	FK	Unique ID for the source substation feeding the circuit impacted by the outage. Must be traceable stable ID within a specific asset class. Foreign key to Substation table.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
9	AssociatedNominalVoltageKV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
10	AssociatedOperatingVoltageKV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
11	TreeSpecies	Tree Species	text(100)		Species of the subject tree involved in causing the outage.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
12	TreeHeight	Tree Height (feet)	int		Tree height estimation height of the subject tree involved in causing the outage, in feet.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
13	TreeDBH	Tree Diameter at Breast Height (Inches)	int		Tree diameter at breast height of the subject tree involved in causing the outage, in inches.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
14	TreeTrunkDistance	Tree Trunk Distance (feet)	int		Horizontal distance of the subject tree's trunk from the impacted power lines, in feet.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
15	VmOutageDescription	VM Outage Description	text(100)		Description or additional information for the VM outage event.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
16	HFTDClass	HFTD Class	text(10)	Domain	The CPUC High Fire Threat District area that the VM outage event intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
17	LocationOrAddress	Location or Address	text(100)		Address or location description for the outage location.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
18	City	City	text(50)		City in where the VM outage is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
19	County	County	text(50)		County in where the VM outage is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
20	District	District	text(100)		Operating district where the VM outage occurred.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
21	Latitude	Latitude	float		Latitude of event point in decimal degrees.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
22	Longitude	Longitude	float		Longitude of event point in decimal degrees.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

Point Column	Distribution Outage Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	DoutageID	Distribution Outage ID	text(50)	PK	The unique ID for outage event. Primary key for the Distribution Outages table.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	EventYear	Event Year	integer		The year outage started. Use four digits.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

4	OutageStartDate	Outage Start Date	date		The date outage started. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
5	OutageStartTime	Outage Start Time	date		The time outage started. Must be in the "hh:mm:ss" format.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
6	OutageEndDate	Outage End Date	date		The date of full restoration.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
7	OutageEndTime	Outage End Time	date		The time of full restoration. Must be in the "hh:mm:ss" format.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
8	OutageDuration	Outage Duration	date		The total time to restore all customers from the first customer out. Must be in the "hh:mm:ss" format.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
9	CMI	Total Customer-Minutes Interrupted	float		Total customer-minutes interrupted associated with the outage. Not more than two decimal places.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
10	CustomersOutMomentary	Customers Out Momentary	integer		Total number of unique customers that experienced an outage lasting 5 minutes or less.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
11	CustomersOutSustained	Customers Out Sustained	integer		Total number of unique customers that experienced an outage lasting longer than 5 minutes.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
12	CustomerCount	Customer Count	integer		The total number of customers impacted by the outage.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
13	OutageInterval	Outage Interval	text(30)	Domain	Indication of whether the subject outage was momentary (i.e. 5 minutes or less) or sustained (i.e. longer than 5 minutes). Possible values: Momentary Sustained	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
14	AssociatedNominalVoltagekV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
15	AssociatedOperatingVoltagekV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
16	OtherCompanies	Other Companies	text(150)		Affected companies from the event.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
17	OutageClass	Outage Class	text(30)		The class of circuit involved in the outage. Possible Values: Distribution	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
18	SubstationID	Substation ID	text(50)	FK	Unique ID for the source substation feeding the circuit impacted by the outage.					
19	RecloserSetting	Recloser Setting	text(30)	Domain	Must be traceable stable ID within a specific asset class. Foreign key to Substation table. If the subject circuit is equipped with reclosing capabilities, indicate whether the reclose function was enabled or disabled at the time of the outage. If the subject circuit is not equipped with reclosing capabilities assign N/A. Possible values: Enabled Disabled N/A	Yes in response to (PC-43900-2-656) no	Data Currently Available in GIS format Data does not exist – Changes to data capture tools required	Data will still require translation to new WMP specific data taxonomy Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	2021 WMP ~2 years to implement (1 year after data extraction and translation work complete)	No No
20	IsolationDeviceType	Isolation Device Type	text(30)	Domain	Type of protective device that operated. Possible values: Circuit Breaker Fuse Lightning Arrestor Switch Other – See comment	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
21	IsolationDeviceTypeComment	Isolation Device Type Comment	text(30)		Isolation device type description not listed in the options above.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
22	BasicCause	Basic Cause	text(30)	Domain	High-level category for event cause. Possible values: Object contact Equipment failure Wire-to-wire contact Contamination Utility work/Operation Vandalism/Theft Unknown Other – See comment.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
23	BasicCauseComment	Basic Cause Comment	text(30)		Basic cause description not listed in the options above.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
24	BasicCauseObject	Basic Cause Object	text(30)	Domain	Description of object involved in contact if "Object contact" is value of "BasicCause." Possible values: Vegetation contact Animal contact Balloon contact Vehicle contact - car pole Vehicle contact - aircraft 3rd party contact (e.g. 3rd party tree trimmer) Unknown N/A					
25	BasicCauseObjectComment	Basic Cause Object Comment	text(30)		Basic cause object description not listed in the options above.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
26	DamagedDevice	Damaged Device	text(30)	Domain	The device type that failed or experienced damage which initiated the outage. Possible Values: Anchor/ guy Capacitor bank Conductor Connector device Crossarm Fuse Insulator and bushing Lightning arrestor Pole Recloser Relay Sectionalizer Splice Switch Tap Tie wire Transformer Voltage regulator/ booster Unknown Other – See comment.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
27	DamagedDeviceComment	Damaged Device Comment	text(30)		Damaged device description not listed in the options above.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
28	ExpulsionFuseOperation	Expulsion Fuse Operation	text(3)		Did an expulsion fuse operate during the outage? Enter N/A if the subject circuit is not equipped with expulsion type fuses. Possible values Yes No N/A					
29	OutageDescription	Outage Description	text(100)		Description or additional information for the outage.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
30	MED	Major Event Day	text(3)		If all outages on a certain date exceed a statistical limit called Major Event Day (MED), this flag is set against outages associated with that day and typically excluded from certain types of reports. Possible values Yes No					
31	SupplementalCause	Supplemental Cause	text(50)		The supplemental cause of the outage.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
32	SupplementalCauseDescription	Supplemental Cause Description	text(100)		Please describe the supplemental cause of the outage.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
33	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the outage intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD					
34	LocationOrAddress	Location or Address	text(100)		Address or location description for the outage location.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
35	City	City	text(50)		City in where the outage event is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
36	County	County	text(50)		County in where the outage event is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
37	District	District	text(100)		Operating district where the outage event occurred.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
38	Latitude	Latitude	float		Latitude of event point in decimal degrees.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
39	Longitude	Longitude	float		Longitude of event point in decimal degrees.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

Point	Distribution VM Outage									
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	DvmOutageID	VM Outage ID	text(50)	PK	The unique ID for outage caused by vegetation. Primary key for the Distribution VM Outages table.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
3	DoutageID	Outage ID	text(50)	FK	Foreign key to the Distribution Outages table.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
4	EventYear	Event Year	int		The year outage started. Use four digits.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
5	DateOut	Date Out	date		The date outage started. Use YYYY-MM-DD format. Leave blank if unknown.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
6	TimeOut	Time Out	time		The time outage started. Must be in the "hh:mm:ss" format.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
7	InspectionDate	Inspection Date	date		Date of inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
8	SubstationID	Substation ID	text(50)	FK	Unique ID for the source substation feeding the circuit impacted by the outage. Must be traceable stable ID within a specific asset class. Foreign key to Substation table.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
9	AssociatedNominalVoltagekV	Associated Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
10	AssociatedOperatingVoltagekV	Associated Operating Voltage (kV)	float		Operating voltage (in kilovolts) associated with asset. Do not use more than two decimal places. Enter "-99" if N/A.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
11	TreeSpecies	Tree Species	text(100)		Species of the subject tree involved in causing the outage.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
12	TreeHeight	Tree Height (feet)	int		Tree height estimation height of the subject tree involved in causing the outage, in feet.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
13	TreeDBH	Tree Diameter at Breast Height (Inches)	int		Tree diameter at breast height of the subject tree involved in causing the outage, in inches.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
14	TreeTrunkDistance	Tree Trunk Distance (feet)	int		Horizontal distance of the subject tree's trunk from the impacted power lines, in feet.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
15	VmOutageDescription	VM Outage Description	text(100)		Description or additional information for the VM outage event.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	No
16	HFTDClass	HFTD Class	text(10)	Domain	The CPUC High Fire Threat District area that the VM outage event intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD					
17	LocationOrAddress	Location or Address	text(100)		Address or location description for the outage location.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
18	City	City	text(50)		City in where the VM outage is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
19	County	County	text(50)		County in where the VM outage is located.	no	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No

	20	District	District	text(100)		Operating district where the VM outage occurred.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
	21	Latitude	Latitude	float		Latitude of event point in decimal degrees.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
	22	Longitude	Longitude	float		Longitude of event point in decimal degrees.	Yes in response to (PC-43900-2-656)	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	No
Table	**Risk Event Asset Log**										
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**	
	1 RealD	Equipment Failure ID	text(50)	PK	The unique ID for the associated asset. Primary key for the Risk Event Asset Log table.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	2 WireDownID	Wire Down ID	text(50)	FK	Foreign key to the Wire Down Event table.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	3 FromDevice	From Device	text(50)	FK	The AssetID of the upstream structure supporting the conductor involved in the wire down event. Enter multiple IDs if multiple upstream structures are in the same location. Foreign key to all the associated asset point tables.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	4 ToDevice	To Device	text(50)	FK	The AssetID of the downstream structure(s) supporting the conductor involved in the wire down event. Enter multiple IDs if multiple downstream structures are in the same location. Foreign key to all the associated asset point tables.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	5 IgnitionID	Ignition ID	text(50)	FK	Foreign key to the Ignition table.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	6 StationID	Station ID	text(50)	FK	Unique ID for the nearest weather station to the ignition location. Enter multiple IDs if multiple stations are in the same location. Must be traceable stable ID within a weather station. Foreign key to the Weather Station table.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	7 ToutageID	Transmission Outage ID	text(50)	FK	Foreign key to the Transmission Outages table.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	8 TvmOutageID	Transmission VM Outage ID	text(50)	FK	The unique ID for outage caused by vegetation. Foreign key to the Transmission Vegetation Management Outage table.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	9 DoutageID	Distribution Outage ID	text(50)	FK	Foreign key to the Distribution Outages table.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	10 DvmOutageID	Distribution VM Outage ID	text(50)	FK	The unique ID for outage caused by vegetation. Foreign key to the Distribution Vegetation Management Outage table.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	11 IsolationDeviceID	Isolation Device ID	text(50)	FK	The AssetID of the device that operated to de-energize the circuit for an outage event. Should be traceable within a specific asset class. Foreign key to all the associated asset point tables.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	12 DamagedDeviceID	Damaged Device ID	text(50)	FK	The AssetID of the device that failed or experienced damage which initiated the outage. Should be traceable within a specific asset class. Foreign key to all the associated asset point tables.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	13 AssetID	Asset ID	text(50)	FK	Unique ID for asset point tables. Must be traceable stable ID within a specific asset class. Foreign key to all the associated asset point tables.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	14 CircuitID	Circuit ID	text(50)	FK	Unique ID for the specific circuit impacted by a risk event. Must be traceable stable ID within a specific asset class. Foreign key to all the associated asset point tables.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	15 SubstationID	Substation ID	text(50)	FK	Unique ID for the source substation feeding the circuit impacted by the outage. Must be traceable stable ID within a substation. Foreign key to the Substation table.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
Table	**Risk Event Photo Log**										
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**	
	1 PhotoID	Photo ID	text(100)	PK	Illustration of the initiative or inspection activity. Primary key for the Risk Event Photo Log table. Photo format: Geotagged JPEG or PNG. Use format UtilityName_DistrictID_InspectorInitial_RiskEvent_YYYYMMDD_PhotoNumber. For example, "UtilityG&E_AB_Ignition_20200703_1.png". If more than one photo is taken, enter additional photo IDs with the duplicate risk event ID.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	2 IgnitionID	Ignition ID	text(50)	FK	"UtilityG&E_AB_Ignition_20200703_1.png". If more than one photo is taken, enter additional photo IDs with the duplicate risk event ID.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	
	3 WireDownID	Wire Down ID	text(50)	FK	Foreign key to the Wire Down Event table.	no	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes	

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Table	Vegetation Management Inspection Log									
Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	VmiLogID	VMI Log ID	text(50)	PK	Unique ID or job ID of a vegetation management inspection activity. Primary key for the Vegetation Management Inspection Log table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	VmpLogID	VMP Log ID	text(50)	FK	Unique ID or job ID of a vegetation management project resulting from a vegetation management inspection. A Foreign key to the Vegetation Management Project table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	InspectionDate	Inspection Date	date		The date when a vegetation management inspection was or will be conducted. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	InpsectorName	Inpsector Name	text(50)		Inspector performing the vegetation management inspection.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	InspectionType	Inspection Type	text(30)	Domain	Initiative activities related to the vegetation management project which include, Assessing trees with the potential to strike Clearances – routine Clearances – enhanced Hazard trees Tree mortality Other – See comment	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	InspectionTypeComment	Inspection Type Comment	text(30)		Inspection type description not listed in the options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	InspectionStatus	Inspection Status	text(30)	Domain	The status of the initiative activity related to the vegetation inspection project which include, Planned In-progress Complete	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	InspectionQA	Inspection QA	text(3)	Domain	Has the inspection been checked for quality assurance? Possible values: Yes No	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	TreeTrimmingCount	Tree Trimming Count	integer		The number of trees identified for trimming from the vegetation management inspection.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
10	TreeTrimmingAcreage	Tree Trimming Acreage	float		The acreage of trees identified for trimming from the vegetation management inspection. Two decimal places	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
11	InspectionComment	Inspection Comment	text(100)		Additional comments regarding the vegetation inspection project.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	InspectionMethod	Inspection Method	text(100)	Domain	The method(s) by which the asset inspection was conducted. Possible values: Drive by Walk out Aerial – drone Aerial – helicopter Remote sensing – Infrared/Thermal Remote sensing – LiDAR Other – See comment.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
13	InspectionMethodComment	Inspection Method Comment	text(50)		Inspection method description not listed in the options above.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
14	InspectionTechnology	Inspection Technology	text(30)	Domain	The technology that an inspector uses for the vegetation management inspection. Possible values: Collector for ArcGIS Survey123 for ArcGIS Workforce for ArcGIS ArcGIS QuickCapture Other – See comment None	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
15	InspectionTechnologyComment	Inspection Technology Comment	text(30)		Inspection technology description not listed in the options above.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes

Point	Vegetation Management Inspection Point									
Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	VmiID	VMI ID	text(50)	PK	Unique ID or job ID of a vegetation management inspection activity. Primary key for the Vegetation Management Inspection Point table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	VmiLogID	VMI Log ID	text(50)	FK	Unique ID or job ID of a vegetation management inspection activity. Foreign key to the Vegetation Management Inspection Log table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	InspectionLocationOrAddress	Inspection Location Or Address	text(100)		Address or location description for the inspection location.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	ParcelAPN	Parcel APN	text(17)		Assessor Parcel Number (APN), a number assigned to parcels of real property by the tax assessor of a particular jurisdiction for purposes of identification and record-keeping. Use the format: ###-####-###-####. For example, 006-0144- 029-0000.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
6	TreeHealth	Tree Health	text(3)	Domain	Is the tree healthy? Possible values: Yes No	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
7	TreeSpecies	Tree Species	text(100)		Common name for species of tree.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
8	TreeHeight	Tree Height (feet)	int		Tree height (feet). Round the value.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
9	TreeDiameter	Tree Diameter (Inches)	int		Tree diameter at breast height (inches). Round the value.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
10	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the management inspection intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	City	City	text(50)		City in where the vegetation management inspection is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	County	County	text(50)		County in where the vegetation management inspection is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
13	District	District	text(100)		Operating district where the vegetation management inspection occurred.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	Latitude	Latitude	float		Latitude of event point in decimal degrees	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
15	Longitude	Longitude	float		P	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Line	Vegetation Management Inspection Line									
Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timefra	Confidential? (Yes/
1	VmiID	VMI ID	text(50)	PK	Unique ID or job ID of a vegetation management inspection activity. Primary key for the Vegetation Management Inspection Line table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	VmiLogID	VMI Log ID	text(50)	FK	Unique ID or job ID of a vegetation management inspection activity. Foreign key to the Vegetation Management Inspection Log table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	InspectionLocationOrAddress	Inspection Location Or Address	text(100)		Address or location description for the inspection location.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the management inspection intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	HFTDClassComment	HFTDClassComment	text(50)		If the project line intersects multiple HFTD areas, list all of them here.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	City	City	text(50)		City in where the vegetation management inspection is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	County	County	text(50)		County in where the vegetation management inspection is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	District	District	text(100)		Operating district where the vegetation management inspection occurred.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Polygon	Vegetation Management Inspection Polygon									
Column	Field Name	Alias	Data Type	Property	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	VmiID	VMI ID	text(50)	PK	Unique ID or job ID of a vegetation management inspection activity. Primary key for the Vegetation Management Inspection Polygon table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	VmiLogID	VMI LogID	text(50)	FK	Unique ID or job ID of a vegetation management inspection activity. Foreign key to the Vegetation Management Inspection Log table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	InspectionLocationOrAddress	Inspection Location Or Address	text(100)		Address or location description for the inspection location.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the management inspection intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	HFTDClassComment	HFTDClassComment	text(50)		If the project line intersects multiple HFTD areas, list all of them here.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	City	City	text(50)		City in where the vegetation management inspection is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	County	County	text(50)		County in where the vegetation management inspection is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	District	District	text(100)		Operating district where the vegetation management inspection occurred.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Table	Vegetation Management Project Log									
Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	VmpLogID	VMP Log ID	text(50)	PK	Unique ID or job ID of an initiative. Primary key for Vegetation Management Project Log table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	DateStart	Date Start	date		The start date of the vegetation management project. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	DateEnd	Date End	date		The completion date of the vegetation management project. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	VmpStatus	Vegetation Management Project Status	text(30)	Domain	Status of the vegetation management project. Possible Values: Complete In progress Planned Delayed Cancelled	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	VmpStatusComments	Vegetation Management Project Status Comments	text(30)		Additional comments regarding the status of the vegetation management project.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	PersonInCharge	Person In Charge	text(50)		Name of the person in charge for the vegetation management project.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

7	CoastalRedwoodExemption	Coastal Redwood Exemption	text(3)	Domain	Coastal redwood exception to clearance being applied. Possible values: Yes No	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
8	EncroachPermit	Encroach Permit	text(3)	Domain	Is an encroachment permit required for the vegetation management project? Possible values: Yes No	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
9	EnvPermit	Environmental Permit	text(3)	Domain	Is special environmental permitting needed for the vegetation management project? Possible values: Yes No	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
10	EnvPermitProject	Environmental Permit Project	text(100)		Specific activity (e.g., timber harvest under an exemption) for which a permit was obtained.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	EnvPermitDocumentation	Environmental Permit Documentation	text(50)		Include any key details about environmental permit documentation and project ID numbers. For example, when the permitted project is timber harvest under an exemption, this field must include the harvest document number of the exemption (e.g., 2-20EX-01049-BUT).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	BMPApply	Best Management Practice Apply	text(3)	Domain	Do best management practices apply for the vegetation management project? Possible values: Yes No	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
13	AMMApply	Avoidance and Minimization Measures Apply	text(3)	Domain	Do avoidance and minimization measures apply to the vegetation management project? Possible values: Yes No	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	WoodManagement	Wood Management	text(3)	Domain	Is wood management needed for the vegetation management project? Possible values: Yes No	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
15	WoodManagementComments	Wood Management Comments	text(100)		Additional comments regarding wood management needs for the vegetation management project.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
16	LandDesignation	Land Designation	text(50)	Domain	The assigned designation of the land where the subject vegetation management project is scheduled. Possible values: Local Responsibility Area (LRA) State Responsibility Area (SRA) Federal Responsibility Area (FRA)	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
17	RiparianArea	Riparian Area	text(3)	Domain	Is the vegetation management project located in a riparian area? Possible values: Yes No	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
18	CaltransProp	Caltrans Property	text(3)	Domain	Is the vegetation management project located on Caltrans property? Possible values: Yes No	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
19	ProjectCategory	Project Category	text(50)	Domain	High-level category describing the nature of the vegetation management project. Possible values: Tree trimming Tree removal Fuel management Assessing trees with the potential to strike Other – See comment.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
20	ProjectCategoryComment	Project Category Comment	text(50)		Project category description not listed in the options above.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
21	TreeTrimCount	Tree Trim Count	integer		Number of trees listed for trimming in the vegetation management project.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
22	TreeTrimAcreage	Tree Trim Acreage	float		Acreage of trees listed for trimming in the vegetation management project. Two decimal places	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
23	TreeRemovalCount	Tree Removal Count	integer		Number of trees listed for removal in the vegetation management project.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
24	TreeRemovalAcreage	Tree Removal Acreage	float		Acreage of trees listed for removal in the vegetation management project. Two decimal places	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
25	TreeTrimCountActl	Tree Trim Count Actually	integer		Number of trees actually trimmed as part of the vegetation management project.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
26	TreeTrimAcreageActl	Tree Trim Acreage Actually	float		Acreage of trees actually trimmed as part of the in the vegetation management project. Two decimal places	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
27	TreeRemovalCountActl	Tree Removal Count Actually	integer		Number of trees actually removed as part of the vegetation management project.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
28	TreeRemovalAcreageActl	Tree Removal Acreage Actually	float		Acreage of trees actually removed as part of the vegetation management project. Two decimal places	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
29	VegetationTreatmentType	Vegetation Treatment Type	text(50)	Domain	The type(s) of treatment scoped into the vegetation management project. Possible values: Radial clearance – standard Radial clearance - enhanced Overhang clearing Tree removal – hazard tree Tree removal – tree mortality Tree trimming Pole brushing Fire break creation Brush clearance Other or multiple treatment types – See comment.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
30	VegetationTreatmentTypeComment	Vegetation Treatment Type Comment	text(50)		Treatment type not listed in options above—or multiple treatment types listed in options above. If multiple, list all separated by commas.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
31	DescriptionOfWork	Description Of Work	text(100)		Additional description of the vegetation management work.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Point — Vegetation Management Project Point

Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	VmpID	VMP ID	text(50)	PK	Unique ID or job ID of an initiative. Primary key for Vegetation Management Project Point table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	VmpLogID	VMP Log ID	text(50)	FK	Unique ID or job ID of an initiative. Foreign key to the Vegetation Inspection Project Log table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	ProjectLocationOrAddress	Project Location Or Address	text(100)		Address or location description for tree location. Enter "N/A" if there is no address where the subject tree is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	ParcelAPN	Parcel APN	text(17)		Assessor Parcel Number (APN), a number assigned to parcels of real property by the tax assessor of a particular jurisdiction for purposes of identification and record-keeping. Use the format: ###-####-###-####. For example, "006-0144-029-0000".	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	TreeID	Tree ID	text(50)		A unique ID associated with individual tree(s) within the scope of the vegetation management project.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	TreeHealth	Tree Health	text(3)	Domain	Is the subject tree healthy? Possible values: Yes No	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
8	TreeHazard	Tree Hazard	text(3)	Domain	Is the subject tree a hazard tree? Possible values: Yes No	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
9	TreeSpecies	Tree Species	text(100)		Common name for tree species in scope for the vegetation management project.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
10	SpeciesGrowthRate	Species Growth Rate	text(30)	Domain	Generalized growth rate of the subject tree species. Possible values: Slow growing Moderately growing Fast growing	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
11	TreeHeight	Tree Height (feet)	int		Tree height (feet). Round the value.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
12	TreeDiameter	Tree Diameter (inches)	int		Tree diameter at breast height (inches). Round the value.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
13	HFTDClass	HFTD Class	text(10)	Domain	The CPUC High Fire Threat District (HFTD) area that the vegetation management project intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	City	City	text(50)		City in where the vegetation management project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
15	County	County	text(50)		County in where the vegetation management project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
16	District	District	text(100)		Operating district where the vegetation management project occurred.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
17	Latitude	Latitude	float		Latitude of event point in decimal degrees	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
18	Longitude	Longitude	float		Longitude of event point in decimal degrees.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Line — Vegetation Management Project Line

Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	VmpID	WMP ID	text(50)	PK	Unique ID or job ID of an initiative. Primary key for Vegetation Management Project Line table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	VmpLogID	WMP Log ID	text(50)	FK	Unique ID or job ID of an initiative. Foreign key to the Vegetation Inspection Project Log table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

	4	ProjectLocationOrAddress	Project Location Or Address	text(100)			No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	5	HFTDClass	HFTD Class	text(10)	Domain	Address or location description for tree location. The CPUC High Fire Threat District (HFTD) area that the vegetation management project intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	6	HFTDClassComment	HFTDClassComment	text(50)			No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	7	City	City	text(50)		If the project line intersects multiple HFTD areas, list all of them here.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	8	County	County	text(50)		City in where the vegetation management project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	9	District	District	text(100)		County in where the vegetation management project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
						Operating district where the vegetation management project occurred.					
Polygon	**Vegetation Management Project Polygon**										
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**	
	1	VmpID	VMP ID	text(50)	PK	Unique ID or job ID of an initiative. Primary key for Vegetation Management Project Polygon table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	3	VmpLogID	VMP Log ID	text(50)	FK	Unique ID or job ID of an initiative. Foreign key to the Vegetation Inspection Project Log table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	4	ProjectLocationOrAddress	Project Location Or Address	text(100)		Address or location description for tree location.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	5	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the vegetation management project intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	6	HFTDClassComment	HFTDClassComment	text(50)		If the project line intersects multiple HFTD areas, list all of them here.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	7	City	City	text(50)		City in where the vegetation management project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	8	County	County	text(50)		County in where the vegetation management project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	9	District	District	text(100)		Operating district where the vegetation management project occurred.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
Table	**Asset Inspection Log**										
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**	
	1	AiLogID	AI Log ID	text(50)	PK	Unique ID or job ID of an asset inspection activity. Primary key for the Asset inspection table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	2	VmpLogID	VMP Log ID	text(50)	FK	Unique ID or job ID of a vegetation management project resulting from an asset inspection. A Foreign key to the Vegetation Management Project table. Enter the corresponding VmpID if the subject asset inspection resulted in the creation of a vegetation management project. If the asset inspection did not result in the creation of a related vegetation management project, then enter "N/A" for this field.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	3	InspectionStartDate	Inspection Start Date	date		The date when an asset inspection began. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	4	InspectionEndDate	Inspection End Date	date		The date when an asset inspection was completed. If the asset inspection was started and completed on the same day, "InspectionStartDate" and "InspectionEndDate" will have the same value. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	5	PerformedBy	Performed By	text(30)	Domain	Who performed the asset inspection? Possible values: Utility staff Contractor Other – See comment	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	6	PerformedByComment	Performed By Comment	text(30)		Inspector description not listed in the options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	7	InpsectorName	Inpsector Name	text(50)		Inspector name for the asset management inspection.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	8	InspectionType	Inspection Type	text(30)	Domain	The type of asset inspection performed. Possible values: Patrol Detailed Pole loading Other – See comment.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	9	InspectionTypeComment	Inspection Type Comment	text(30)		Inspection type description not listed in the options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	10	InspectionQA	Inspection QA	text(3)	Domain	Has the inspection been checked for quality assurance? Possible values: Yes No	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	11	InspectionComments	Inspection Comments	text(100)		Additional comments related to the asset management inspection.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	12	ComplianceFinding	Compliance Finding	text(3)	Domain	Did the asset inspection result in the finding of any non-compliance issues? Possible values: Yes No	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	13	InspectionMethod	Inspection Method	text(100)	Domain	The method(s) by which the asset inspection was conducted. Possible values: Drive by Walk out Aerial – drone Aerial – helicopter Remote sensing – Infrared/Thermal Remote sensing – LiDAR Other – See comment.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	14	InspectionMethodComment	Inspection Method Comment	text(50)		Inspection method not listed in the options above—or multiple inspection methods listed in the options above. If multiple, list all values separated by commas.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	15	InspectionTechnology	Inspection Technology	text(30)	Domain	The technology that an inspector uses for the asset inspection project. Possible values: Collector for ArcGIS Survey123 for ArcGIS Workforce for ArcGIS ArcGIS QuickCapture Other – See comment	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	16	InspectionTechnologyComment	Inspection Technology Comment	text(30)		Inspection technology not listed in the options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
Point	**Asset Inspection Point**										
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**	
	1	AiID	AI ID	text(50)	PK	Unique ID or job ID of an asset inspection activity. Primary key for the Asset Inspection Point table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	3	AiLogID	AI Log ID	text(50)	FK	Unique ID or job ID of an asset inspection activity. Foreign key to the Asset Inspection table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	4	InspectionLocationOrAddress	Inspection Location Or Address	text(100)		Address or location description for the inspection location.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	5	ParcelAPN	Parcel APN	text(17)		Assessor Parcel Number (APN), a number assigned to parcels of real property by the tax assessor of a particular jurisdiction for purposes of identification and record-keeping. If the asset inspected does not intersect a parcel boundary, enter "N/A" for this field. Use the format: ###-####-###-####. For example, 006-0144-029-0000.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	6	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the inspection intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	7	City	City	text(50)		City in where the asset inspection project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	8	County	County	text(50)		County in where the asset inspection project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	9	District	District	text(100)		Operating district where the asset inspection project occurred.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	10	Latitude	Latitude	float		Latitude of event point in decimal degrees	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	11	Longitude	Longitude	float		Longitude of event point in decimal degrees.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
Line	**Asset Inspection Line**										
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**	
	1	AiID	AI ID	text(50)	PK	Unique ID or job ID of an asset inspection activity. Primary key for the Asset inspection Line table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	3	AiLogID	AI Log ID	text(50)	FK	Unique ID or job ID of an asset inspection activity. Foreign key to the Asset inspection table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	4	InspectionLocationOrAddress	Inspection Location Or Address	text(100)		Address or location description for the inspection location.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	5	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the inspection intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	6	HFTDClassComment	HFTDClassComment	text(50)		If the project line intersects multiple HFTD areas, list all of them here.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	7	City	City	text(50)		City in where the asset inspection project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	8	County	County	text(50)		County in where the asset inspection project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	9	District	District	text(100)		Operating district where the asset inspection project occurred.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
Polygon	**Asset Inspection Polygon**										
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**	
	1	AiID	AI ID	text(50)	PK	Unique ID or job ID of an asset inspection activity. Primary key for the Asset Inspection Polygon table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	3	AiLogID	AI Log ID	text(50)	FK	Unique ID or job ID of an asset inspection activity. Foreign key to the Asset Inspection table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	4	ParcelAPN	Parcel APN	text(17)		Assessor Parcel Number (APN), a number assigned to parcels of real property by the tax assessor of a particular jurisdiction for purposes of identification and record-keeping. If the asset inspected does not intersect a parcel boundary, enter "N/A" for this field. Use the format: ###-####-###-####. For example, 006-0144-029-0000.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	5	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the inspection intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	6	HFTDClassComment	HFTDClassComment	text(50)		If the project line intersects multiple HFTD areas, list all of them here.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	7	City	City	text(50)		City in where the asset inspection project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	8	County	County	text(50)		County in where the asset inspection project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	9	District	District	text(100)		Operating district where the asset inspection project occurred.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
Table	**Grid Hardening Log**										
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**	
	1	GhLogID	GH Log ID	text(50)	PK	Unique ID or job ID of a grid hardening activity. Primary key for the Grid Hardening Log table.	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
	2	AiLogID	AI Log ID	text(50)	FK	Unique ID or job ID of an asset inspection activity. Foreign key to the Asset Inspection Log table.	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

3	GhStatus	GH Status	text(30)	Domain	The status of the grid hardening activity. Possible values: Planned In progress Complete Cancelled	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	GhChangeOrder	GH Change Order	text(3)	Domain	Has a change order been requested for this grid hardening initiative since the approval of the utility's previous WMP? Possible values: Yes No	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	GhChangeOrderDate	GH Change Order Date	date		The date of when the change order was submitted. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	GhChangeOrderType	GH Change Order Type	text(100)	Domain	The type of change order requested. Possible values: Increase in scale Decrease in scale Change in prioritization Change in deployment timing Change in work being done Other change – See comment	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	GhChangeOrderTypeComment	Gh Change Order Type Comment	text(100)		Change order type not listed above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	DateStart	Date Start	date		The start date of the grid hardening project. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	DateEnd	Date End	date		The completion date of the grid hardening project. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	LineDeenergized	Line Deenergized	text(3)	Domain	Lines need to be de-energized to perform the work. Possible values: Yes No	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	PersonInChargeName	Person In Charge Name	text(50)		Person in charge for the grid hardening project.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	PerformedBy	Performed By	text(30)	Domain	Who performed the grid hardening activity? Possible values: Utility staff Contractor Other – See comment.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
13	PerformedByComment	Performed By Comment	text(30)		Entity that performed grid hardening and is not listed in options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	InitiativeActivity	Initiative Activity	text(100)		Initiative activities related to the grid hardening project which include: Capacitor maintenance and replacement Circuit breaker maintenance and installation Conductor replacement Covered conductor installation Covered conductor maintenance Crossarm maintenance, repair, and replacement Expulsion fuse replacement Grid topology improvements to mitigate or reduce PSPS events Installation of system automation equipment Installation of sectionalizing equipment Maintenance, repair, and replacement of connectors, including hotline clamps Other corrective action Pole replacement Pole reinforcement Transformer maintenance and replacement Transmission tower maintenance and replacement Undergrounding of electric lines and/or equipment Other – See comment.	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
15	InitiativeActivityComment	Initiative Activity Comment	text(50)		Initiative activity not listed in the options above.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
16	DescriptionOfGridHardening	Description Of Grid Hardening	text(100)		Additional description for the grid hardening work.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Point	Grid Hardening Point									
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	GhID	GH ID	text(50)	PK	Unique ID or job ID of a grid hardening activity. Primary key for the Grid Hardening Point table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	GhLogID	GH Log ID	text(50)	FK	Unique ID or job ID of a grid hardening activity. Foreign key to the Grid Hardening Log table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	GridHardeningLocationOrAddress	Grid Hardening Location Or Address	text(100)		Address or location description for the grid hardening location.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	ParcelAPN	Parcel APN	text(17)		Assessor Parcel Number (APN), a number assigned to parcels of real property by the tax assessor of a particular jurisdiction for purposes of identification and record-keeping. If the asset inspected does not intersect a parcel boundary, enter "N/A" for this field. Use the format: ###-####-###-####. For example, 006-0144-029-0000.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	ParcelAPN	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the grid hardening project intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	City	City	text(50)		City in where the grid hardening project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	County	County	text(50)		County in where the grid hardening project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	District	District	text(100)		Operating district where the grid hardening project.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	Latitude	Latitude	float		Latitude of event point in decimal degrees	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	Longitude	Longitude	float		Longitude of event point in decimal degrees.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Point	Grid Hardening Line									
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	GhID	GH ID	text(50)	PK	Unique ID or job ID of a grid hardening activity. Primary key for the Grid Hardening Line table. This ID is exactly same as the GhID for the Grid Hardening Log. This key also joins with the Primary key for the Grid Hardening Log table.	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	GhLogID	GH Log ID	text(50)	FK	Unique ID or job ID of a grid hardening activity. Foreign key to the Grid Hardening Log table.	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	GridHardeningLocationOrAddress	Grid Hardening Location Or Address	text(100)		Address or location description for the grid hardening location.	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the grid hardening project intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	HFTDClassComment	HFTDClassComment	text(50)		If the project line intersects multiple HFTD areas, list all of them here.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	City	City	text(50)		City in where the grid hardening project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	County	County	text(50)		County in where the grid hardening project is located.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	District	District	text(100)		Operating district where the grid hardening project.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Table	Initiative Asset Log									
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	AssetLogID	Asset Log ID	text(50)	PK	Unique ID and primary key for the Initiative Asset Log table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	VmiID	VMI ID	text(50)	FK	Unique ID or job ID of a vegetation management inspection activity. Foreign key to the Vegetation Management Inspection Point, Line, and Polygon tables. This value can be repeated based on the amount of asset or circuit segments.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	VmpID	VMP ID	text(50)	FK	Unique ID or job ID of an initiative. Foreign key to the Vegetation Management Project Point, Line and Polygon tables. This value can be repeated based on the amount of asset or circuit segments.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	AiID	AI ID	text(50)	FK	Unique ID or job ID of an asset inspection activity. Foreign key to the Asset Inspection Point, Line and Polygon tables. This value can be repeated based on the amount of asset or circuit segments.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	GhID	GH ID	text(50)	FK	Unique ID or job ID of a grid hardening activity. Foreign key to the Grid Hardening Point and Line tables. This value can be repeated based on the amount of asset or circuit segments.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	AssetID	Asset ID	text(50)	FK	Unique ID for a specific point asset. Must be traceable stable ID within a specific asset class. Foreign key to all the related Asset Point tables.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
7	AssociatedAssetCount	Associated Asset Count	integer		The number of assets which are associated with the initiative activity.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	SubstationID	Substation ID	text(50)		Unique ID of the substation supplying the circuit associated with vegetation management project.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	SubstationName	Substation Name	text(50)		Name of the substation supplying the circuit associated with the vegetation management project.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	CircuitID	Circuit ID	text(50)	FK	Unique ID for a specific line asset. Must be traceable stable ID within a specific asset class. Foreign key to the Asset Line tables.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
11	CircuitName	Circuit Name	text(255)		Name of the circuit associated with the vegetation management project.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
12	CircuitType	Circuit Type	text(30)		Circuit line type. Possible values: Transmission Line Primary Distribution Line Secondary Distribution Line Unknonwn	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
13	AssociatedCircuitLength	Associated Circuit Length (mile)	float		The length of circuits which are associated with the initiative activity (mile). Two decimal places.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
14	Underbuild	Underbuild	text(3)	Domain	Are transmission lines also present on the subject structure? Possible values: Yes No	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
15	LineDeenergized	Line Deenergized	text(3)	Domain	Do the power lines need to be de-energized to perform the work? Possible values: Yes No	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Table	Initiative Photo Log									
Column	**Field Name**	**Alias**	**Data Type**	**Charateristic**	**Description**	**Data provided in latest submission? (Yes/ No)**	**Availability Explanations**	**Data procurement actions**	**Estimated delivery timeframe**	**Confidential? (Yes/No)**
1	PhotoID	Photo ID	text(100)	PK	ID for photo showing the initiative or inspection findings. Primary key for the Initiative Photo Log table. Photo format: Geotagged JPEG or PNG. Use format UtilityName_DistrictID_InspectorInitial_Initiative_YYYYMMDD_PhotoNumber. For example, "UtilityG&E_AB_20200703_Initiative_1.png"	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
2	PhotoBeforeID	Photo Before ID	text(100)	PK	ID for photo showing the initiative or inspection location prior to the project happening or a corrective action taking place. Primary key for the Initiative Photo Log table. Photo format: Geotagged JPEG or PNG. Use format UtilityName_DistrictID_InspectorInitial_Initiative_YYYYMMDD_PhotoNumber. For example, "UtilityG&E_AB_Initiative_20200703_1.png"	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
3	PhotoAfterID	Photo After ID	text(100)	PK	Illustration of the initiative or inspection after the corrective action. Primary key for the Initiative Photo Log table. Use format UtilityName_DistrictID_InspectorInitial_Initiative_YYYYMMDD_PhotoNumber. For example, "UtilityG&E_AB_Initiative_20200703_1.png"	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
4	VmpID	VMP ID	text(50)	FK	Unique ID or job ID of an initiative. Foreign key to the Vegetation Management Project Point, Line and Polygon tables. This value can be repeated based on the number of photos taken.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
5	VmiID	VMI ID	text(50)	FK	Unique ID or job ID of a vegetation management inspection activity. Foreign key to the Vegetation Management Inspection Point, Line, and Polygon tables. This value can be repeated based on the number of photos taken.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
6	AiID	AI ID	text(50)	FK	Unique ID or job ID of an asset inspection activity. Foregin key to the Asset inspection table. This value can be repeated based on the number of photos taken.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
7	GhID	GH ID	text(50)	FK	Unique ID or job ID of a grid hardening activity. Foreign key to the Grid Hardening Point and Line tables. This value can be repeated based on the number of photos taken.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes

8	FromDevice	From Device	text(50)	FK	The asset ID for a support structure upstream of an initiative location. This field is to be filled out to help locate initiatives that are along conductor lines or within a polygon based on conductor lines.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes
9	ToDevice	To Device	text(50)	FK	The asset ID for a support structure downstream of an initiative location. This field is to be filled out to help locate initiatives that are along conductor lines or within a polygon based on conductor lines.	No	Data does not exist – Changes to data capture tools required	Augmentation of introduction of new data capture tools and processes to capture this information and then translate/export to GIS formats	~2 years to implement (1 year after data extraction and translation work complete)	Yes

WSD Data Schemas Draft V2 (2020-09-09) - Other Required Data

Point	Other Power Line Connection Location								
Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	OplcID	PPIC ID	text(50)	PK	Unique ID and primary key for the private Power Line Connection Location table.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
3	OtherLineOwner	Other Line Owner	text(100)		Name of individual or other entity that owns the private line to which an electrical corporation line is connecting.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
4	ConnectionAsset	Connection Asset	text(100)		Asset enabling the connection.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
5	ConnectionPointAssetID	Connection Point Asset ID	text(50)		AssetID of the asset that enables the connection. Must be traceable stable ID within a specific asset class.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
6	CorporationLineID	Corporation Line ID	text(50)		AssetID of the electrical corporation line that feeds energy into or receives energy from the private line. Must be traceable stable ID within a specific asset class.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
7	OtherLineClass	Other Line Class	text(30)	Domain	Classification of line asset that meets corporation line at connection location. Possible values: Transmission Primary distribution Secondary Distribution Unknown	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
8	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the connection location intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
9	County	County	text(50)		County in which connection location is located.	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
10	OtherConductorType	Other Conductor Type	text(10)	Domain	Type of conductor that connects to corporation line. Possible values: Bare Covered Unknown	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
11	ConnectionType	Connection Type	text(30)	Domain	Type of energy transfer happening at location. Possible values: Other to corporation Corporation to Other	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
12	ConnectionOHUG	Connection OH or UG	text(50)	Domain	Is the connection overhead or underground? Possible values: All Overhead All underground Overhead to underground Underground to overhead Unknown	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
13	OtherNominalVoltagekV	Other Nominal Voltage (kV)	float		Nominal voltage (in kilovolts) of other conductor connected to corporation line. Do not use more than two decimal places. Enter "-99" if N/A.Use -99 if this is not known.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
14	OtherOperatingVoltagekV	Other Operating Voltage (kV)	float		Operating voltage (in kilovolts) of other conductor connected to corporation line. Do not use more than two decimal places. Enter "-99" if N/A.Use -99 for unknown.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
15	OtherConductorMaterial	Other Conductor Material	text(100)	Domain	Conductor material of other line that connects to corporation line. Possible values: All aluminum conductor (AAC) All aluminum alloy conductor (AAAC) Aluminum conductor aluminum reinforced (ACAR) Aluminum conductor steel reinforced (ACSR) Copper (Cu) Unknown other - See comment.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
16	ConductorMaterialComment	Conductor Material Comment	text(50)		Conductor material not listed in the options above.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
17	OtherConductorSize	Other Conductor Size	text(30)		Size of other conductor that connects to corporation line (e.g. No. 4 Cu or 1/0 ACSR). Write "Unknown" if this is not known.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
18	OtherConductorOD	Other Conductor Overall Diameter (inch	float		Overall diameter of the other conductor that connects to the corporation conductor in inches. Leave blank if this is not known.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
19	OtherConductorCodeName	Other Conductor Code Name	text(50)		Codename of the other conductor that connects to the corporation conductor. For example, "Lapwing," "Sparrow," etc. Write "Unknown" if this is not known.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
20	ConnectionLastInspectionDate	Connection Last Inspection Date	date		Date of the last inspection. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
21	ConnectionLastMaintenanceDate	Connection Last Maintenance Date	date		Date of the last maintenance. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
22	ConnectionEstablishmentDate	Connection Establishment Date	date		Date the connection was established. Use YYYY-MM-DD format. Leave blank if unknown. Do not include time.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
23	ConnectionEstablishmentYear	Connection Establishment Year	integer		Year of connection establishment. Use four digits. Can be pulled from the "InstallationDate" field with a field calculation. Enter "-99" if unknown.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
24	EstimatedConnectionAge	Estimated Connection Age	text(10)	Domain	The age of the connection in years. Only fill this out if the "ConnectionEstablishmentYear" and "ConnectionEstablishmentDate" values are unknown. Possible values: 0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-99 >100 Unknown N/A (only enter this if there is a "ConnectionEstablishmentYear" value)	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
25	OtherUsefulLifespan	Other Useful Lifespan	integer		The number of years the other line connected to the corporation line is expected to have a useful functioning existence upon initial installation. Use -99 for unknown.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
26	OtherAmpacityRating	Other Ampacity Rating	float		Nominal ampacity rating of the other conductor in amperes.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
27	OtherLineGreased	Other Line Greased	text(10)	Domain	Is the other conductor connected to the corporation line greased to prevent water intrusion? Possible values: Yes No Unknown	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
28	OtherPowerLineComments	Other Power Line Comments	text(100)		Describe any additional key details that should be known about the connection location.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes

Point	Critical Facility								
Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	FacilityID	Facility ID	text(50)	PK	Unique ID for a specific critical facility. It should be a traceable stable ID within the utility's operations/processes. Primary key for the Critical Facility table.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
2	UtilityID	Utility ID	text(10)		P	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes

3	FacilityName	Facility Name	text(100)			Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
4	FacilityCategory	Facility Category	text(30)	Domain	Name of the facility Critical facility category. See examples table below this table for examples of facilities that fall under these categories. Possible values: Chemical Communications Emergency services Energy Government facilities Healthcare and public health Public safety answering points Transportation Water and wastewater systems Other – See comment.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
5	FacilityCategoryComment	Facility Category Comment	text(30)		Facility category not covered by the options above.	Yes	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
6	FacilityDescription	Facility Description	text(50)		Brief facility description (e.g., fire station, prison, nursing home, etc.).	No	Data Currently Available in GIS format	Data will still require translation to new WMP specific data taxonomy	2021 WMP	Yes
7	CircuitID	Circuit ID	text(50)		ID of circuit associated with critical facility.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
8	CircuitName	Circuit Name	text(255)		Name of circuit associated with critical facility,	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
9	MeterID	Meter ID	text(50)		ID of meter associated with critical facility.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
10	BackupPower	Backup Power	text(10)	Domain	Does the facility have a backup power source? Possible values: Yes No Unknown	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
11	BackupType	Backup Type	text(30)	Domain	Type of backup power source. Possible values: Storage battery Diesel generator Gas generator Combined/hybrid Other – See comment.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
12	BackupTypeComment	Backup Type Comment	text(30)		Backup type not listed in the options above.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
13	BackupCapacity	Backup Capacity	float		Hours of energy storage of hours of backup generation from backup power source.	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
14	PopulationImpact	Population Impact	integer		The approximate number of people that depend on this critical facility	No	Data does not exist – inventory required	Physical inventory of system consistent with data requirements would be required following completion of data translation and extraction process	~2 years to implement (1 year after data extraction and translation work complete)	Yes
15	HFTDClass	HFTD Class	text(10)	Domain	The CPUC high-fire threat district (HFTD) area the critical facility intersects. Possible values: Tier 3 Tier 2 Zone 1 Non-HFTD	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
16	PSPSDays	PSPS Days	integer		The number of days the critical facility was impacted by PSPS events in the last 365 days.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
17	PSPSDaysDateBasis	PSPS Days Date Basis	float		The date used for calculating the "PSPSDays" field. This would be the date from which 365 days would be subtracted to determine the timespan that may contain critical facility-impacting PSPS events.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
18	ParcelAPN	Parcel APN	text(17)	PK	ID of parcel containing critical facility. Primary key for the Critical Facility table.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
19	Address	Address	text(100)		The address of the critical facility.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
20	City	City	text(50)		The city of the critical facility.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
21	Zip	Zip	text(5)		The 5-digit zip code of the critical facility.	No	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
22	Latitude	Latitude	float		Latitude coordinate of critical facility (in decimal degrees).	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
23	Longitude	Longitude	float		Longitude coordinate of critical facility (in decimal degrees).	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Polygon **Red Flag Warning Day Polygon**

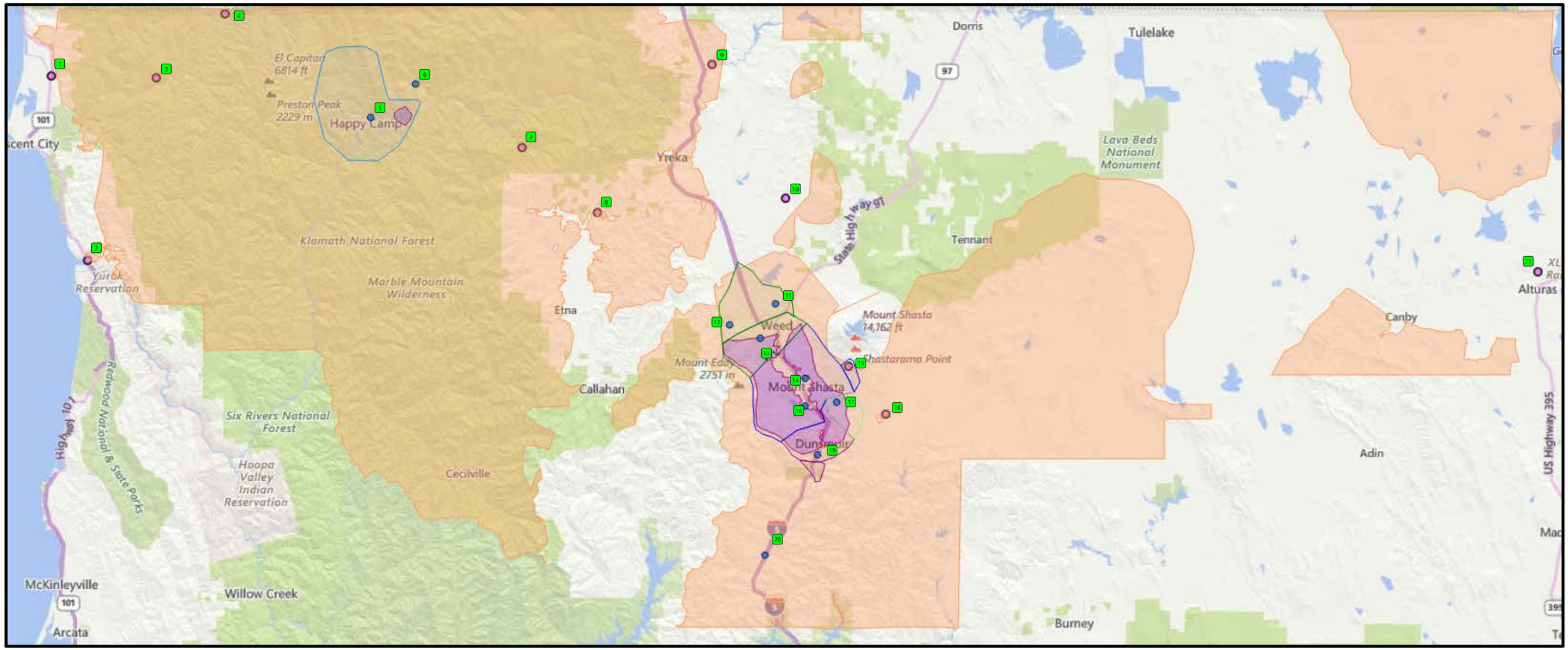
Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement acti	Estimated delivery timefra	Confidential? (Yes/No
1	RfwID	RFW ID	text(50)	PK	Unique ID and primary key for the red flag warning table.	Yes	Publicly available from h	Go to https://mesonet	N/A	No
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	No	N/A	N/A	N/A	N/A
3	FireWeatherZoneID	Fire Weather Zone ID	text(50)		ID number of fire weather zone	Yes	Zones fixed by geographi	Go to https://mesonet	N/A	No
4	FireWeatherZoneName	Fire Weather Zone Name	text(30)		Unique ID for a specific point asset. It should be a traceable stable ID within the utility's operations/processes.	No	N/A	N/A	N/A	N/A
5	RedFlagWarningIssueDate	Red Flag Warning Issue Date	date		Start date of the RFW in YYYY-MM-DD format. Do not include time.	Yes	Publicly available from ht	Go to https://mesonet	N/A	No
6	RedFlagWarningIssueTime	Red Flag Warning Issue Time	date		Start time of the RFW. Must be in the "hh:mm:ss" format.	Yes	Publicly available from ht	Go to https://mesonet	N/A	No
7	NumberRedFlagWarningDays	Number Red Flag Warning Days	int		Number of red flag warning days experienced in the fire weather zone in the last 365 days.	Yes	Publicly available from ht	Go to https://mesonet	N/A	No
8	RedFlagDaysDateBasis	Red Flag Days Date Basis	float		The date used for calculating the "NumberRedFlagWarningDays" field. This would be the date from which 365 days would be subtracted to determine the timespan that contained red flag warning days.					

Administrative Area

Column	Field Name	Alias	Data Type	Charateristic	Description	Data provided in latest submission? (Yes/ No)	Availability Explanations	Data procurement actions	Estimated delivery timeframe	Confidential? (Yes/No)
1	AdminID	Admin ID	tet(50)	PK	Unique ID and primary key for the Administrative Area table	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
2	UtilityID	Utility ID	text(10)		Standardized identification name of the utility ("UtilityG&E," etc.).	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
3	AreaType	Area Type	text(50)		Type of administrative area (service territory, region, district, etc.)	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
4	SubareaType	Subarea Type	text(50)		Utility subarea type. Possible values: Operational Construction Weather Organizational Other - See comment	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
5	SubareaTypeComment	Subarea Type Comment	text(50)		Subarea type not listed in the options above.	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes
6	Name	Name	text(100)		Name of administrative area.	Yes	Data exists but not in GIS format	Requires data translation and extraction process	~1 year to implement (Prepared for 2022 WMP)	Yes

Attachment D

Weather Stations



Weather Station	PSPS Zone	District Name	Year
1		Crescent City	2020
2		Crescent City	2020
3		Crescent City	2020
4		Crescent City	2020
5	Happy Camp	Yreka	2019
6		Yreka	2019
7		Yreka	2020
8		Yreka	2020
9		Yreka	2020
10		Yreka	2020

Weather Station	PSPS Zone	District Name	Year
11	Weed	Yreka	2019
12	Weed	Yreka	2019
13	Weed	Yreka	2019
14	Mt Shasta	Yreka	2019
15	Mt Shasta	Yreka	2020
16	Mt Shasta	Yreka	2019
17	Snowbrush	Yreka	2019
18		Yreka	2020
19	Dunsmuir	Yreka	2019
20		Yreka	2019
21		Alturas	2020

Installation Year 2019

Installation Year 2020

Tier 2

Tier 3

Attachment E

PacifiCorp 2020 Wildfire Mitigation Plan
GIS Data and Schema

July 21, 2020






PACIFICORP

POWERING YOUR GREATNESS

Agenda

(Heide Caswell)

- General Introductions & Presentation Overview
- PacifiCorp's California Service Territory
- History of PacifiCorp's Systems Related to WMP Development and Reporting
- Specific Areas Identified:
  - 2.1 GIS Data Communications
  - 2.2 – 2.4 Asset Data
    - *2.2 General*
    - *2.3 Lines*
    - *2.4 Points*
  - 2.6 Outage Data
  - 2.7 PSPS Data
  - 2.8 & 2.9 Vegetation Inspection and Treatment Data
  - 2.10 Asset Inspection Data
  - 2.11 Grid Hardening Project Data
  - 2.12 Weather & Model Data

General Introductions & Overview

(Heide Caswell)

Introductions

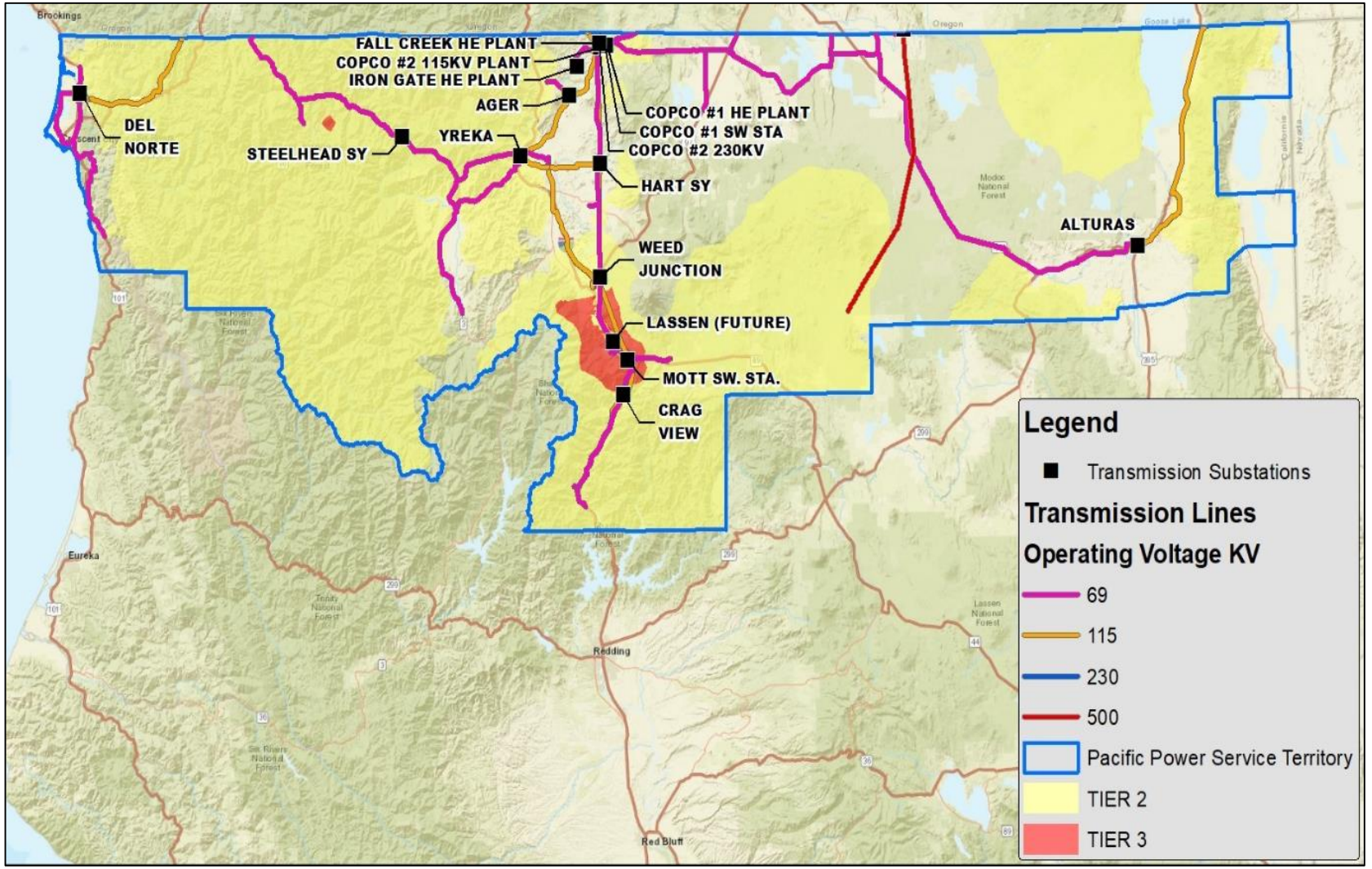
- **Heide Caswell,** Director of Asset Performance and Wildfire Mitigation
- **Marshall Payne**, Director of GIS, Mapping, & Data Management
- **Amy McCluskey**, Director of Asset Management
- **Brian King,** Director of Environmental and Vegetation Management
- **Pooja Kishore**, State Regulatory Affairs Manager, California

Overview

- Review background information on service territory, data systems, and evolution of systems
- Provide overview for each major topic area identified
- Focus on information regarding existing available data and processes

Review of PacifiCorp's CA Service Territory

(Heide Caswell)



PacifiCorp provides electricity to approximately **45,000 customers** via

63 substations,

2,520 miles of distribution lines,

and about **800 miles** of transmission lines

across nearly **11,000 square miles** of which just under half is classified as HFTD

History of Key Systems Related to WMP

(Heide Caswell)

- PacifiCorp leverages a range of key systems and databases related to WMP development and reporting
- These systems were implemented over the years and each serves a different purpose

1990s	• Customer Service System (CSS) • Plant Accounting System (AFPR) • Automated Mapping System (CAD) • Facility Point Inspection System (FPI)replacement of FIRS system, installed in mid 1980s • Cost Estimating System (RCMS) • Work Management System (SAP) • Vegetation Management Work Management (PVM)
2000s	• Mapping of Network Topology (FastGate) • Automated Outage Management System (CADOPS and Prosper) • SAP Equipment Database • Geographic Information System Maintenance Organizer (GISMO) • Enterprise-wide GIS (PowerMap)
2010s	• ArcFM Implementation (replaced FastGate) • Load Flow Replacement Software/Gateway • Asset Health Index V1 • Advanced Metering Infrastructure • Utility Fire Incident Reporting Data

Continuous Improvement / Pilot Programs

NOTE: Many of these systems will be referenced in the following slides

2.1 GIS Data Communications

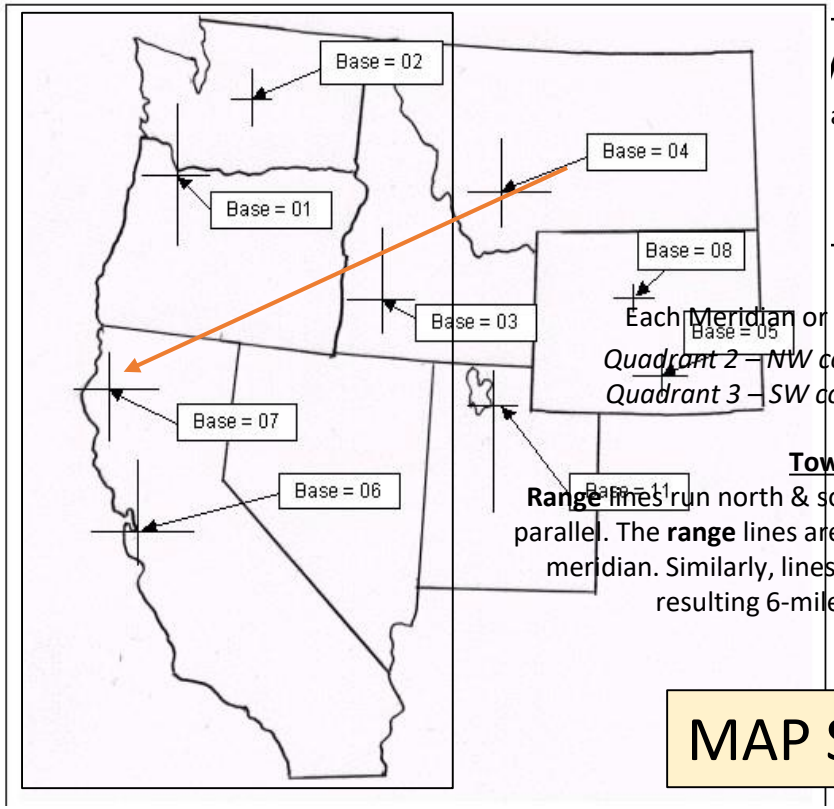
(Heide Caswell)

- Primary and Secondary Points of Contact for future correspondence related to GIS data:
  - Pooja Kishore: Pooja.Kishore@pacificorp.com
  - Cc: datareq@pacificorp.com

2.2 – 2.4 Asset Data

(Marshall Payne)

- PacifiCorp uses a “Smart Number” location identifier to locate all facilities:



MAP STRING #

ant	Township	Range
	1 6	0 0 1.0
	(01-36)	*(000.0-150.9)*

POINT #

Section	Horizontal/ Vertical Grid	Point	Suffix
2 1	4 4	6 0	A
(01-36)	*(00-99)*	*(00-99)*	*(Optional)*

Quadrant

Each Meridian or “Base” is divided into 4 quadrants

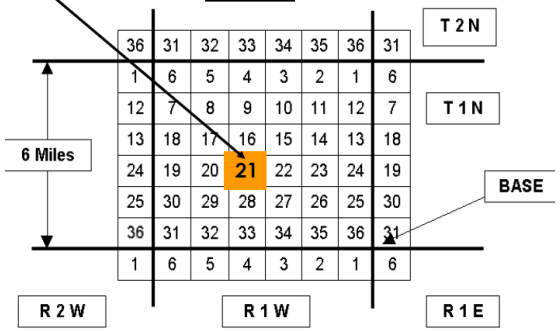
Quadrant 2 – NW corner *Quadrant 1 – NE Corner*

Quadrant 3 – SW corner *Quadrant 4 – SE Corner*

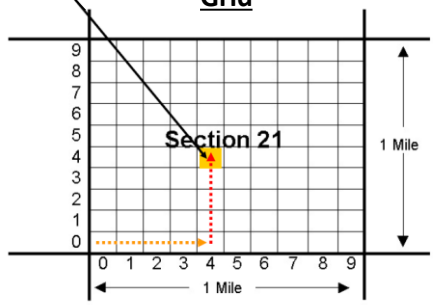
Townships and Ranges

Range lines run north & south at 6-mile intervals from the standard parallel. The **range** lines are numbered east & west from the principal meridian. Similarly, lines run east & west at 6-mile intervals. The resulting 6-mile squares are called **Townships**

Section



Grid



MAP STRING # + POINT # = UNIQUE FACILITY POINT #

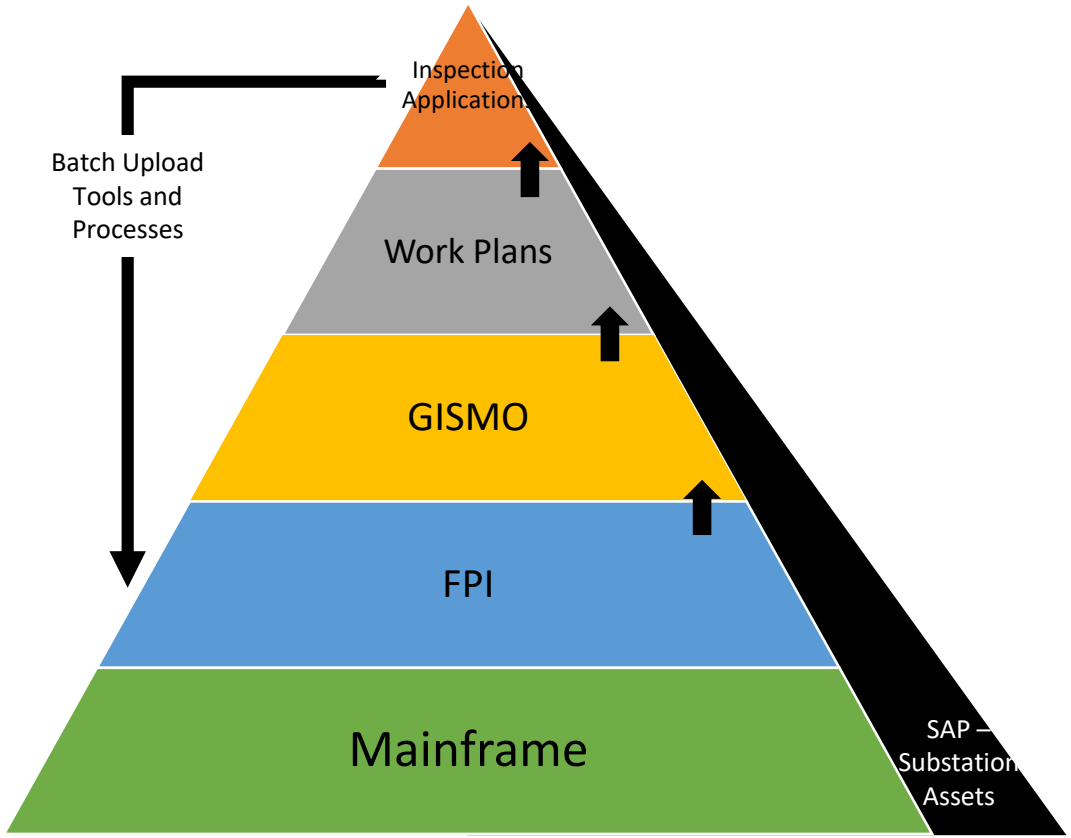
- This is a location identifier - not an asset ID (but is often referenced as such).
- The facility point number is created by the mapping system and used in both the mainframe and GIS when construction estimates are completed. It subject to change and it is not the asset ID or FAC ID, which only resides in the mainframe.
- Design/As-built mapping workflow process
- Facilities vs. Connectivity (two systems)

2.2 – 2.4 Asset Data Cont.

(Amy McCluskey)

- Backbone of PacifiCorp's asset data is a Mainframe System in use since +/- 1980
- Additional programs and tools have been bolted on over time since 1980 to meet an evolution of needs and requirements
- Now PacifiCorp uses a range of applications, modules, and databases to store various types of asset data

Database / Source	Permanent Storage of Asset Information	Tool to Facilitate Work	Description
Inspection Applications		X	Mix of in-house and external applications that translate the excel based work plans into mobile applications to facilitate planning and completion of inspection work
Work Plans		X	Excel / Access based tools created from GISMO/FPI data extracts to identify and determine annual inspection requirements
GISMO		X	Inspection Planning Tool Stores Operational Notes and Updates; Extracts data from FPI to group and determine inspection plans;
Facility Point Inspection (FPI)	X		Module of the mainframe system with customized screens; Main interface and storage of Inspection and Correction records; Additional operational / asset notes can also be stored here
SAP	X		Existence of assets within substations; Inspection and Work Plans; Financial Accounting
Mainframe	X		Existing of assets, asset attributes (i.e. WOOD pole) Leverages "SMART" numbering system to identify facilities



- Asset health reflects a post-processing analysis of many data points and is managed in a separate excel/access database

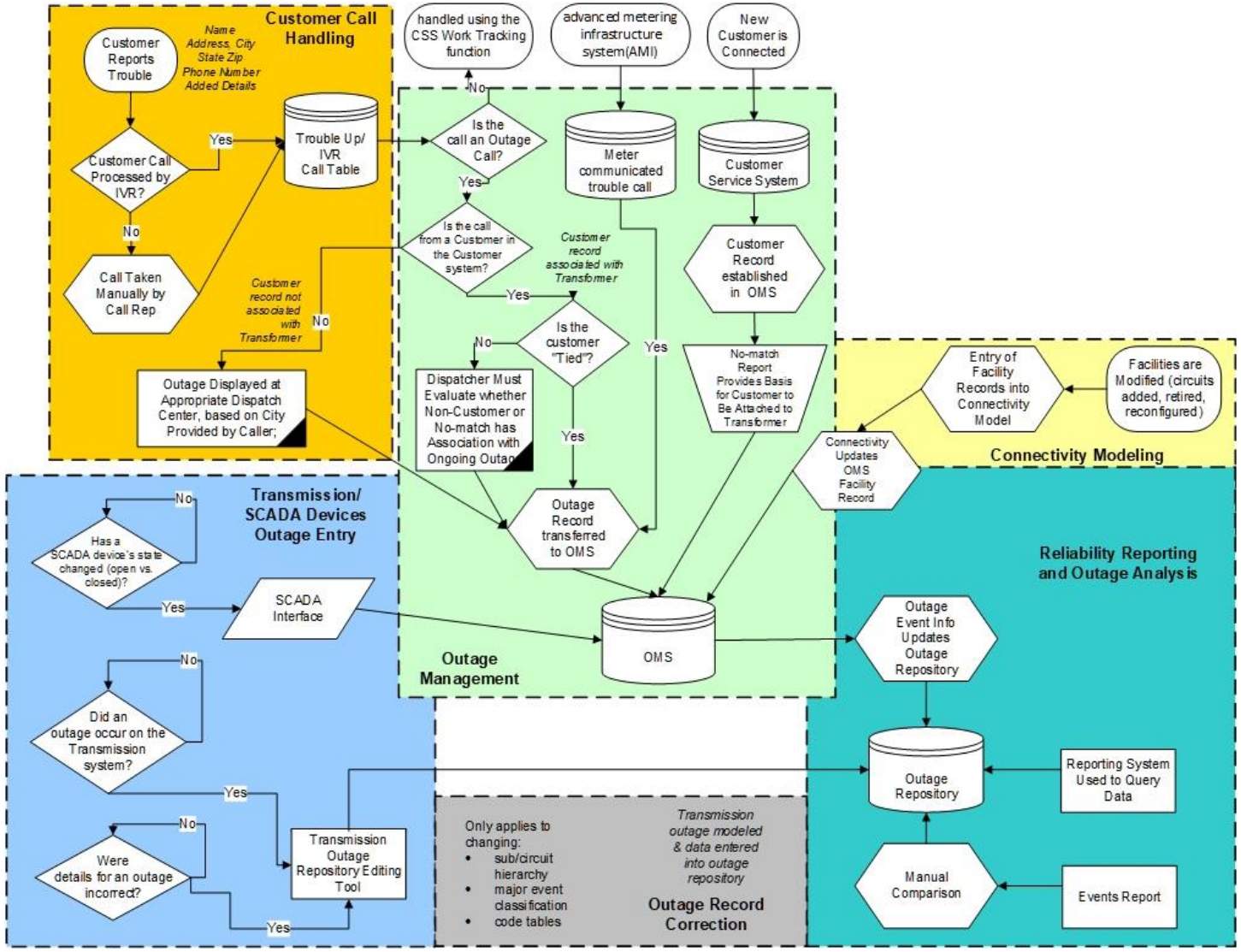
2.5 Outage Data Cont.

(Heide Caswell)

- PacifiCorp's outage data collection process includes leveraging data from multiple sources:
  - Customer Calls
  - SCADA (system information)
  - AMI (advanced metering infrastructure)
  - Dispatch records / reports

- All of this data is mapped to facility records and stored within OMS, PacifiCorp's Outage Management System

- Data extracts from OMS are used for reporting, analytics, and follow up investigations



2.5 Outage Data

(Heide Caswell)

- Data Example
- PacifiCorp's data collection is consistent with industry standard (IEEE 1366) and guidelines (IEEE 1782), as well as consistent with prior CPUC Decisions (D96.09.045 and D16.01.008)

Outage Information

CADOPS Outage Number	CPCC1280445
Outage ID	1955453
Outage Scheme	DISTRIBUTION PRIMARY
Circuit	5P164
Outage Class	DISTRIBUTION
Outage Subclass	CUSTOMER
CADOPS District	PORTLAND
Fiscal Year	2020
Timezone	US/Pacific
Interrupted	**4/18/2019 3:56:38 PM**
Estimated Repair Time	4/18/2019 7:00:00 PM
Restored	**4/18/2019 5:27:18 PM**
Verified	4/18/2019 5:23:28 PM
Completed	
Direct Cause Category	:
Direct Cause	:
Contributory Cause Category	No contributing factors noted
Contributory Cause	No contributing factors noted
Customers Out Sustained (CI)	**1**
Customere Minutes Lost (CMI)	**90.667**
Customers Out Momentary	0
Customers Out Momentary Event	0
Customers Minutes Lost Momentary	0.000
Outage Phases	C
Primary Component	
Damaged Component #1	
Damaged Component #2	
Damaged Component #3	
Switch Orders	NONE
Reportable	**N**
Lockout	N
Safety Hold	N
Rare Incident	N
CADOPS Comments	**Customer Issue, we have beer**
PROSPER Comments	No support comments for the c
Created By	P22015 (Donald Gillum)
Created On	4/18/2019 3:56:42 PM
Last Updated By	P22015 (Donald Gillum)
Last Updated On	4/18/2019 5:27:18 PM
Archived On	4/18/2019 5:35:01 PM

Auto Isolation Point

Isolation Type	Equipment Id	Equipment Type
CUSTOMER	TR_157204_235560246	Customer

Crew Activity

First assign time: 4/18/2019 3:59:10 PM

First arrival time: 4/18/2019 5:27:18 PM

Customer Calls (Trouble Report)

1 calls from 1 unique customer(s), where 1 customer(s) were without power (CI).

Non Customer Calls

0 calls from non-customer(s) reporting an outage.

JTK Events

Circuit

Unit Id	Type	Id	Name	State	kV	Line Miles	Is Active	Activate Dat
5P164	CIRCUIT	5P164	MALLORY #2		12.8	15.489	Y	

Downline Equipment

Restoration Stages

1 stage(s) to restore all 1 customers.

Customer Restorations

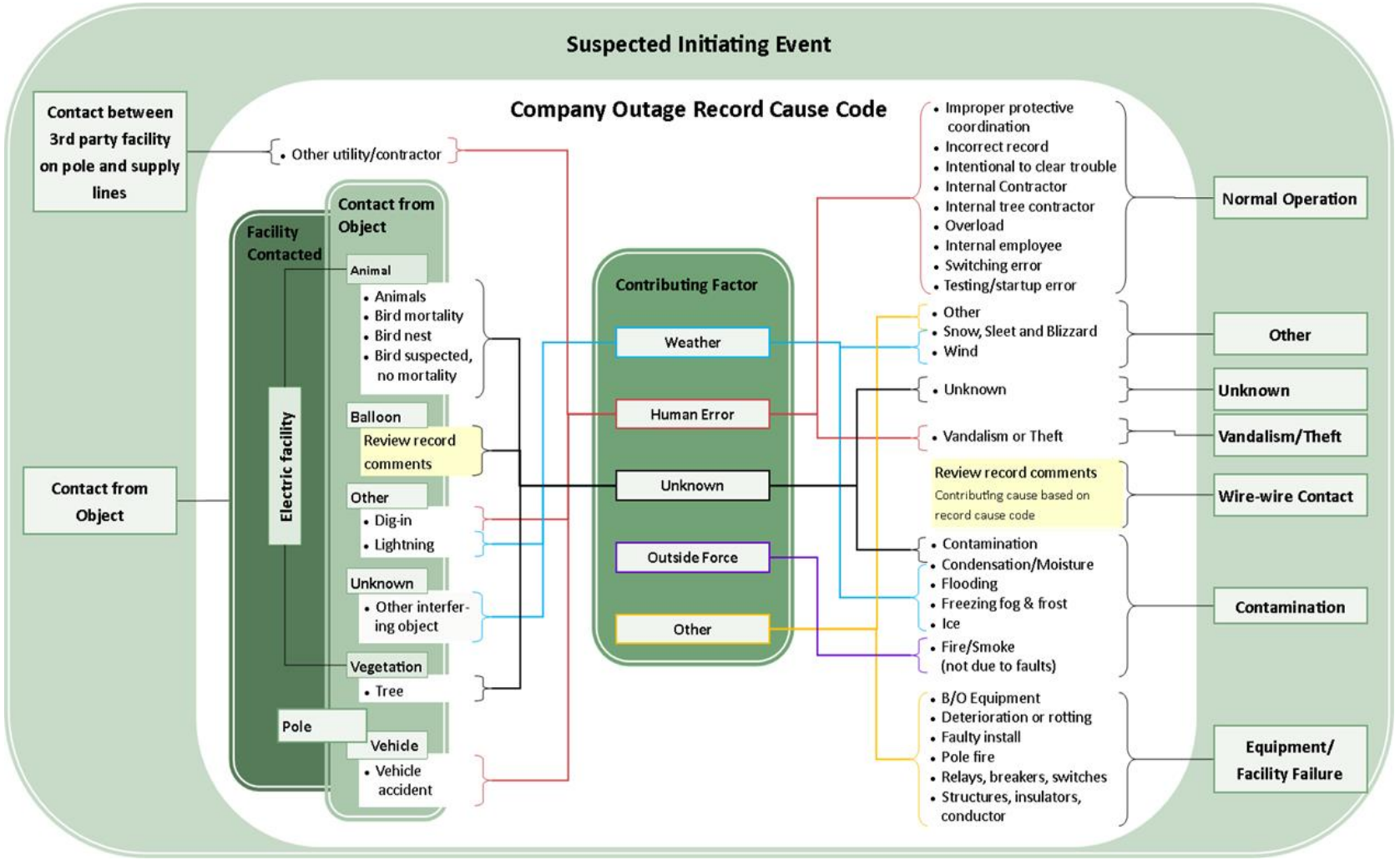
1. **@ 4/18/2019 5:27:18 PM -07:00 Restoration Sequence (1) took 01:30:40 to restore, restoring 1 customers, lost 90.667 mir**

Outage Log

2.5 Outage Data Cont.

(Heide Caswell)

- Outage data had been previously analyzed to recognize how outages may reference fire events
- Outage data was reviewed and organized to align with data structure identified using the graphic to the right



2.6 PSPS Data

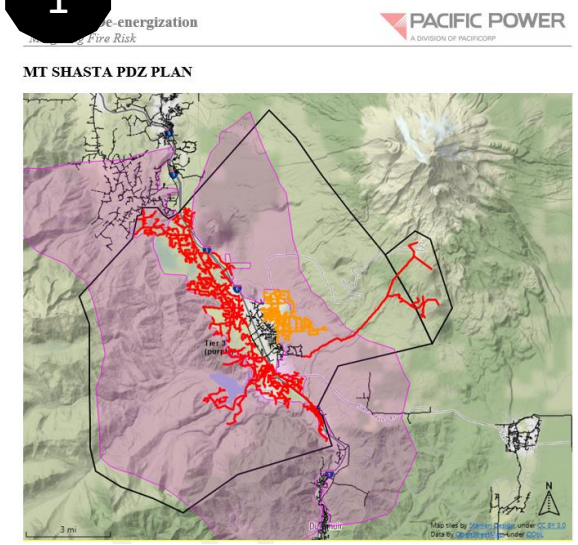
(Heide Caswell)

PacifiCorp's processes are aligned with ESRB-8, D.19-05-042, and will continue to be refined to ensure compliance with D.20-05-051

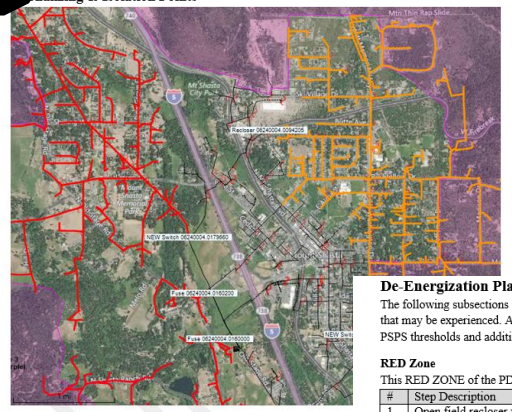
- **Plans are designed to be in place contingent on specific thresholds that indicate elevated risk (KBDI, FFWI, wind)**
- **Systems have been modified to align with notification**
-

PSPS is intended to be a short-duration risk throughout its extreme risk area

1



2



De-Energization Zone Details

Color	Trigger for De-Energization	Circuit(s) Included	Isolation Method & Location	Customers Impacted	TQS/ Cust
RED	PSPS Thresholds Met	5G79	Recloser 06240004.0229500	20	TI
			Recloser 06240004.0214541	244	TI
			Recloser 06240004.0214560	504	TI
			NEW Switch 06240004.0179660	1321	TI

De-Energization Plans

The following subsections describe the de-energization plans for the Mt. Shasta PDZ in the order of escalation that may be experienced. As outlined in the table above, each of the zones are done in sequential order based on PSPS thresholds and additional conditional parameters.

RED Zone

This RED ZONE of the PDZ is de-energized by completing the following steps:

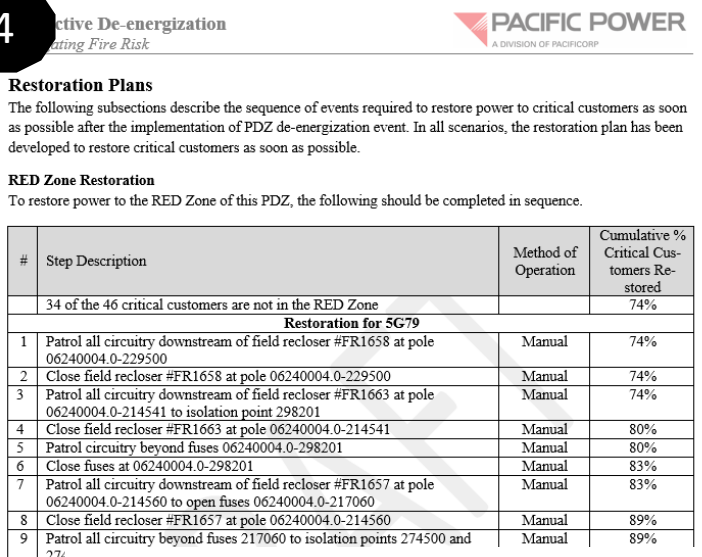
#	Step Description	Method of Operation
1	Open field recloser #FR1658 at pole 06240004.0-229500	Manually Controlled
2	Open field recloser #FR1663 at pole 06240004.0-214541	Manually Controlled
3	Open field recloser #FR1657 at pole 06240004.0-214560	Manually Controlled
4	Open NEW switch at pole 06240004.0-179660	Manually Controlled
5	Open fuses at pole 06240004.0-160000	Manually Controlled
6	Open fuses at pole 06240004.0-160200	Manually Controlled
	Steps for 5G79 to sectionalize circuit to reduce cold load pickup during restoration	
7	Open fuses at 06240004.0-298201 on A Barr Rd at bridge	Manually Controlled
	Open fuses at 06240004.0-274500, Azalea Rd and Big Canyon Rd	Manually Controlled
	Open fuses at 06240004.0-274460, Big Canyon Rd south of Azalea Rd	Manually Controlled
	Steps for 5G77 (5G76) to sectionalize circuit to reduce cold load pickup during restoration	
	Open fuses at pole 06240004.0-176963, Douglas Ln south of Lassen Ln	Manually Controlled
	Open recloser at pole 06240004.0-176960, Lassen Ln east of Pine Grove Rd	Manually Controlled
	Open fuses at 06240004.0-176962, Lassen Ln east of Pine Grove Rd	Manually Controlled

3

- **Development of customer-facing PSPS tool**

https://www.pacificpower.net/outages-safety/wildfire-safety/public-safety-power-shutoff.html

4



Restoration Plans

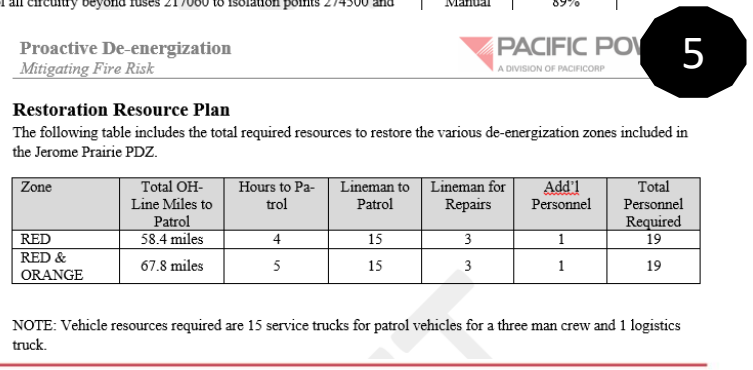
The following subsections describe the sequence of events required to restore power to critical customers as soon as possible after the implementation of PDZ de-energization event. In all scenarios, the restoration plan has been developed to restore critical customers as soon as possible.

RED Zone Restoration

To restore power to the RED Zone of this PDZ, the following should be completed in sequence.

#	Step Description	Method of Operation	Cumulative % Critical Customers Restored
	34 of the 46 critical customers are not in the RED Zone		74%
	Restoration for 5G79		
1	Patrol all circuitry downstream of field recloser #FR1658 at pole 06240004.0-229500	Manual	74%
2	Close field recloser #FR1658 at pole 06240004.0-229500	Manual	74%
3	Patrol all circuitry downstream of field recloser #FR1663 at pole 06240004.0-214541 to isolation point 298201	Manual	74%
4	Close field recloser #FR1663 at pole 06240004.0-214541	Manual	80%
5	Patrol circuitry beyond fuses 06240004.0-298201	Manual	80%
6	Close fuses at 06240004.0-298201	Manual	83%
7	Patrol all circuitry downstream of field recloser #FR1657 at pole 06240004.0-214560 to open fuses 06240004.0-217060	Manual	83%
8	Close field recloser #FR1657 at pole 06240004.0-214560	Manual	89%
9	Patrol all circuitry beyond fuses 217060 to isolation points 274500 and 27	Manual	89%
10	Clo		
11	Pat		
12	Clo		

5



Restoration Resource Plan

The following table includes the total required resources to restore the various de-energization zones included in the Jerome Prairie PDZ.

Zone	Total OH-Line Miles to Patrol	Hours to Patrol	Lineman to Patrol	Lineman for Repairs	Add'l Personnel	Total Personnel Required
RED	58.4 miles	4	15	3	1	19
RED & ORANGE	67.8 miles	5	15	3	1	19

NOTE: Vehicle resources required are 15 service trucks for patrol vehicles for a three man crew and 1 logistics truck.

2.8-2.9 Vegetation Inspection & Treatment Data *(Brian King)*

- PacifiCorp Vegetation Management (PVM)
  - PacifiCorp uses a 1990s age application that was converted to Oracle V.18c with web-based interface
  - Current system tracks spend (inspection and treatment) and work completed (treatment) using production data (prunes and removals) by work type (cycle, interim, fire mitigation, etc.)
  - Inspections are conducted to inform treatment work and are conducted at the circuit level.
  - Information is not geospatially referenced (it is identified by circuit).
  - Historical inspection and audit data is not digitally available prior to 2020.

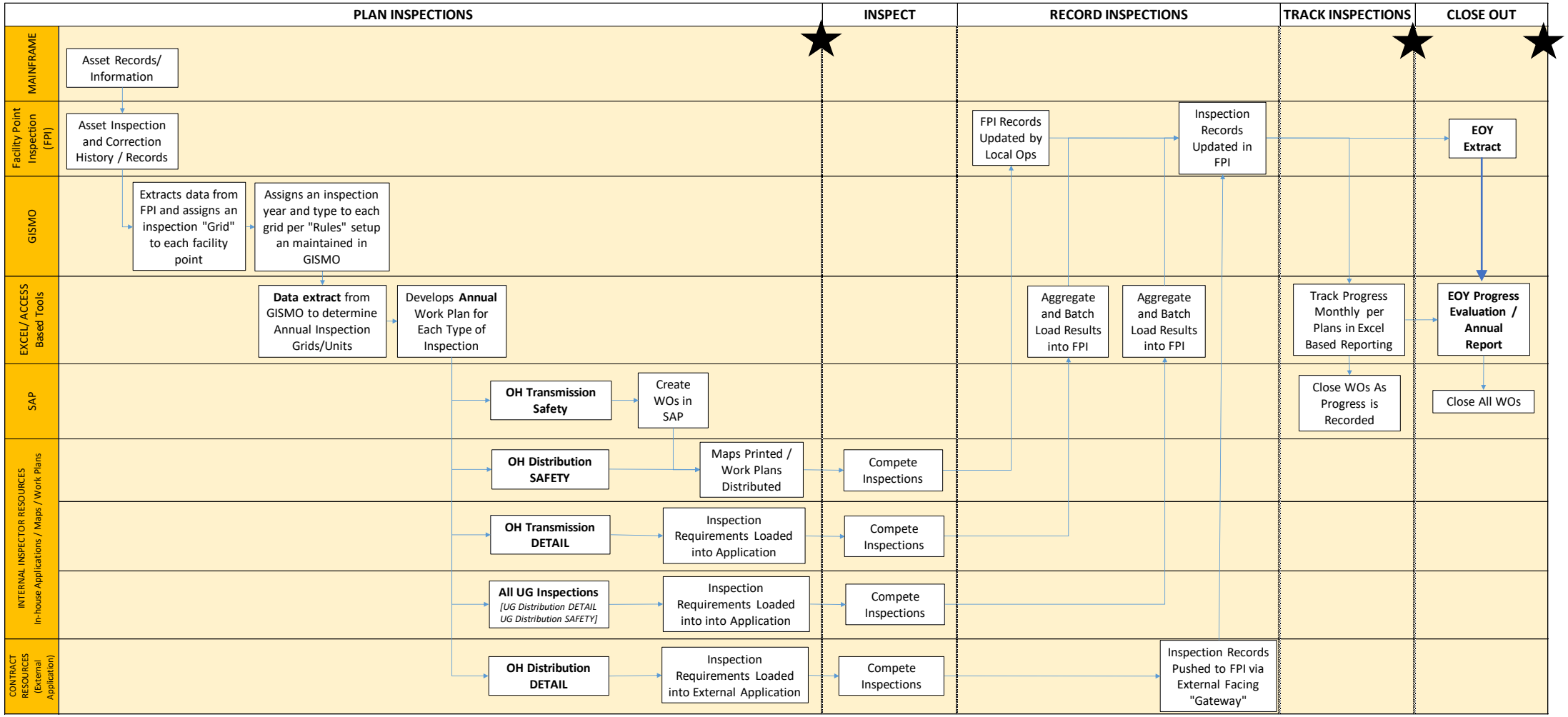
SAP Business Objects *(data aggregated by circuit)*	**Inspection Data**		**Treatment Data**		
	Record of Inspection (Yes/No)	Inspection Cost ($)	Treatment Cost ($) by Activity Type - Cycle - Interim - Fire mitigation	Trees Removed (volume) by Activity Type - Cycle - Interim - Fire mitigation	Trees Prunes (volume) by Activity Type - Cycle - Interim - Fire mitigation

- ***New in 2020: MapItFast***
  - Consistent with the company's 2020 WMP, PacifiCorp is piloting a new externally hosted mobile application to capture work prescribed and completed (georeferenced at the parcel level).
  - Program is being phased in throughout 2020
  - Digital project record, georeferenced point, line and polygon data (exportable)
    - VMOptix user interface to query project record
  - As this program is new, PacifiCorp anticipates it may be refined to support continuous improvement

2.10 Asset Inspection Data

(Amy McCluskey)

- PacifiCorp leverages a range of data sources and applications to plan, complete, and record inspections of the company's assets:

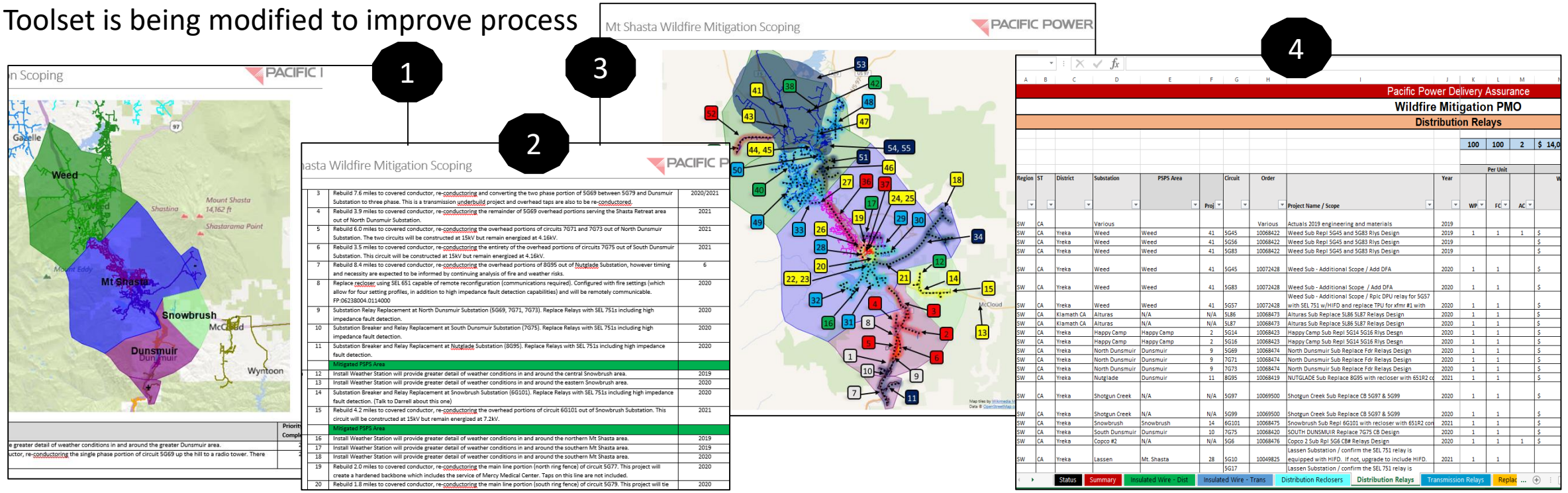


★ *Reflects the need to perform a data extract from multiple non-GIS data sources (FPI, Excel, Mainframe, etc.), map data sources together, translate the data to the prescribed taxonomy, and transfer the data to a GIS based system to meet proposed requirements.*

2.11 Grid Hardening Project Data

(Heide Caswell)

- Mitigation Plans have been developed for all areas identified to be at risk for PSPS
- Priorities were established based upon historic PSPS risk duration, combined with impacts to customers and communities, with special consideration to priority (or critical) customers
- Efforts are underway and the data management process is being developed to align with reporting requirements (while recognizing the impacts of reporting cycles on long-term projects)
- Utilizing centrally-housed spreadsheet correlated to geographically-displayable project references
- Toolset is being modified to improve process



2.12 Weather & Model Data

(Heide Caswell)

- PacifiCorp calculated the RFW circuit mile days per year as directed
  - Data extracted from https://mesonet.agron.iastate.edu/info/datasets/vtec.html
  - Spatial join to calculate miles of T & D assets
  - Duration (minutes) calculated based on expired-issued; translated to circuit mile days
  - Overhead miles only

Cautions about applying this metric as a measure of success or severity

1) PacifiCorp has performed statistical analysis on fires and attempted to correlate to RFW and did not find statistical significance within our service territory (approximately 50% correlation)
2) Large geographic spaces are involved in the FWZs in our service territory
3) Some cross-state/cross-utility analysis would be beneficial to determine the usefulness of such a measure
4) PacifiCorp is advancing the placement of several RAWS-certified stations in its service territory to further support the work done by BLM/NIFC in red flag management
5) It's not clear that RFW should be used as a measure of utility fire risk


Questions?

2.2 Asset Data – General

a. Which database format(s) (e.g. Esri geodatabases, Oracle, Access, etc.) is used to store and manage this data?
See Slides 8 and 14. Generally, asset data is stored in the asset registry which is a mainframe system.

b. How is it structured (i.e. groupings, hierarchies, related tables, attributes collected, etc.)? See Slides 8 & 14.

c. What is the current size and annual projected growth of this database? The suite of databases are approximately 850 gigabytes; projected growth is unknown.

d. Provide an extract, transform, load (ETL) workflow detailing the processes involved in data creation/input, transfer, storage, and report generation. See Slides 8 & 14.

e. Provide an entity relationship diagram (ERD) for the data. See Slides 8 and 14.

f. What aspects of this data, if any, are considered confidential? Generally speaking, data that describes the location and presence of an asset is not confidential as this information can be acquired through means such as google Earth or simply walking around. However, once this data turns into sets of data that describe systems, including indication of connectivity or specific attributes such as operating voltage, type of asset such as a recloser, material specification or age, the data becomes confidential. The confidentiality is in place to protect the physical security of the grid and system from malicious cyber **or** physical attacks.

2.2 Asset Data – General

g. Identify all asset types for which GIS data exists.

The list is a mile long due to sub types/classes, generally including

- **Poles**
- **Secondary Conductor**
- **Switches**
- **Fault Indicators**
- **Capacitors**
- **Vaults**
- **Primary Conductor**
- **Line Fuses**
- **Reclosers**
- **OH/UG Transformers**
- **Switch and Fuse Cabinets/Enclosures**
- **Junction Boxes / Pedestals (secondary)**

h. How is asset age data tracked?

Asset age data is generally an attribute in the asset registry in the mainframe system. However, asset age data can sometimes be sparse as PacifiCorp's electric system significantly predates its system of record. Additionally, tracking ages of circuits can be challenging because, after a circuit is constructed, portions of the circuit may be replaced in a manner not consistent with the level of granularity in the asset registry (span vs section).

i. Identify all asset types for which age data is tracked?

Poles, substation equipment such as circuit breakers, transformers, relays, etc.

ii. If age data records are not available, what is the process for estimating asset age?

Generally, PacifiCorp will often use the age of nearby assets, if known, as proxy for the asset in questions. Additionally, PacifiCorp may investigate history of maintenance or inspection records or assume an average where appropriate.

2.2 Asset Data – General

i. Is asset health recorded in GIS data? If so, identify all asset types and classes (i.e. transmission or distribution) for which asset health is tracked.

No, the asset health index is really an excel/access based post-processing analysis which combines data from many sources which are also not GIS based data systems. It combines asset type/design information along with age, operational history, and financial impact to evaluate long tern investment plans.

i. For each asset type identified above explain how asset health is determined and how frequently it is updated.

Currently asset health is determined categorically to inform risk based spend as indicated in the company's risk based decision making framework.

ii. Do processes for assessing asset health differ for different asset types? If so, explain those differences. Not yet fully developed.
iii. What factors are considered? Not yet fully developed.
iv. What measurements are taken? Not yet fully developed.
v. How are these factors and measurements used to assess asset health? Not yet fully developed.
vi. What units of measure are used to evaluate asset health? Not yet fully developed.

Currently, factors considered were included in the company's risk based decision making framework and latest GRC. However, PacifiCorp is currently expanding to version 2.0 which will incorporate asset specific evaluation with location specific information. PacifiCorp is planning to incorporate where possible and applicable information such as design type, age, # of operations, # of faults experienced, maintenance history, circuit or substation location, etc. However, this framework, including identification of different datasets/systems, is currently underway and not yet completed.

2.3 Asset Data – Lines (i.e. conductors)

a. Is GIS line data consistently split or otherwise distinguished at all locations where lines convert between overhead and underground? i. What asset types are used to define the points at which line segments transition between overhead and underground?

Yes. GIS data differentiates between OH and UG as an attribute.

b. Are unique IDs assigned to line segments within the same circuit? No. If so, explain how this is done.

c. Is splice data tracked? If so, explain how this is done.

No. Splice data is not currently tracked in an electronic database.

i. What data attributes related to splices are tracked?

Not currently tracked in an electronic database.

ii. How is the data spatially represented (i.e. an attribute of line data, a point asset with unique ID, etc.)?

Not currently tracked in an electronic database.

d. Is connector data tracked? If so, explain how this is done.

No. Connector data is not currently tracked in an electronic database.

i. What data attributes related to splices are tracked?

Connector data is not currently tracked in an electronic database.

ii. How is the data spatially represented (i.e. an attribute of line data, a point asset with unique ID, etc.)?

Connector data is not currently tracked in an electronic database.

2.4 Asset Data – Points

a. Are assets and equipment defined separately in your GIS data or is equipment considered an asset type? Assets are uniquely defined in the asset registry and may be able to be associated to a specific location referenced in the GIS – GIS has a mapped locations for a subset of this information (facilities) and uses a location identifier, but not the asset identifier

i. If defined separately, explain what differentiates an asset from equipment and provide a list of all items considered to be equipment. See discussion on slide 8 and answers to 2.2 and 2.3

b. Are all electric customer meters geolocated to parcel polygons? No.

i. If not, are there plans for doing this? No.

ii. If planning to do this, what is the approach for accomplishing this effort?

iii. If planning to do this, what is the expected timeframe for completing this effort?

iv. If planning to do this, what is the status of this effort?

c. What data attributes are collected for wildfire cameras?

i. Is field-of-view analysis conducted for wildfire cameras? If so, explain how this is done. PacifiCorp hasn't placed wildfire cameras and no information about camera view-sheds in its service areas.

2.5 Outage Data

a. Which database format(s) (e.g. Esri geodatabases, Oracle, Access, etc.) is used to store and manage this data? Oracle

b. How is it structured (i.e. groupings, hierarchies, related tables, attributes collected, etc.)? PacifiCorp's outage reporting database (Prosper) uses a relational database which groups outages at a high level using an outage/restoration_stage/restoration detail model. Please see the "Incidents and Restorations" entity relationship diagram for more details

c. What is the current size and annual projected growth of this database? The real time OMS is approximately 46 gigabytes, growing at 2%/year, while the outage repository is approximately 175 gigabytes, growing at 9%/year.

d. Provide an extract, transform, load (ETL) workflow detailing the processes involved in data creation/input, transfer, storage, and report generation. Every outage from PacifiCorp's Distribution Outage Management System (NMDMS aka "CADOPS") is transferred to the outage reporting database upon completion. Data transfer is in near-real-time, with transfers approximately every 5 minutes. The data transfer method used is XML via Tibco middleware. Outage ETL to transition from the CADOPS data model into the Prosper model is done via custom Oracle software.

Once Distribution outages are transferred into the Prosper Operational Data Store, a limited group of business administration support personnel have authority to edit outages for accuracy and completeness of reporting information. The Prosper database has a complete set of audit trails and history to capture editing changes. Users with authority to edit outages are segregated by role, from users who have responsibility for reporting outage metrics.

Transmission outages are manually entered by System Operators directly into the Prosper database. Once an outage is completed, audit trails and editing processes are identical to those used for Distribution outages.

Reporting for the Prosper Operational Data Store is provided by SAP's Business Objects. Power Users also have the ability to perform ad-hoc queries.

See attached document PROSPER_ETL__2010.docx.

e. Provide an entity relationship diagram (ERD) for the data. Data models are attached to this submittal named Data Model for Subject Area Incidents and Restorations.docx and Data Model for Subject Area Yearly Base Data.docx.

f. What aspects of this data, if any, are considered confidential? Customer account information

g. Are outages on the distribution system tracked differently than those on the transmission system? If so, identify all differences and provide the information requested in 2.5a-2.5f for both outage classes. They are stored in the same database (as noted above, PROSPER) but transmission outages are compliant with NERC TADS DRI at https://www.nerc.com/pa/RAPA/tads/Training/TADS_Training_101.pdf

2.5 Outage Data Continued

h. Identify all supplemental investigations or reviews conducted for certain outage types (i.e. vegetation-caused outages, wire down events, near-ignition events, etc.)?

i. Provide all information requested in 2.5a-2.5f for each supplemental investigation or review identified.

ii. Are outage events (aka trouble call response) the only trigger for the identified supplemental investigations or reviews? Other "investigations" may be undertaken based on inspections or such and are separately discussed.

If not, identify all other manners in which an identified supplemental investigation or review is initiated.

Outage triggers shown at right.

i. Is the operation of expulsion fuses tracked? No

If so, provide the following: i. How is this done?

ii. Where is this information stored?

iii. What data attributes related to the event are tracked?

iv. Is expulsion fuse operation always associated with an outage?

Investigation Required	Type	Level	Description
False	Sustained	Device	2 Breaker or Line Recloser lockouts in one year
False	Sustained	Device	3 Breaker or Line Recloser lockouts in two years
False	Sustained	Device	4 Breaker or Line Recloser lockouts in three years
False	Sustained	Device	2 non-breaker or line relcoser outages in one year affecting at least 500 customers
False	Sustained	Device	3 non-breaker or line relcoser outages in two years affecting at least 500 customers
False	Sustained	Device	4 non-breaker or line relcoser outages in three years affecting at least 500 customers
False	Sustained	Circuit	4 non-breaker outages in one month (30 days)
False	Sustained	Device	3 non-breaker or line relcoser outages in one year affecting less than 500 customers
False	Sustained	Device	4 non-breaker or line relcoser outages in two years affecting less than 500 customers
False	Sustained	Device	5 non-breaker or line relcoser outages in three years affecting less than 500 customers
False	Sustained	Device	Any sustained Animal outage
False	Sustained	Device	Any sustained Interference outage
True	Sustained	Device	Any sustained Tree outage
False	Sustained	Circuit	2 or more sustained Loss of Supply outage in one year
False	Sustained	Device	Any primary underground outage (investigation required)
True	Sustained	Device	3 primary underground outage in one year
False	Sustained	Device	4 primary underground outage in two years
False	Sustained	Device	3 secondary underground outage in one year
False	Sustained	Device	4 secondary underground outage in two years
True	Sustained	Device	Any underground primary locking out Breaker or Line Recloser
True	Sustained	Device	Any outage with a hold on a Breaker or Line Recloser
False	CAIDI	Device	Call to Assign > 60 minutes affecting at least 150 customers
False	CAIDI	Device	Assign to Arrive > 60 minutes affecting at least 150 customers
False	Momentary	Device	8 outages in 6 months (183 days)
False	Momentary	Device	10 outages in 9 months (274 days)
False	Momentary	Device	10 outages in 12 months
False	Momentary	Device	12 outages in 12 months
False	Momentary	Device	15 outages in 24 months
False	Momentary	Device	20 outages in 24 months
False	Momentary	Device	25 outages in 36 months
False	Momentary	Device	Any momentary Animal outage
False	Momentary	Device	Any Momentary Interference outage
False	Momentary	Device	Any Momentary Tree outage
False	Sustained	Device	Any TripSaver Operation (pilot device)
True	CMI Overage	Device	CMI Overage at least 50,000 (CAIDI investigation required)

2.6 PSPS Data – Events

a. Which database format(s) (e.g. Esri geodatabases, Oracle, Access, etc.) is used to store and manage this data? The PSPS plans are stored in a combination of Word documents referencing Excel files for each PSPS area. The involved lines and elements are stored in ESRI, not referenced to parcels, but referenced to spans or modules, with relationship to affected transformers and customers.

b. How is this data spatially represented (i.e. points, lines, polygons)?

i. Can PSPS event line data be provided for specific line segments, if a PSPS event only impacts a portion of a circuit? If so, how are circuit segments identified? Circuit segments are identified by the module of the circuit, with a module being a controllable point of the circuit, involving one or more spans.

ii. What is the process for updating PSPS scoping polygons (i.e. areas that could potentially be impacted by a PSPS event) to reflect the actual areas impacted by the PSPS event? How long does this take? The process is similar to the manner in which switching orders are developed and carried out, with specific impact areas identified, an electrical trace performed to distinguish impacted equipment and customers and appropriate lists being prepared based upon that.

iii. Can you produce post-PSPS event polygons in accordance with the parcel boundaries impacted by the PSPS event? We can produce polygons that infer the impacted parcels, however there may be slight inaccuracies in such a representation. There will be precision to the impacted customers & their addresses.

c. How is it structured (i.e. groupings, hierarchies, related tables, attributes collected, etc.)?

i. How are shutoffs occurring at different times during a single PSPS event identified spatially (i.e. polygons representing each phase of event)? They are treated like switching operations with recording of the date/time and the affected customers.

d. What is the current size and annual projected growth of this database? The various documents are under 100 megabytes.

e. Provide an extract, transform, load (ETL) workflow detailing the processes involved in data creation/input, transfer, storage, and report generation. Not available.

f. Provide an entity relationship diagram (ERD) for the data. Not available.

g. What aspects of this data, if any, are considered confidential? Circuit equipment and customer account details.

2.7 PSPS Data – Damages

a. Which database format(s) (e.g. Esri geodatabases, Oracle, Access, etc.) is used to store and manage this data? No specific database has been used since no PSPS operations have occurred; the company intends to utilize a work observation system which stores in a database that can extract into spreadsheet structure (i.e. Excel).
b. How is it structured (i.e. groupings, hierarchies, related tables, attributes collected, etc.)? No detailed structure has yet been established.
c. What is the current size and annual projected growth of this database? n/a
d. Provide an extract, transform, load (ETL) workflow detailing the processes involved in data creation/input, transfer, storage, and report generation. n/a
e. Provide an entity relationship diagram (ERD) for the data. n/a
f. What aspects of this data, if any, are considered confidential? None have currently been identified.
g. Does the business process/protocol for collection of PSPS damage data require accompanying photographs? Not required but often available. The work observation system retains reference to photos.

2.8 Vegetation Inspection Data

a. Which database format(s) (e.g. Esri geodatabases, Oracle, Access, etc.) is used to store and manage this data? PVM is a web-based application (url) with backend Oracle database (18c).

b. b. How is it structured (i.e. groupings, hierarchies, related tables, attributes collected, etc.)? Related tables

c. What is the current size and annual projected growth of this database? Unknown growth, due to an expected replacement project as discussed previously..

d. Provide an extract, transform, load (ETL) workflow detailing the processes involved in data creation/input, transfer, storage, and report generation.

e. Provide an entity relationship diagram (ERD) for the data.

f. What aspects of this data, if any, are considered confidential? None.

g. Is an inventory of trees maintained? No

- i. What criteria is used to determine whether a tree is an inventory tree and needs to be tracked?
- ii. Are inventory trees assigned unique IDs?

h. How is vegetation inspection data spatially represented (i.e. points, lines, polygons)? PVM has no spatial data.

i. Identify all programs under which vegetation inspections take place.

- i. Identify all types of vegetation inspections performed. Vegetation inspections take place for cycle and interim maintenance, local and main grid transmission, fire patrols, pole clearing, & customer requests.

j. How are the results and findings of vegetation inspections scoped into vegetation treatment projects? Vegetation inspections are based on pre-determined specifications for vegetation treatment projects.

2.9 Vegetation Treatment Project Data

Treatment data is handled identical to inspection data, housed within the same system

a. Which database format(s) (e.g. Esri geodatabases, Oracle, Access, etc.) is used to store and manage this data?

b. How is it structured (i.e. groupings, hierarchies, related tables, attributes collected, etc.)?

c. What is the current size and annual projected growth of this database?

d. Provide an extract, transform, load (ETL) workflow detailing the processes involved in data creation/input, transfer, storage, and report generation.

e. Provide an entity relationship diagram (ERD) for the data.

f. What aspects of this data, if any, are considered confidential?

g. Are all vegetation treatment projects (i.e. trims, removals, brush clearance, etc.) related to vegetation inspections? Yes

i. If not, identify all other business practices/operations that trigger the initiation of vegetation projects and explain the process by which a vegetation treatment project is created for each identified business practice/operation.

h. Are before and after photographs required for grid hardening projects? If so, identify the types of grid hardening projects that pictures are required for. No

2.10 Asset Inspection Data

a. Which database format(s) (e.g. Esri geodatabases, Oracle, Access, etc.) is used to store and manage this data?

PacifiCorp uses a range of databases to store information associated with asset inspections. Examples are below.

Database / Source	Permanent Storage of Asset Information	Tool to Facilitate Work	Description
Inspection Applications		X	Mix of in-house and external applications that translate the excel based work plans into mobile applications to facilitate planning and completion of inspection work
Work Plans		X	Excel / Access based tools created from GISMO/FPI data extracts to identify and determine annual inspection requirements
GISMO		X	Inspection Planning Tool Stores Operational Notes and Updates; Extracts data from FPI to group and determine inspection plans;
Facility Point Inspection (FPI)	X		Module of the mainframe system with customized screens; Main interface and storage of Inspection and Correction records; Additional operational / asset notes can also be stored here
SAP	X		Existence of assets within substations; Inspection and Work Plans; Financial Accounting
Mainframe	X		Existing of assets, asset attributes (i.e. WOOD pole) Leverages “SMART” numbering system to identify facilities

Location data lives within GIS. The asset registry lives within a mainframe system, while inspection groupiongs and schedules are located within GISMO and records are located within FPI.

2.10 Asset Inspection Data

b. How is it structured (i.e. groupings, hierarchies, related tables, attributes collected, etc.)?

- Each database/tool which stores asset inspection data is structure differently
- Location data lives within GIS may be referenced in FPI if lat/long were separately captured during inspection
- See sample FPI inspection record data extract" below (including asset registry data incorporated)

FACILITY POINT NAME *(Unique location)*	**Type** *(Disttibution or Transmission)*	**OH_UG** *(Overhead or Underground Distribution Facility)*	**INSPECTION_DATE**	**INSPECTOR** *(Interpreted for Consistency)*	**INSPECTION_TYPE**	**LATITUDE**	**LONGITUDE**
01216001.0214480-A	DISTRIBUTION	UNDERGROUND	1/25/2019	JOHN DOE	SAFETY	XX.XXXXXXXX	-YYY.YYYYYYY
01216001.0214480-A	DISTRIBUTION	UNDERGROUND	2/5/2019	JOHN DOE	DETAIL	XX.XXXXXXXX	-YYY.YYYYYYY
01216001.0214480-A	DISTRIBUTION	UNDERGROUND	9/23/2019	JOHN DOE	SAFETY	XX.XXXXXXXX	-YYY.YYYYYYY
01216001.0214480-A	DISTRIBUTION	UNDERGROUND	1/25/2019	JOHN DOE	SAFETY	XX.XXXXXXXX	-YYY.YYYYYYY
01216001.0214480-A	DISTRIBUTION	UNDERGROUND	2/5/2019	JOHN DOE	DETAIL	XX.XXXXXXXX	-YYY.YYYYYYY
01216001.0214480-A	DISTRIBUTION	UNDERGROUND	9/23/2019	JOHN DOE	SAFETY	XX.XXXXXXXX	-YYY.YYYYYYY
01216001.0214425-A	DISTRIBUTION	OVERHEAD	8/22/2019	JOHN DOE	SAFETY	XX.XXXXXXXX	-YYY.YYYYYYY
01216001.0214425-A	DISTRIBUTION	OVERHEAD	8/22/2019	JOHN DOE	PTT	XX.XXXXXXXX	-YYY.YYYYYYY
01216001.0214425-A	DISTRIBUTION	OVERHEAD	8/22/2019	JOHN DOE	SAFETY	XX.XXXXXXXX	-YYY.YYYYYYY

NOTE: Sample information is generic and not actual asset or inspection record data – this is a representation of how the data looks

2.10 Asset Inspection Data

c. What is the current size and annual projected growth of this database? Unknown

d. Provide an extract, transform, load (ETL) workflow detailing the processes involved in data creation/input, transfer, storage, and report generation. See Slides 8 and 14.

e. Provide an entity relationship diagram (ERD) for the data. See Slides 8 and 14.

f. What aspects of this data, if any, are considered confidential?
Generally speaking, data that describes the location and presence of an asset is not confidential as this information can be acquired through means such as google Earth or simply walking around. However, once this data turns into sets of data that describe systems, including indication of connectivity or specific attributes such as operating voltage, type of asset such as a recloser, material specification or age, the data becomes confidential. The confidentiality is in place to protect the physical security of the grid and system from malicious cyber **or** physical attacks.

2.10 Asset Inspection Data

g. How is asset inspection data spatially represented (i.e. points, lines, polygons)?

Asset inspection data is stored in the form of completed records saved into FPI, a mainframe type system, or SAP. This data is not spatially retained; it is sometimes represented spatially when joined between the mainframe system data into the geospatial environment.

i. Does this differ for different types of inspections? If so, explain.

No. All inspection types are stored in the same manner depending on the type of asset.

h. Identify all programs under which asset inspections take place.

i. Identify all types of asset inspections performed.

SAFETY, DETAIL, and Intrusive Testing of OH/UG facilities
Substation Inspections (which include inspecting equipment inside the fence)
IR Inspections (Pilot program)
LiDAR Inspections (pilot program)

ii. Are the asset inspection types identified above inclusive of all asset inspections discussed in the electrical corporation's 2020 WMP? If not, identify any such asset inspection types.

Yes.

2.10 Asset Inspection Data

i. Are evaluations of pole loading considered asset inspections?

Indirectly. When intrusive testing is performed on poles, the remaining strength is evaluated. Once the remaining strength is measured at levels that not longer maintain appropriate safety factors, the pole is flagged for corrective work to restore sufficient strength. While not specifically a pole loading calculation, this reflects a calculation of remaining strength which can be used as a proxy to identify whether the pole can adequate maintain the existing load consistent with how and when the structure was installed.

i. If not, why, and how is this data tracked?

Tracked inherent to the intrusive testing program.

ii. If so, is data collected or produced from pole loading assessments incorporated into an asset inspection database? Identify the databases.

This activity is performed by an outside contractor. The detailed results are stored in an external database. The results and recommended action, which is indicative of those that do not pass, are stored internally in PacifiCorp's Facility Point Inspection (FPI) database in the form of corrective work records.

2.11 Grid Hardening Project Data

a. Which database format(s) (e.g. Esri geodatabases, Oracle, Access, etc.) is used to store and manage this data? Until work is mapped into the company's GIS, the work management process is adhered to. Work is estimated in a relational database, completed into that system to record assets. Thereafter it is updated in the GIS. WMP capital projects are also separately tracked in spreadsheets and Word documents to augment details re scope and other elements not retained initially in the work management system.

b. How is it structured (i.e. groupings, hierarchies, related tables, attributes collected, etc.)? Various.

c. What is the current size and annual projected growth of this database? n/a

d. Provide an extract, transform, load (ETL) workflow detailing the processes involved in data creation/input, transfer, storage, and report generation. n/a

e. Provide an entity relationship diagram (ERD) for the data. n/a

f. What aspects of this data, if any, are considered confidential? Electrical equipment and costs if still in competitive bid states.

g. How is the status of a grid hardening project determined and measured (i.e. percent complete)? Generalized status, I.e. scoping, design, estimating, construction, complete

h. Are before and after photographs required for grid hardening projects? If so, identify the types of grid hardening projects that pictures are required for. Not required but generally available.

2.12 Weather & Model Data

a. Which database format(s) (e.g. Esri geodatabases, Oracle, Access, etc.) is used to store and manage data collected from weather stations?

i. How is it structured (i.e. groupings, hierarchies, related tables, attributes collected, etc.)? Data is stored in a variety of ways, none of them geospatial.

ii. Provide an extract, transform, load (ETL) workflow detailing the processes involved in weather data creation/input, transfer, storage, and report generation. n/a

b. Identify all proprietary models and indices (e.g. fire potential index, outage producing winds, etc.) which leverage or rely on weather data. See slide 16.

i. For each model/index identified, indicate whether the model/index relies on measured or modeled weather data. All are measured values.

ii. For each identified model/index, explain how outputs are produced, grouped/categorized, and leveraged for operational decision-making. Thresholds are statistically determined, and produced for daily comparison of current and upcoming forecasts, and if thresholds are (forecast to be) met, result in PSPS consideration.

c. Provide an explanation of how the 2020 WMP Guideline parameter of RFW-Circuit mile days was calculated in the electrical corporation's 2020 WMP. See slide 16.