VERIFICATION

I am an officer of the applicant corporation herein, and am authorized to make this verification on its behalf. The responses in the attached survey are true of my own knowledge.

I declare that the foregoing is true and correct.

Executed on the 10th day of February, 2020 at San Dimas, California



Keith Switzer
Vice President, Regulatory Affairs
Golden State Water Company
630 East Foothill Blvd
San Dimas, California 91773
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Verification for the Utility Wildfire Mitigation Maturity Survey

Utilities shall complete the following verification, attached to a PDF of their electronic survey responses, following completion of the electronic survey. This document will be shared with the utilities for completion within one business day of completing the electronic survey.

Complete the following verification for the Utility Wildfire Mitigation Maturity Survey submission:

(See Rule 1.11)
(Where Applicant is a Corporation)

I am an officer of the applicant corporation herein, and am authorized to make this verification on its behalf. The responses in the attached survey are true of my own knowledge.

I declare that the foregoing is true and correct.

Executed on _____ at _____, California.
(Date) (Name of city)

_____
(Signature and Title of Corporate Officer)

Utility Wildfire Mitigation Maturity Survey – January 2020

[utility] Utility Bear Valley Electric Service
[CONTACT] -Contact Info-

- [CONTACT.r1] Utility Name Bear Valley Electric Service
- [CONTACT.r2] Name Marc Stern
- [CONTACT.r3] Email Address marc.stern@bves.com
- [CONTACT.r4] Phone Number 9092538966

[Q.A.Ia] How sophisticated is utility's ability to estimate the risk of weather scenarios?
Clarification: Determining wildfire risk requires the utility to understand the probability of ignition and the consequences of such an ignition while taking various conditions into account (e.g., weather, fuel levels, etc.). Categorizing level of risk requires a set of calculations and judgements to group areas by wildfire risk level whereas quantitatively estimating risk refers to accurately quantifying risk on a continuous spectrum based on a host of wildfire risk drivers (e.g., as a function of ignition probability, propagation scenarios, and communities located in the propagation path).

- [Q.A.Ia.r1] Today ii. Wildfire risk can be reliably determined based on weather and its impacts
- [Q.A.Ia.r2] 3 years from now (by end of year 2022) iii. Weather scenarios can be reliably categorized by level of risk

[Q.A.Ib] How are scenarios assessed?
Clarification: Per the instructions, please only indicate that you meet a given response option if you meet all the characteristics described within that response option). So, hypothetically, if you do support your scenarios assessment by historical data of incidents and near misses and conduct internal assessments, but don't have an independent expert assessment, you would select (ii).

- [Q.A.Ib.r1] Today ii. Independent expert assessment
- [Q.A.Ib.r2] 3 years from now (by end of year 2022) iii. Independent expert assessment, supported by historical data of incidents and near misses

[Q.A.Ic] How granular is utility's ability to model scenarios?

- [Q.A.Ic.r1] Today ii. Regional
- [Q.A.Ic.r2] 3 years from now (by end of year 2022) ii. Regional

[Q.A.Id] How automated is the tool?
Clarification: For clarification on level of automation please refer to the 'level of systematization and automation' in Table 2 of the Maturity Model. (i) in this case corresponds to level 0; (ii) corresponds to level 1 or 2; (iii) corresponds to level 3; and (iv) corresponds to level 4

- [Q.A.Id.r1] Today ii. Partially (<50%)
- [Q.A.Id.r2] 3 years from now (by end of year 2022) iii. Mostly (>=50%)

[Q.A.Ie] What additional information is used to estimate model weather scenarios and their risk?

- [Q.A.Ie.r1] Today ii. Weather, how weather effects failure modes and propagation
- [Q.A.Ie.r2] 3 years from now (by end of year 2022) iii. Weather, how weather effects failure modes and propagation, existing hardware

[Q.A.If] To what extent is future change in climate taken into account for future risk estimation?

- [Q.A.If.r1] Today ii. Future risk estimates take into account generally higher risk across entire service territory due to changing climate
- [Q.A.If.r2] 3 years from now (by end of year 2022) iii. Basic temperature modeling used to estimate effects of a changing climate on future weather and risk, taking into account difference in

geography and vegetation

[Q.A.IIa] How is ignition risk calculated?

- [Q.A.IIa.r1] Today ii. Tools and processes can reliably categorize the risk of ignition across the grid into at least two categories based on characteristics and condition of lines, equipment, surrounding vegetation, and localized weather patterns
- [Q.A.IIa.r2] 3 years from now (by end of year 2022) iii. Tools and processes can quantitatively and accurately assess the risk of ignition across the grid based on characteristics and condition of lines, equipment, surrounding vegetation, and localized weather patterns

[Q.A.IIb] How automated is the ignition risk calculation tool?

Clarification: For clarification on level of automation please refer to the 'level of systematization and automation' in Table 2 of the Maturity Model. (i) in this case corresponds to level 0; (ii) corresponds to level 1 or 2; (iii) corresponds to level 3; and (iv) corresponds to level 4

- [Q.A.IIb.r1] Today ii. Partially (<50%)
- [Q.A.IIb.r2] 3 years from now (by end of year 2022) iii. Mostly (>=50%)

[Q.A.IIc] How granular is the tool?

- [Q.A.IIc.r1] Today ii. Regional
- [Q.A.IIc.r2] 3 years from now (by end of year 2022) ii. Regional

[Q.A.IId.r1] Today - How is risk assessment confirmed? Select all that apply.

- [Q.A.IIdr1c2] ii. By historical data (yes)

[Q.A.IId.r2] 3 years from now (by end of year 2022) - How is risk assessment confirmed? Select all that apply.

- [Q.A.IIdr2c3] iii. Through real-time learning (yes)

[Q.A.IIe] What confidence interval, in percent, does the utility use in its wildfire risk assessments?

- [Q.A.IIe.r1] Today ii. >80%
- [Q.A.IIe.r2] 3 years from now (by end of year 2022) iii. >90%

[Q.A.IIIa] How is estimated consequence of ignition relayed?

- [Q.A.IIIa.r1] Today ii. Ignition events categorized as low or high risk to communities
- [Q.A.IIIa.r2] 3 years from now (by end of year 2022) iii. Ignition events categorized with 5 or more levels of risk to communities

[Q.A.IIIb] What metrics are used to estimate the consequence of ignition risk?

- [Q.A.IIIb.r1] Today ii. As a function of at least potential fatalities, and one or both of structures burned, or area burned
- [Q.A.IIIb.r2] 3 years from now (by end of year 2022) iii. As a function of at least potential fatalities, structures burned, area burned, monetary damages, impact on air quality, and impact on GHG reduction goals

[Q.A.IIIc] Is the ignition risk impact analysis available for all seasons?

- [Q.A.IIIc.r1] Today i. No
- [Q.A.IIIc.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.A.IIId] How automated is the ignition risk estimation process?

Clarification: For clarification on level of automation please refer to the 'level of systematization and automation' in Table 2 of the Maturity Model. (i) in this case corresponds to level 0; (ii) corresponds to level 1 or 2; (iii) corresponds to level 3; and (iv) corresponds to level 4

- [Q.A.IIId.r1] Today i. Not automated
- [Q.A.IIId.r2] 3 years from now (by end of year 2022) ii. Partially (<50%)

[Q.A.IIIe] How granular is the ignition risk estimation process?
- [Q.A.IIIe.r1] Today ii. Regional
- [Q.A.IIIe.r2] 3 years from now (by end of year 2022) ii. Regional

[Q.A.IIIf] How are the outputs of the ignition risk impact assessment tool evaluated?
- [Q.A.IIIf.r1] Today ii. Outputs independently assessed by experts
- [Q.A.IIIf.r2] 3 years from now (by end of year 2022) iii. Outputs independently assessed by experts and confirmed by historical data

[Q.A.IIIg] What other inputs are used to estimate impact?
- [Q.A.IIIg.r1] Today ii. Level and conditions of vegetation and weather, including the vegetation specifies immediately surrounding the ignition site
- [Q.A.IIIg.r2] 3 years from now (by end of year 2022) iii. Level and conditions of vegetation and weather, including the vegetation specifies immediately surrounding the ignition site and up-to-date moisture content, local weather patterns

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[Q.A.IVa] How is risk reduction impact estimated?
- [Q.A.IVa.r1] Today iii. Approach reliably estimates risk reduction potential of initiatives on an interval scale (e.g. specific quantitative units)
- [Q.A.IVa.r2] 3 years from now (by end of year 2022) iv. Approach reliably estimates risk reduction potential of initiatives on an interval scale (e.g. specific quantitative units) with a quantitative confidence interval

[Q.A.IVb] How automated is your ignition risk reduction impact assessment tool?
Clarification: For clarification on level of automation please refer to the 'level of systematization and automation' in Table 2 of the Maturity Model. (i) in this case corresponds to level 0; (ii) corresponds to level 1 or 2; (iii) corresponds to level 3; and (iv) corresponds to level 4
- [Q.A.IVb.r1] Today i. Not automated
- [Q.A.IVb.r2] 3 years from now (by end of year 2022) ii. Partially (<50%)

[Q.A.IVc] How granular is the ignition risk reduction impact assessment tool?
- [Q.A.IVc.r1] Today ii. Regional
- [Q.A.IVc.r2] 3 years from now (by end of year 2022) ii. Regional

[Q.A.IVd] How are ignition risk reduction impact assessment tool estimates assessed?
- [Q.A.IVd.r1] Today ii. With evidence and logical reasoning
- [Q.A.IVd.r2] 3 years from now (by end of year 2022) iii. Independent expert assessment

[Q.A.IVe] What additional information is used to estimate risk reduction impact?
- [Q.A.IVe.r1] Today v. Existing hardware type and condition, including operating history; level and condition of vegetation; weather; and combination of initiatives already deployed
- [Q.A.IVe.r2] 3 years from now (by end of year 2022) v. Existing hardware type and condition, including operating history; level and condition of vegetation; weather; and combination of initiatives already deployed

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[Q.A.Va] What is the protocol to update risk mapping algorithms?
- [Q.A.Va.r1] Today i. No defined process for updating risk mapping algorithms

- [Q.A.Va.r2] 3 years from now (by end of year 2022) ii. Risk mapping algorithms updated based on detected deviations of risk model to ignitions and propagation

[Q.A.Vb] How automated is the mechanism to determine whether to update algorithms based on deviations?
Clarification: For clarification on level of automation please refer to the 'level of systematization and automation' in Table 2 of the Maturity Model. (i) in this case corresponds to level 0; (ii) corresponds to level 1 or 2; (iii) corresponds to level 3; and (iv) corresponds to level 4
- [Q.A.Vb.r1] Today i. Not automated
- [Q.A.Vb.r2] 3 years from now (by end of year 2022) ii. Partially (<50%)

[Q.A.Vc] How are deviations from risk model to ignitions and propagation detected?
- [Q.A.Vc.r1] Today ii. Manually
- [Q.A.Vc.r2] 3 years from now (by end of year 2022) iii. Semi-automated process

[Q.A.Vd] How are decisions to update algorithms evaluated?
- [Q.A.Vd.r1] Today ii. Independently evaluated by experts
- [Q.A.Vd.r2] 3 years from now (by end of year 2022) iii. Independently evaluated by experts and historical data

[Q.A.Ve] What other data is used to make decisions on whether to update algorithms?
- [Q.A.Ve.r1] Today ii. Current and historic ignition and propagation data
- [Q.A.Ve.r2] 3 years from now (by end of year 2022) iii. Current and historic ignition and propagation data; near-miss data

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[Q.B.Ia] What weather data is currently collected?
- [Q.B.Ia.r1] Today iii. Range of accurate weather variables (e.g. humidity, precipitation, surface and atmospheric wind conditions) that impact probability of ignition and propagation from utility assets
- [Q.B.Ia.r2] 3 years from now (by end of year 2022) iv. Range of accurate weather variables that impact probability of ignition and propagation from utility assets; additional data to measure physical impact of weather on grid collected (e.g., sway in lines, sway in vegetation)

[Q.B.Ib] How are measurements validated?
- [Q.B.Ib.r1] Today ii. Manual field calibration measurements
- [Q.B.Ib.r2] 3 years from now (by end of year 2022) iii. Automatic field calibration measurements

[Q.B.Ic] Are elements that cannot be reliably measured in real time being predicted (e.g., fuel moisture content)?
- [Q.B.Ic.r1] Today ii. Yes
- [Q.B.Ic.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.B.Id] How many sources are being used to provide data on weather metrics being collected?
- [Q.B.Id.r1] Today iii. More than one
- [Q.B.Id.r2] 3 years from now (by end of year 2022) iii. More than one

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[Q.B.IIa] How granular is the weather data that is collected?
- [Q.B.IIa.r1] Today iii. Weather data has sufficient granularity to reliably measure weather conditions in HFTD areas, and along the entire grid and in all areas needed to predict weather on the grid
- [Q.B.IIa.r2] 3 years from now (by end of year 2022) iv. Weather data has sufficient granularity to reliably measure weather conditions in HFTD areas, and along the entire grid and in all areas

needed to predict weather on the grid. Also includes wind estimations at various atmospheric altitudes relevant to ignition risk

[Q.B.IIb] How frequently is data gathered?

- [Q.B.IIb.r1] Today iii. At least four times per hour
- [Q.B.IIb.r2] 3 years from now (by end of year 2022) iv. At least six times per hour

[Q.B.IIc] How granular is the tool?

- [Q.B.IIc.r1] Today ii. Regional
- [Q.B.IIc.r2] 3 years from now (by end of year 2022) ii. Regional

[Q.B.IId] How automated is the process to measure weather conditions?

Clarification: For clarification on level of automation please refer to the 'level of systematization and automation' in Table 2 of the Maturity Model. (i) in this case corresponds to level 0; (ii) corresponds to level 1 or 2; (iii) corresponds to level 3; and (iv) corresponds to level 4

- [Q.B.IId.r1] Today ii. Partially (<50%)
- [Q.B.IId.r2] 3 years from now (by end of year 2022) iii. Mostly (>=50%)

[Q.B.IIIa] How sophisticated is the utility's weather forecasting capability?

- [Q.B.IIIa.r1] Today ii. Utility has independent weather forecasting ability sufficiently accurate to fulfill PSPS requirements
- [Q.B.IIIa.r2] 3 years from now (by end of year 2022) iii. Utility has the ability to use a combination of accurate weather stations and external weather data to make accurate forecasts

[Q.B.IIIb] How far in advance can accurate forecasts be prepared?

- [Q.B.IIIb.r1] Today ii. At least two weeks in advance
- [Q.B.IIIb.r2] 3 years from now (by end of year 2022) iii. At least three weeks in advance

[Q.B.IIIc] At what level of granularity can forecasts be prepared?

- [Q.B.IIIc.r1] Today ii. Regional
- [Q.B.IIIc.r2] 3 years from now (by end of year 2022) ii. Regional

[Q.B.IIId] How are results error-checked?

- [Q.B.IIId.r1] Today ii. Results are error checked against historical weather patterns
- [Q.B.IIId.r2] 3 years from now (by end of year 2022) iii. Criteria for option (ii) met, and forecasted results are subsequently error checked against measured weather data

[Q.B.IIIe] How automated is the forecast process?

Clarification: For clarification on level of automation please refer to the 'level of systematization and automation' in Table 2 of the Maturity Model. (i) in this case corresponds to level 0; (ii) corresponds to level 1 or 2; (iii) corresponds to level 3; and (iv) corresponds to level 4

- [Q.B.IIIe.r1] Today ii. Partially (<50%)
- [Q.B.IIIe.r2] 3 years from now (by end of year 2022) iii. Mostly (>=50%)

[Q.B.IVa] What source does the utility use for weather data?

- [Q.B.IVa.r1] Today iv. Utility uses a combination of accurate weather stations and external weather data, and elects to use the data set, as a whole or in composite, that is most accurate
- [Q.B.IVa.r2] 3 years from now (by end of year 2022) iv. Utility uses a combination of accurate weather stations and external weather data, and elects to use the data set, as a whole or in composite, that is most accurate

[Q.B.IVb] How is weather station data checked for errors?

- [Q.B.IVb.r1] Today ii. Mostly manual processes for error checking weather stations with external data sources
- [Q.B.IVb.r2] 3 years from now (by end of year 2022) iii. Mostly automated processes for error checking weather stations with external data sources

[Q.B.IVc] For what is weather data used?

- [Q.B.IVc.r1] Today i. Weather data is used to make decisions
- [Q.B.IVc.r2] 3 years from now (by end of year 2022) iii. Weather data is used to create a single visual and configurable live map that can be used to help make decisions

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[Q.B.Va] Are there well-defined procedures for detecting ignitions along the grid?

- [Q.B.Va.r1] Today ii. Yes
- [Q.B.Va.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.B.Vb] What equipment is used to detect ignitions?

- [Q.B.Vb.r1] Today i. No consistent set of equipment for detecting ignitions along grid
- [Q.B.Vb.r2] 3 years from now (by end of year 2022) iii. Well-defined equipment for detecting ignitions along grid, including remote detection equipment including cameras

[Q.B.Vc] How is information on detected ignitions reported?

- [Q.B.Vc.r1] Today iii. Procedure exists for notifying suppression forces and key stakeholders
- [Q.B.Vc.r2] 3 years from now (by end of year 2022) iv. Procedure automatically, accurately, and in real time notifies suppression forces and key stakeholders

[Q.B.Vd] What role does ignition detection software play in wildfire detection?

- [Q.B.Vd.r1] Today i. Ignition detection software not currently deployed
- [Q.B.Vd.r2] 3 years from now (by end of year 2022) iii. Ignition detection software in cameras operates automatically as part of ignition detection procedures

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[Q.C.Ia] How are wildfire risk reduction initiatives prioritized?

- [Q.C.Ia.r1] Today iv. Plan prioritizes wildfire risk reduction initiatives at the span level based on i) risk modeling driven by local geography and climate/weather conditions, fuel loads and moisture content and topography ii) detailed wildfire and PSPS risk simulations across individual circuits
- [Q.C.Ia.r2] 3 years from now (by end of year 2022) v. Plan prioritizes wildfire risk reduction initiatives at the asset level based on i) risk modeling driven by local geography and climate/weather conditions, fuel loads and moisture content and topography ii) risk estimates across individual circuits, including estimates of actual consequence, and iii) taking power delivery uptime into account (e.g. reliability, PSPS, etc.)

[Q.C.IIa] Does grid design meet minimum G095 requirements and loading standards in HFTD areas?

- [Q.C.IIa.r1] Today ii. Yes
- [Q.C.IIa.r2] 3 years from now (by end of year 2022) iii. Grid topology exceeds design requirements, designed based on accurate understanding of drivers of utility ignition risk

[Q.C.IIb] Does the utility provide micro grids or islanding where traditional grid infrastructure is impracticable and wildfire risk is high?

- [Q.C.IIb.r1] Today i. No
- [Q.C.IIb.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.C.IIc] Does routing of new portions of the grid take wildfire risk into account?

- [Q.C.IIc.r1] Today i. Yes
- [Q.C.IIc.r2] 3 years from now (by end of year 2022) i. Yes

[Q.C.IId] Are efforts made to incorporate the latest asset management strategies and new technologies into grid topology?

- [Q.C.IId.r1] Today ii. Yes, some effort made in HFTD areas
- [Q.C.IId.r2] 3 years from now (by end of year 2022) iii. Yes, across the entire service area

---

[Q.C.IIIa] What level of redundancy does the utility's transmission architecture have?

- [Q.C.IIIa.r1] Today ii. n-1 redundancy for all circuits subject to PSPS
- [Q.C.IIIa.r2] 3 years from now (by end of year 2022) ii. n-1 redundancy for all circuits subject to PSPS

[Q.C.IIIb] What level of redundancy does the utility's distribution architecture have?

- [Q.C.IIIb.r1] Today iii. n-1 redundancy covering at least 70% of customers in HFTD
- [Q.C.IIIb.r2] 3 years from now (by end of year 2022) iv. n-1 redundancy covering at least 85% of customers in HFTD

[Q.C.IIIc] What level of sectionalization does the utility's distribution architecture have?

- [Q.C.IIIc.r1] Today iv. Switches in HFTD areas to individually isolate circuits, such that no more than 1000 customers sit within one switch
- [Q.C.IIIc.r2] 3 years from now (by end of year 2022) v. Switches in HFTD areas to individually isolate circuits, such that no more than 200 customers sit within one switch

[Q.C.IIId] How does the utility consider egress points in its grid topology?

- [Q.C.IIId.r1] Today ii. Egress points used as an input for grid topology design
- [Q.C.IIId.r2] 3 years from now (by end of year 2022) iii. Egress points available and mapped for each customer, with potential traffic mapped based on traffic simulation and taken into consideration for grid topology design

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[Q.C.IVa] Does the utility have an understanding of the risk spend efficiency of hardening initiatives? Clarification: 'Hardening initiatives' refers to all initiatives implemented by utility or by other utilities in California

- [Q.C.IVa.r1] Today ii. Utility has an accurate understanding of the relative cost and effectiveness of different initiatives
- [Q.C.IVa.r2] 3 years from now (by end of year 2022) iii. Utility has an accurate understanding of the relative cost and effectiveness of different initiatives, tailored to the circumstances of different locations on its grid

[Q.C.IVb] At what level can estimates be prepared?

- [Q.C.IVb.r1] Today iii. Circuit-based
- [Q.C.IVb.r2] 3 years from now (by end of year 2022) iv. Span-based

[Q.C.IVc] How frequently are estimates updated?

- [Q.C.IVc.r1] Today iii. Annually or more frequently
- [Q.C.IVc.r2] 3 years from now (by end of year 2022) iii. Annually or more frequently

[Q.C.IVd] What grid hardening initiatives does the utility include within its evaluation? Clarification: 'All Hardening initiatives' refers to all initiatives implemented by utility or by other utilities in California

- [Q.C.IVd.r1] Today iv. All

- [Q.C.IVd.r2] 3 years from now (by end of year 2022) v. All, supported by independent testing

[Q.C.IVe] Can the utility evaluate risk reduction synergies from combination of various initiatives?
- [Q.C.IVe.r1] Today ii. Yes
- [Q.C.IVe.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.C.Va] How are new hardening solution initiatives evaluated?
- [Q.C.Va.r1] Today ii. New initiatives evaluated based on installation into grid and measuring direct reduction in ignition events
- [Q.C.Va.r2] 3 years from now (by end of year 2022) iii. New initiatives evaluated based on installation into grid and measuring direct reduction in ignition events, and measuring reduction impact on near-miss metrics

[Q.C.Vb] Are results of pilot and commercial deployments, including project performance, project cost, geography, climate, vegetation etc. shared in sufficient detail to inform decision making at other utilities?
- [Q.C.Vb.r1] Today ii. Yes, with a limited set of partners
- [Q.C.Vb.r2] 3 years from now (by end of year 2022) iii. Yes, extensively with industry, academia, and other utilities

[Q.C.Vc] Is performance of new initiatives independently audited?
- [Q.C.Vc.r1] Today i. No
- [Q.C.Vc.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.D.Ia] What information is captured in the equipment inventory database?
- [Q.D.Ia.r1] Today iii. There is an accurate inventory of equipment that may contribute to wildfire risk, including age, state of wear, and expected lifecycle, including records of all inspections and repairs
- [Q.D.Ia.r2] 3 years from now (by end of year 2022) iv. There is an accurate inventory of equipment that may contribute to wildfire risk, including age, state of wear, and expected lifecycle, including records of all inspections and repairs and up-to-date work plans on expected future repairs and replacements

[Q.D.Ib] How frequently is the condition assessment updated?
- [Q.D.Ib.r1] Today ii. Annually
- [Q.D.Ib.r2] 3 years from now (by end of year 2022) iii. Quarterly

[Q.D.Ic] Does all equipment in HFTD areas have the ability to detect and respond to malfunctions?
- [Q.D.Ic.r1] Today ii. A system and approach are in place to reliably detect incipient malfunctions likely to cause ignition
- [Q.D.Ic.r2] 3 years from now (by end of year 2022) iii. Sensorized, continuous monitoring equipment is in place to determine the state of equipment and reliably detect incipient malfunctions likely to cause ignition

[Q.D.Id] How granular is the inventory?
- [Q.D.Id.r1] Today iii. At the asset level
- [Q.D.Id.r2] 3 years from now (by end of year 2022) iii. At the asset level

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[Q.D.IIa] How frequent are your patrol inspections?
- [Q.D.IIa.r1] Today iii. Above minimum regulatory requirements, with more frequent inspections for highest risk equipment

- [Q.D.IIa.r2] 3 years from now (by end of year 2022) iii. Above minimum regulatory requirements, with more frequent inspections for highest risk equipment

[Q.D.IIb] How are patrol inspections scheduled?
- [Q.D.IIb.r1] Today i. Based on annual or periodic schedules
- [Q.D.IIb.r2] 3 years from now (by end of year 2022) iii. Risk, as determined by predictive modeling of equipment failure probability and risk causing ignition

[Q.D.IIc] What are the inputs to scheduling patrol inspections?
- [Q.D.IIc.r1] Today i. At least annually updated or verified static maps of equipment and environment
- [Q.D.IIc.r2] 3 years from now (by end of year 2022) ii. Predictive modeling of equipment failure probability and risk

[Q.D.IId] How frequent are detailed inspections?
- [Q.D.IId.r1] Today ii. Consistent with minimum regulatory requirements
- [Q.D.IId.r2] 3 years from now (by end of year 2022) iii. Above minimum regulatory requirements, with more frequent inspections for highest risk equipment

[Q.D.IIe] How are detailed inspections scheduled?
- [Q.D.IIe.r1] Today i. Based on annual or periodic schedules
- [Q.D.IIe.r2] 3 years from now (by end of year 2022) iii. Risk, as determined by predictive modeling of equipment failure probability and risk causing ignition

[Q.D.IIf] What are the inputs to scheduling detailed inspections?
- [Q.D.IIf.r1] Today i. At least annually updated or verified static maps of equipment and environment
- [Q.D.IIf.r2] 3 years from now (by end of year 2022) ii. Predictive modeling of equipment failure probability and risk

[Q.D.IIg] How frequent are your other inspections?
- [Q.D.IIg.r1] Today iii. Above minimum regulatory requirements, with more frequent inspections for highest risk equipment
- [Q.D.IIg.r2] 3 years from now (by end of year 2022) iii. Above minimum regulatory requirements, with more frequent inspections for highest risk equipment

[Q.D.IIh] How are other inspections scheduled?
- [Q.D.IIh.r1] Today i. Based on annual or periodic schedules
- [Q.D.IIh.r2] 3 years from now (by end of year 2022) iii. Risk, as determined by predictive modeling of equipment failure probability and risk causing ignition

[Q.D.IIi] What are the inputs to scheduling other inspections?
- [Q.D.IIi.r1] Today i. At least annually updated or verified static maps of equipment and environment
- [Q.D.IIi.r2] 3 years from now (by end of year 2022) ii. Predictive modeling of equipment failure probability and risk

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[Q.D.IIIa] What items are captured within inspection procedures and checklists?
- [Q.D.IIIa.r1] Today ii. Patrol, detailed, enhanced, and other inspection procedures and checklists include all items required by statute and regulations
- [Q.D.IIIa.r2] 3 years from now (by end of year 2022) iii. Patrol, detailed, enhanced, and other inspection procedures and checklists include all items required by statute and regulations, and

includes lines and equipment typically responsible for ignitions and near misses

[Q.D.IIIb] How are procedures and checklists determined?

- [Q.D.IIIb.r1] Today i. Based on statute and regulatory guidelines only
- [Q.D.IIIb.r2] 3 years from now (by end of year 2022) ii. Based on predictive modeling based on vegetation and equipment type, age, and condition

[Q.D.IIIc] At what level of granularity are the depth of checklists, training, and procedures customized?

- [Q.D.IIIc.r1] Today i. Across the service territory
- [Q.D.IIIc.r2] 3 years from now (by end of year 2022) iii. At the circuit level

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[Q.D.IVa] What level are electrical lines and equipment maintained at?

- [Q.D.IVa.r1] Today iii. Electrical lines and equipment maintained as required by regulation, and additional maintenance done in areas of grid at highest wildfire risk based on detailed risk mapping
- [Q.D.IVa.r2] 3 years from now (by end of year 2022) iii. Electrical lines and equipment maintained as required by regulation, and additional maintenance done in areas of grid at highest wildfire risk based on detailed risk mapping

[Q.D.IVb] How are service intervals set?

- [Q.D.IVb.r1] Today ii. Based on wildfire risk in relevant circuit
- [Q.D.IVb.r2] 3 years from now (by end of year 2022) iii. Based on wildfire risk in relevant circuit, as well as real-time monitoring from sensors

[Q.D.IVc] What do maintenance and repair procedures take into account?

- [Q.D.IVc.r1] Today ii. Wildfire risk, performance history, and past operating conditions
- [Q.D.IVc.r2] 3 years from now (by end of year 2022) ii. Wildfire risk, performance history, and past operating conditions

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[Q.D.Va] How is contractor activity audited?

- [Q.D.Va.r1] Today iii. Through an established and demonstrably functioning audit process to manage and confirm work completed by subcontractors, where contractor activity is subject to semi-automated audits using technologies capable of sampling the contractor's work (e.g., LiDAR scans, photographic evidence)
- [Q.D.Va.r2] 3 years from now (by end of year 2022) iii. Through an established and demonstrably functioning audit process to manage and confirm work completed by subcontractors, where contractor activity is subject to semi-automated audits using technologies capable of sampling the contractor's work (e.g., LiDAR scans, photographic evidence)

[Q.D.Vb] Do contractors follow the same processes and standards as utility's own employees?

- [Q.D.Vb.r1] Today ii. Yes
- [Q.D.Vb.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.D.Vc] How frequently is QA/QC information used to identify deficiencies in quality of work performance and inspections performance?

- [Q.D.Vc.r1] Today iv. Regularly
- [Q.D.Vc.r2] 3 years from now (by end of year 2022) iv. Regularly

[Q.D.Vd] How are work and inspections that do not meet utility-prescribed standards remediated?

- [Q.D.Vd.r1] Today iii. QA/QC information is used to identify systemic deficiencies in quality of work and inspections, and recommend training based on weaknesses

- [Q.D.Vd.r2] 3 years from now (by end of year 2022) iv. QA/QC information is used to identify systemic deficiencies in quality of work and inspections, grade individuals, and recommend specific pre-made and tested training based on weaknesses

[Q.D.Ve] Are workforce management software tools used to manage and confirm work completed by subcontractors?

- [Q.D.Ve.r1] Today ii. Yes
- [Q.D.Ve.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.E.Ia] What information is captured in the inventory?

- [Q.E.Ia.r1] Today ii. Centralized inventory of vegetation clearances based on most recent inspection
- [Q.E.Ia.r2] 3 years from now (by end of year 2022) iv. Centralized inventory of vegetation clearances, including individual vegetation species and their expected growth rate, as well as individual high risk-trees across grid

[Q.E.Ib] How frequently is inventory updated?

- [Q.E.Ib.r1] Today iv. Within 1 week of collection
- [Q.E.Ib.r2] 3 years from now (by end of year 2022) v. Within 1 day of collection

[Q.E.Ic] Are inspections independently verified by third party experts?

- [Q.E.Ic.r1] Today ii. Yes
- [Q.E.Ic.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.E.Id] How granular is the inventory?

- [Q.E.Id.r1] Today iv. Asset-based
- [Q.E.Id.r2] 3 years from now (by end of year 2022) iv. Asset-based

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[Q.E.IIa] How frequent are all types of vegetation inspections?

- [Q.E.IIa.r1] Today iii. Above minimum regulatory requirements, with more frequent inspections for highest risk areas
- [Q.E.IIa.r2] 3 years from now (by end of year 2022) iii. Above minimum regulatory requirements, with more frequent inspections for highest risk areas

[Q.E.IIb] How are vegetation inspections scheduled?

- [Q.E.IIb.r1] Today ii. Based on up-to-date static maps of predominant vegetation species and environment
- [Q.E.IIb.r2] 3 years from now (by end of year 2022) iii. Risk, as determined by predictive modeling of vegetation growth and growing conditions

[Q.E.IIc] What are the inputs to scheduling vegetation inspections?

- [Q.E.IIc.r1] Today ii. Up to date, static maps of vegetation and environment, as well as data on annual growing conditions
- [Q.E.IIc.r2] 3 years from now (by end of year 2022) iii. Predictive modeling of vegetation growth

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[Q.E.IIIa] What items are captured within inspection procedures and checklists?

- [Q.E.IIIa.r1] Today ii. Patrol, detailed, enhanced, and other inspection procedures and checklists include all items required by statute and regulations
- [Q.E.IIIa.r2] 3 years from now (by end of year 2022) iii. Patrol, detailed, enhanced, and other inspection procedures and checklists include all items required by statute and regulations, and

includes vegetation types typically responsible for ignitions and near misses

[Q.E.IIIb] How are procedures and checklists determined?

- [Q.E.IIIb.r1] Today i. Based on statute and regulatory guidelines only
- [Q.E.IIIb.r2] 3 years from now (by end of year 2022) iii. Based on predictive modeling based on vegetation and equipment type, age, and condition and validated by independent experts

[Q.E.IIIc] At what level of granularity are the depth of checklists, training, and procedures customized?

- [Q.E.IIIc.r1] Today ii. Across a region
- [Q.E.IIIc.r2] 3 years from now (by end of year 2022) iii. At the circuit level

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[Q.E.IVa] How does utility clearance around lines and equipment perform relative to expected standards?

- [Q.E.IVa.r1] Today iii. Utility exceeds minimum statutory and regulatory clearances around all lines and equipment
- [Q.E.IVa.r2] 3 years from now (by end of year 2022) iii. Utility exceeds minimum statutory and regulatory clearances around all lines and equipment

[Q.E.IVb] Does utility meet or exceed minimum statutory or regulatory clearances during all seasons?

- [Q.E.IVb.r1] Today ii. Yes
- [Q.E.IVb.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.E.IVc] What modeling is used to guide clearances around lines and equipment?

- [Q.E.IVc.r1] Today i. Ignition risk modeling
- [Q.E.IVc.r2] 3 years from now (by end of year 2022) ii. Ignition and propagation risk modeling

[Q.E.IVd] What biological modeling is used to guide clearance around lines and equipment?

- [Q.E.IVd.r1] Today ii. Species growth rates and species limb failure rates, cross referenced with local climatological conditions
- [Q.E.IVd.r2] 3 years from now (by end of year 2022) ii. Species growth rates and species limb failure rates, cross referenced with local climatological conditions

[Q.E.IVe] Are community organizations engaged in setting local clearances and protocols?

- [Q.E.IVe.r1] Today ii. Yes
- [Q.E.IVe.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.E.IVf] Does the utility remove vegetation waste along its right of way across the entire grid?

- [Q.E.IVf.r1] Today ii. Yes
- [Q.E.IVf.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.E.IVg] How long after cutting vegetation does the utility remove vegetation waste along right of way?

- [Q.E.IVg.r1] Today iv. On the same day
- [Q.E.IVg.r2] 3 years from now (by end of year 2022) iv. On the same day

[Q.E.IVh] Does the utility work with local landowners to provide a cost-effective use for cutting vegetation?

- [Q.E.IVh.r1] Today ii. Yes
- [Q.E.IVh.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.E.IVi] Does the utility work with partners to identify new cost-effective uses for vegetation, taking into consideration environmental impacts and emissions of vegetation waste?

- [Q.E.IVi.r1] Today ii. Yes
- [Q.E.IVi.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.E.Va] Does the utility have a process for treating vegetation outside of right of ways?

- [Q.E.Va.r1] Today iii. Utility systematically removes vegetation outside of right of way
- [Q.E.Va.r2] 3 years from now (by end of year 2022) iv. Utility systematically removes vegetation outside of right of way, informing relevant communities of removal

[Q.E.Vb] How is potential vegetation that may pose a threat identified?

- [Q.E.Vb.r1] Today ii. Based on the height of trees with potential to make contact with electric lines and equipment
- [Q.E.Vb.r2] 3 years from now (by end of year 2022) iii. Based on the probability and consequences of impact on electric lines and equipment as determined by risk modeling

[Q.E.Vc] Is vegetation removed with cooperation from the community?

- [Q.E.Vc.r1] Today ii. Yes
- [Q.E.Vc.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.E.Vd] Does the utility remove vegetation waste outside its right of way across the entire grid?

- [Q.E.Vd.r1] Today ii. Yes
- [Q.E.Vd.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.E.Ve] How long after cutting vegetation does the utility remove vegetation waste outside its right of way?

- [Q.E.Ve.r1] Today iv. On the same day
- [Q.E.Ve.r2] 3 years from now (by end of year 2022) iv. On the same day

[Q.E.Vf] Does the utility work with local landowners to provide a cost-effective use for cutting vegetation?

- [Q.E.Vf.r1] Today ii. Yes
- [Q.E.Vf.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.E.Vg] Does the utility work with partners to identify new cost-effective uses for vegetation, taking into consideration environmental impacts and emissions of vegetation waste?

- [Q.E.Vg.r1] Today ii. Yes
- [Q.E.Vg.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.E.VIa] How is contractor and employee activity audited?

- [Q.E.VIa.r1] Today iii. Through an established and demonstrably functioning audit process to manage and confirm work completed by subcontractors, where contractor activity is subject to semi-automated audits using technologies capable of sampling the contractor's work (e.g., LiDAR scans, photographic evidence)
- [Q.E.VIa.r2] 3 years from now (by end of year 2022) iii. Through an established and demonstrably functioning audit process to manage and confirm work completed by subcontractors, where contractor activity is subject to semi-automated audits using technologies capable of sampling the contractor's work (e.g., LiDAR scans, photographic evidence)

[Q.E.VIb] Do contractors follow the same processes and standards as utility's own employees?

- [Q.E.VIb.r1] Today ii. Yes
- [Q.E.VIb.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.E.VIc] How frequently is QA/QC information used to identify deficiencies in quality of work performance and inspections performance?

- [Q.E.VIc.r1] Today iv. Regularly
- [Q.E.VIc.r2] 3 years from now (by end of year 2022) iv. Regularly

[Q.E.VId] How is work and inspections that do not meet utility-prescribed standards remediated?

- [Q.E.VId.r1] Today iii. QA/QC information is used to identify systemic deficiencies in quality of work and inspections, and recommend training based on weaknesses
- [Q.E.VId.r2] 3 years from now (by end of year 2022) iv. QA/QC information is used to identify systemic deficiencies in quality of work and inspections, grade individuals, and recommend specific pre-made and tested training based on weaknesses

[Q.E.VIe] Are workforce management software tools used to manage and confirm work completed by subcontractors?
- [Q.E.VIe.r1] Today ii. Yes
- [Q.E.VIe.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.F.Ia] How are grid elements adjusted during high threat weather conditions?
- [Q.F.Ia.r1] Today iii. Utility increases sensitivity of risk reduction elements during high threat weather conditions and monitors near misses
- [Q.F.Ia.r2] 3 years from now (by end of year 2022) iv. Utility increases sensitivity of risk reduction elements during high threat weather conditions based on risk mapping and monitors near misses

[Q.F.Ib] Is there an automated process for adjusting sensitivity of grid elements and evaluating effectiveness?
Clarification: For clarification on level of automation please refer to the 'level of systematization and automation' in Table 2 of the Maturity Model. (i) in this case corresponds to level 0; (ii) corresponds to level 1 or 2; (iii) corresponds to level 3 or 4
- [Q.F.Ib.r1] Today ii. Partially automated process
- [Q.F.Ib.r2] 3 years from now (by end of year 2022) iii. Fully automated process

[Q.F.Ic] Is there a predetermined protocol driven by fire conditions for adjusting sensitivity of grid elements?
- [Q.F.Ic.r1] Today ii. Yes
- [Q.F.Ic.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.F.IIa] Does the utility have a clearly explained process for determining whether to operate the grid beyond current or voltage designs?
- [Q.F.IIa.r1] Today ii. Yes
- [Q.F.IIa.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.F.IIb] Does the utility have systems in place to automatically track operation history including current, loads, and voltage throughout the grid at the circuit level?
- [Q.F.IIb.r1] Today ii. Yes
- [Q.F.IIb.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.F.IIc] Does the utility use predictive modeling to estimate the expected life and make equipment maintenance, rebuild, or replacement decisions based on grid operating history, and is that model reviewed?
- [Q.F.IIc.r1] Today i. Modeling is not used
- [Q.F.IIc.r2] 3 years from now (by end of year 2022) ii. Modeling is used, but not evaluated by external experts

[Q.F.IId] When does the utility operate the grid above rated voltage and current load?
- [Q.F.IId.r1] Today iii. Never
- [Q.F.IId.r2] 3 years from now (by end of year 2022) iii. Never

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[Q.F.IIIa] How effective is PSPS event forecasting?

- [Q.F.IIIa.r1] Today iv. PSPS event generally forecasted accurately with fewer than 25% of predictions being false positives
- [Q.F.IIIa.r2] 3 years from now (by end of year 2022) iv. PSPS event generally forecasted accurately with fewer than 25% of predictions being false positives

[Q.F.IIIb] What share of customers are communicated to regarding forecasted PSPS events?

- [Q.F.IIIb.r1] Today iv. PSPS event are communicated to <9% of affected customers and >99.9% of medical baseline customers in advance of PSPS action
- [Q.F.IIIb.r2] 3 years from now (by end of year 2022) v. PSPS event are communicated to >99.9% of affected customers and 100% of medical baseline customers in advance of PSPS action

[Q.F.IIIc] During PSPS events, what percent of customers complain?

- [Q.F.IIIc.r1] Today iii. Less than 0.5%
- [Q.F.IIIc.r2] 3 years from now (by end of year 2022) iii. Less than 0.5%

[Q.F.IIId] During PSPS events, does the utility's website go down?

- [Q.F.IIId.r1] Today i. No
- [Q.F.IIId.r2] 3 years from now (by end of year 2022) i. No

[Q.F.IIIe] During PSPS events, what is the average downtime per customer?

- [Q.F.IIIe.r1] Today v. Less than 0.1 hours
- [Q.F.IIIe.r2] 3 years from now (by end of year 2022) v. Less than 0.1 hours

[Q.F.IIIf] Are specific resources provided to all affected customers to alleviate the impact of the power shutoff (e.g., providing backup generators, supplies, batteries, etc.)?

- [Q.F.IIIf.r1] Today i. No
- [Q.F.IIIf.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.F.IVa] Does the utility have explicit thresholds for activating a PSPS?

- [Q.F.IVa.r1] Today iii. Utility has explicit policies and explanation for the thresholds above which PSPS is activated, but maintains grid in sufficiently low risk condition to not require any PSPS activity, though may de-energize specific circuits upon detection of damaged condition of electrical lines and equipment, or contact with foreign objects
- [Q.F.IVa.r2] 3 years from now (by end of year 2022) iii. Utility has explicit policies and explanation for the thresholds above which PSPS is activated, but maintains grid in sufficiently low risk condition to not require any PSPS activity, though may de-energize specific circuits upon detection of damaged condition of electrical lines and equipment, or contact with foreign objects

[Q.F.IVb.r1] Today - Which of the following does the utility take into account when making PSPS decisions? Select all that apply.

- [Q.F.IVbr1c1] i. SME opinion (yes)

[Q.F.IVb.r2] 3 years from now (by end of year 2022) - Which of the following does the utility take into account when making PSPS decisions? Select all that apply.

- [Q.F.IVbr2c1] i. SME opinion (yes)
- [Q.F.IVbr2c2] ii. A partially automated system which recommends circuits for which PSPS should be activated and is validated by SMEs (yes)

[Q.F.IVc.r1] Today - Under which circumstances does the utility de-energize circuits? Select all that apply.

- [Q.F.IVcr1c2] ii. When circuit presents a safety risk to suppression or other personnel (yes)

- [Q.F.IVcr1c3] iii. When equipment has come into contact with foreign objects posing ignition risk (yes)

[Q.F.IVc.r2] 3 years from now (by end of year 2022) - Under which circumstances does the utility de-energize circuits? Select all that apply.

- [Q.F.IVcr2c2] ii. When circuit presents a safety risk to suppression or other personnel (yes)
- [Q.F.IVcr2c3] iii. When equipment has come into contact with foreign objects posing ignition risk (yes)

[Q.F.IVd] Given the condition of the grid, with what probability does the utility expect any large scale PSPS events affecting more than 10,000 people to occur in the coming year?

- [Q.F.IVd.r1] Today i. Less than 5 % - Grid is in sufficiently low risk condition that PSPS events will not be required, and the only circuits which may require de-energization have sufficient redundancy that energy supply to customers will not be disrupted
- [Q.F.IVd.r2] 3 years from now (by end of year 2022) i. Less than 5 % - Grid is in sufficiently low risk condition that PSPS events will not be required, and the only circuits which may require de-energization have sufficient redundancy that energy supply to customers will not be disrupted

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[Q.F.Va] Is there a process for inspecting de-energized sections of the grid prior to re-energization?

- [Q.F.Va.r1] Today ii. Existing process for accurately inspecting de-energized sections of the grid prior to re-energization
- [Q.F.Va.r2] 3 years from now (by end of year 2022) iii. Existing process for accurately inspecting de-energized sections of the grid prior to re-energization, augmented with sensors and aerial tools

[Q.F.Vb] How automated is the process for inspecting de-energized sections of the grid prior to re-energization?
Clarification: For explanation on level of automation please refer to the 'level of systematization and automation' in Table 2 of the Maturity Model. (i) in this case corresponds to level 0; (ii) corresponds to level 1 or 2; (iii) corresponds to level 3; and (iv) corresponds to level 4

- [Q.F.Vb.r1] Today ii. Partially automated (<50%)
- [Q.F.Vb.r2] 3 years from now (by end of year 2022) iii. Mostly automated (>=50%)

[Q.F.Vc] What is the average amount of time that it takes you to re-energize your grid from a PSPS once weather has subsided to below your de-energization threshold??

- [Q.F.Vc.r1] Today v. Within 8 hours
- [Q.F.Vc.r2] 3 years from now (by end of year 2022) v. Within 8 hours

[Q.F.Vd] What level of understanding of probability of ignitions after PSPS events does the utility have across the grid?

- [Q.F.Vd.r1] Today ii. Some probability estimates exist
- [Q.F.Vd.r2] 3 years from now (by end of year 2022) ii. Some probability estimates exist

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[Q.F.VIa] Does the utility have defined policies around the role of workers in suppressing ignitions?

- [Q.F.VIa.r1] Today ii. Utilities have explicit policies about the role of crews at the site of ignition
- [Q.F.VIa.r2] 3 years from now (by end of year 2022) iii. Utilities have explicit policies about the role of crews, including contractors and subcontractors, at the site of ignition

[Q.F.VIb] What training and tools are provided to workers in the field?

- [Q.F.VIb.r1] Today iii. All criteria in option (ii) met; In addition, suppression tools and training to suppress small ignitions caused by workers or in immediate vicinity of workers are provided

- [Q.F.VIb.r2] 3 years from now (by end of year 2022) v. All criteria in option (iii) met and apply to contractors as well as utility workers

[Q.F.VIc] In the events where workers have encountered an ignition, have any Cal/OSHA reported injuries or fatalities occurred in in the last year?
Clarification: For this year, please identify whether any major injuries or fatalities have occurred in 2019. For three years from now, please specify whether you think there is a chance that major injuries or fatalities could occur in 2022.
- [Q.F.VIc.r1] Today i. No
- [Q.F.VIc.r2] 3 years from now (by end of year 2022) i. No

[Q.F.VId] Does the utility provide training to other workers at other utilities and outside the utility industry on best practices to minimize, report and suppress ignitions?
Clarification: An example of workers outside utility industry might be workers at a vegetation management company who prune trees near utility equipment
- [Q.F.VId.r1] Today i. No
- [Q.F.VId.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.G.Ia] Does the utility have a centralized database of situational, operational, and risk data?
Clarification: Question is asking whether utility centralizes most of its situational, operational, and risk data in a single database
- [Q.G.Ia.r1] Today i. No
- [Q.G.Ia.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.G.Ib] Is the utility able to use advanced analytics on its centralized database of situational, operational, and risk data to make operational and investment decisions?
Clarification: In this case, advanced analytics refers to analysis integrating different types of data from this centralized database in a sufficiently reliable way to create a detailed, quantitative and holistic picture of tradeoffs to be weighed in operational or investment decisions
- [Q.G.Ib.r1] Today i. No
- [Q.G.Ib.r2] 3 years from now (by end of year 2022) ii. Yes, but only for short term decision making

[Q.G.Ic] Does the utility collect data from all sensored portions of electric lines, equipment, weather stations, etc.?
- [Q.G.Ic.r1] Today ii. Yes
- [Q.G.Ic.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.G.Id] Is the utility's database of situational, operational, and risk data able to ingest and share data using real-time API protocols with a wide variety of stakeholders?
- [Q.G.Id.r1] Today i. No
- [Q.G.Id.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.G.Ie] Does the utility identify highest priority additional data sources to improve decision making?
- [Q.G.Ie.r1] Today ii. Yes
- [Q.G.Ie.r2] 3 years from now (by end of year 2022) iii. Yes, with plans to incorporate these into centralized database of situational, operational and risk data

[Q.G.If] Does the utility share best practices for database management and use with other utilities in California and beyond?
- [Q.G.If.r1] Today i. No

- [Q.G.If.r2] 3 years from now (by end of year 2022) iii. Yes, with specific processes to do so in place

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[Q.G.IIa] Is there a single document cataloguing all fire-related data and algorithms, analyses, and data processes?
- [Q.G.IIa.r1] Today i. No
- [Q.G.IIa.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.G.IIb] Is there an explanation of the sources, cleaning processes, and assumptions made in the single document catalog?
- [Q.G.IIb.r1] Today i. No
- [Q.G.IIb.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.G.IIc] Are all analyses, algorithms, and data processing explained and documented?
- [Q.G.IIc.r1] Today i. Analyses, algorithms, and data processing are not documented
- [Q.G.IIc.r2] 3 years from now (by end of year 2022) iii. Analyses, algorithms, and data processing are documented and explained

[Q.G.IId] Is there a system for sharing data in real time across multiple levels of permissions?
- [Q.G.IId.r1] Today i. No system capable of sharing data in real time across multiple levels of permissions
- [Q.G.IId.r2] 3 years from now (by end of year 2022) ii. System is capable of sharing across at least two levels of permissions, including a.) utility-regulator permissions, and b.) first responder permissions

[Q.G.IIe] Are the most relevant wildfire related data algorithms disclosed?
Clarification: Question is asking whether all algorithms or decision making process used to inform decision making around investment choices, risk mitigation choices, and emergency response are disclosed
- [Q.G.IIe.r1] Today ii. Yes, disclosed to regulators and other relevant stakeholders upon request
- [Q.G.IIe.r2] 3 years from now (by end of year 2022) iii. Yes, disclosed publicly in WMP upon request

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[Q.G.IIIa] Does the utility track near miss data for all near misses with wildfire ignition potential?
Clarification: Recall that near miss is defined as an event with significant probability of ignition, including wires down, contacts with objects, line slap, events with evidence of significant heat generation, and other events that cause sparking or have the potential to cause ignition.
- [Q.G.IIIa.r1] Today ii. Yes
- [Q.G.IIIa.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.G.IIIb] Based on near miss data captured, is the utility able to simulate wildfire potential given an ignition based on event characteristics, fuel loads, and moisture?
- [Q.G.IIIb.r1] Today i. No
- [Q.G.IIIb.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.G.IIIc] Does the utility capture data related to the specific mode of failure when capturing near-miss data?
- [Q.G.IIIc.r1] Today ii. Yes
- [Q.G.IIIc.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.G.IIId] Is the utility able to predict the probability of a near miss in causing an ignition based on a set of event characteristics?

- [Q.G.IIId.r1] Today i. No
- [Q.G.IIId.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.G.IIIe] Does the utility use data from near misses to change grid operation protocols in real time?
- [Q.G.IIIe.r1] Today ii. Yes
- [Q.G.IIIe.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.G.IVa] Does the utility make disclosures and share data?
Clarification: In this case, 'disclosures' refer to disclosures to the CPUC and to the public
- [Q.G.IVa.r1] Today ii. Utility makes required disclosures, but does not share data beyond what is required
- [Q.G.IVa.r2] 3 years from now (by end of year 2022) iii. Utility makes required disclosures and shares data beyond what is required

[Q.G.IVb] Does the utility in engage in research?
Clarification: Here, 'research' broadly refers to collaborative research (e.g. with other utilities, academics, or the government) or to independent research where the findings are made available outside parties (such as academics, other utilities, the government or the public).
- [Q.G.IVb.r1] Today ii. Utility participates in collaborative research
- [Q.G.IVb.r2] 3 years from now (by end of year 2022) ii. Utility participates in collaborative research

[Q.G.IVc] What subjects does utility research address?
- [Q.G.IVc.r1] Today ii. Utility ignited wildfires and risk reduction initiatives
- [Q.G.IVc.r2] 3 years from now (by end of year 2022) ii. Utility ignited wildfires and risk reduction initiatives

[Q.G.IVd] Does the utility promote best practices based on latest independent scientific and operational research?
Clarification: Promoting best practices could take various forms – for example, writing and publicly releasing a report or detailing results achieved when a new method of tool was piloted, including which techniques were more or less effective
- [Q.G.IVd.r1] Today ii. Yes
- [Q.G.IVd.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.H.Ia] For what risk scenarios is the utility able to provide projected cost and total risk reduction potential?
- [Q.H.Ia.r1] Today iii. Utility provides an accurate high-risk reduction and low risk reduction scenario, in addition to their proposed scenario, and the projected cost and total risk reduction potential
- [Q.H.Ia.r2] 3 years from now (by end of year 2022) iii. Utility provides an accurate high-risk reduction and low risk reduction scenario, in addition to their proposed scenario, and the projected cost and total risk reduction potential

[Q.H.Ib] For what level of granularity is the utility able to provide projections for each scenario?
- [Q.H.Ib.r1] Today ii. Region level
- [Q.H.Ib.r2] 3 years from now (by end of year 2022) iii. Circuit level

[Q.H.Ic] Does the utility include a long term (e.g., 6-10 year) risk estimate taking into account macro factors (climate change, etc.) as well as planned risk reduction initiatives in its scenarios?
- [Q.H.Ic.r1] Today ii. Yes

- [Q.H.Ic.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.H.Id] Does the utility provide an estimate of impact on reliability factors in its scenarios?
Clarification: Reliability factors here refer to factors impacting reliability of service to customers
- [Q.H.Id.r1] Today ii. Yes
- [Q.H.Id.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.H.IIa] Does the utility present accurate qualitative rankings for its initiatives by risk spend efficiency?
- [Q.H.IIa.r1] Today ii. Yes
- [Q.H.IIa.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.H.IIb] What initiatives are captured in the ranking of risk spend efficiency?
- [Q.H.IIb.r1] Today iii. All commercial initiatives and emerging initiatives
- [Q.H.IIb.r2] 3 years from now (by end of year 2022) iii. All commercial initiatives and emerging initiatives

[Q.H.IIc] Does the utility include figures for present value cost and project risk reduction impact of each initiative, clearly documenting all assumptions (e.g. useful life, discount rate, etc.)?
- [Q.H.IIc.r1] Today ii. Yes
- [Q.H.IIc.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.H.IId] Does the utility provide an explanation of their investment in each particular initiative?
Clarification: Reliability factors here refer to factors impacting reliability of service to customers
- [Q.H.IId.r1] Today ii. Yes, including the expected overall reduction in risk
- [Q.H.IId.r2] 3 years from now (by end of year 2022) iii. Yes, including the expected overall reduction in risk and estimates of impact on reliability factors

[Q.H.IIe] At what level of granularity is the utility able to provide risk efficiency figures?
- [Q.H.IIe.r1] Today ii. Region level
- [Q.H.IIe.r2] 3 years from now (by end of year 2022) iii. Circuit level

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[Q.H.IIIa] How accurate of a risk spend efficiency calculation can the utility provide?
- [Q.H.IIIa.r1] Today iii. Utility has accurate quantitative understanding of cost and effectiveness to produce a reliable risk spend efficiency estimate
- [Q.H.IIIa.r2] 3 years from now (by end of year 2022) iv. Utility has accurate quantitative understanding of cost, including sensitivities and effectiveness to produce a reliable risk spend efficiency estimate

[Q.H.IIIb] At what level can estimates be prepared?
- [Q.H.IIIb.r1] Today ii. Regional
- [Q.H.IIIb.r2] 3 years from now (by end of year 2022) iii. Circuit-based

[Q.H.IIIc] How frequently are estimates updated?
- [Q.H.IIIc.r1] Today iii. Annually or more frequently
- [Q.H.IIIc.r2] 3 years from now (by end of year 2022) iii. Annually or more frequently

[Q.H.IIId] What vegetation management initiatives does the utility include within its evaluation?
- [Q.H.IIId.r1] Today iv. All
- [Q.H.IIId.r2] 3 years from now (by end of year 2022) v. All, supported by independent testing

[Q.H.IIIe] Can the utility evaluate risk reduction synergies from combination of various initiatives?
- [Q.H.IIIe.r1] Today ii. Yes

- [Q.H.IIIe.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.H.IVa] How accurate of a risk spend efficiency calculation can the utility provide?
- [Q.H.IVa.r1] Today iii. Utility has accurate quantitative understanding of cost and effectiveness to produce a reliable risk spend efficiency estimate
- [Q.H.IVa.r2] 3 years from now (by end of year 2022) iv. Utility has accurate quantitative understanding of cost, including sensitivities, and effectiveness to produce a reliable risk spend efficiency estimate

[Q.H.IVb] At what level can estimates be prepared?
- [Q.H.IVb.r1] Today ii. Regional
- [Q.H.IVb.r2] 3 years from now (by end of year 2022) iii. Circuit-based

[Q.H.IVc] How frequently are estimates updated?
- [Q.H.IVc.r1] Today iii. Annually or more frequently
- [Q.H.IVc.r2] 3 years from now (by end of year 2022) iii. Annually or more frequently

[Q.H.IVd] What grid hardening initiatives are included in the utility risk spend efficiency analysis?
- [Q.H.IVd.r1] Today iv. All commercially available grid hardening initiatives
- [Q.H.IVd.r2] 3 years from now (by end of year 2022) v. All commercially available grid hardening initiatives, as well as those initiatives that are lab tested

[Q.H.IVe] Can the utility evaluate risk reduction effects from the combination of various initiatives?
- [Q.H.IVe.r1] Today ii. Yes
- [Q.H.IVe.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.H.Va] To what extent does the utility allocate capital to initiatives based on risk-spend efficiency (RSE)?
- [Q.H.Va.r1] Today iv. Accurate RSE estimates for all initiatives are used to determine capital allocation across portfolio (e.g. prioritizing between vegetation management and grid hardening)
- [Q.H.Va.r2] 3 years from now (by end of year 2022) iv. Accurate RSE estimates for all initiatives are used to determine capital allocation across portfolio (e.g. prioritizing between vegetation management and grid hardening)

[Q.H.Vb] What information does the utility take into account when generating RSE estimates?
- [Q.H.Vb.r1] Today ii. Specific information by initiative, including state of equipment and location where initiative will be implemented
- [Q.H.Vb.r2] 3 years from now (by end of year 2022) iii. Specific information by initiative at the asset level, including state of specific assets and location where initiative will be implemented

[Q.H.Vc] How does the utility verify RSE estimates?
- [Q.H.Vc.r1] Today ii. RSE estimates are verified by historical or experimental pilot data
- [Q.H.Vc.r2] 3 years from now (by end of year 2022) iii. RSE estimates are verified by historical or experimental pilot data and confirmed by independent experts or other utilities in CA

[Q.H.Vd] Does the utility take into consideration impact on safety, reliability, and other priorities when making spending decisions?
- [Q.H.Vd.r1] Today ii. Yes
- [Q.H.Vd.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.H.VIa] How does the utility develop and evaluate the efficacy of new wildfire initiatives?

- [Q.H.VIa.r1] Today iv. Utility uses pilots, followed by in-field testing, measuring reduction in ignition events and near-misses.
- [Q.H.VIa.r2] 3 years from now (by end of year 2022) iv. Utility uses pilots, followed by in-field testing, measuring reduction in ignition events and near-misses.

[Q.H.VIb] How does the utility develop and evaluate the risk spend efficiency of new wildfire initiatives?
Clarification: TCO is total cost of ownership over the expected useful life of an asset, including purchase, operation and maintenance. In this question, total cost of ownership refers to the spend portion of the evaluation of risk spend efficiency, while risk reduction is evaluated separately.
- [Q.H.VIb.r1] Today ii. Utility uses total cost of ownership
- [Q.H.VIb.r2] 3 years from now (by end of year 2022) ii. Utility uses total cost of ownership

[Q.H.VIc] At what level of granularity does the utility measure the efficacy of new wildfire initiatives?
- [Q.H.VIc.r1] Today ii. Entire territory
- [Q.H.VIc.r2] 3 years from now (by end of year 2022) iii. Circuit

[Q.H.VId] Are the reviews of innovative initiatives audited by independent parties?
Clarification: Reviews here refer to findings evaluating innovative initiatives which would assist another utility in making a decision about whether to implement that initiative or help them determine how to do so effectively. Criteria might include but are not limited to the following: technical feasibility, effectiveness, risk spend efficiency, ease of implementation and comparison to alternative options
- [Q.H.VId.r1] Today i. No
- [Q.H.VId.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.H.VIe] Does the utility share the findings of its evaluation of innovative initiatives with other utilities, academia, and the general public?
- [Q.H.VIe.r1] Today ii. Yes
- [Q.H.VIe.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.I.Ia] Is the wildfire plan integrated with overall disaster and emergency plans?
Clarification: If the utility's wildfire mitigation plan is an integrated component of an overall disaster and emergency plan then the overall plan considers at least the compound effects of risks in both directions – for example, the additional risk of fire posed by an earthquake and how to manage any compounding effects
- [Q.I.Ia.r1] Today iii. Wildfire plan is an integrated component of overall plan
- [Q.I.Ia.r2] 3 years from now (by end of year 2022) iii. Wildfire plan is an integrated component of overall plan

[Q.I.Ib] Does the utility run drills to audit the viability and execution of its wildfire plans?
- [Q.I.Ib.r1] Today ii. Yes
- [Q.I.Ib.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.Ic] Is the impact of confounding events or multiple simultaneous disasters considered in the planning process?
- [Q.I.Ic.r1] Today ii. Yes
- [Q.I.Ic.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.Id] Is the plan integrated with disaster and emergency preparedness plans of other relevant stakeholders (e.g., CAL FIRE, Fire Safe Councils, etc.)?
- [Q.I.Id.r1] Today ii. Yes
- [Q.I.Id.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.Ie] Does the utility take a leading role in planning, coordinating, and integrating plans across stakeholders?

- [Q.I.Ie.r1] Today ii. Yes
- [Q.I.Ie.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.IIa] Are there detailed and actionable procedures in place to restore service after a wildfire related outage?

- [Q.I.IIa.r1] Today ii. Yes
- [Q.I.IIa.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.IIb] Are employee and subcontractor crews trained in, and aware of, plans?

- [Q.I.IIb.r1] Today ii. Yes
- [Q.I.IIb.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.IIc] To what level are procedures to restore service after a wildfire-related outage customized?

- [Q.I.IIc.r1] Today iii. Circuit level
- [Q.I.IIc.r2] 3 years from now (by end of year 2022) iii. Circuit level

[Q.I.IId] Is the customized procedure to restore service based on topography, vegetation, and community needs?

- [Q.I.IId.r1] Today ii. Yes
- [Q.I.IId.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.IIe] Is there an inventory of high risk spend efficiency resources available for repairs?
Clarification: Question is asking whether the resources, components and tools that the utility has available for repairs, maintenance, and unexpected replacement are the most risk spend efficient options on the market

- [Q.I.IIe.r1] Today ii. Yes
- [Q.I.IIe.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.I.IIIa] Does the utility provide clear and substantially complete communication of available information relevant to affected customers?
Clarification: Does the utility provide all available information which could be relevant to affected customers in a way that customers can receive in real time and easily understand?

- [Q.I.IIIa.r1] Today iii. Yes, along with referrals to other agencies
- [Q.I.IIIa.r2] 3 years from now (by end of year 2022) iii. Yes, along with referrals to other agencies

[Q.I.IIIb] What percent of affected customers receive complete details of available information?

- [Q.I.IIIb.r1] Today v. >99.9% of customers
- [Q.I.IIIb.r2] 3 years from now (by end of year 2022) v. >99.9% of customers

[Q.I.IIIc] What percent of affected medical baseline customers receive complete details of available information?

- [Q.I.IIIc.r1] Today v. >99.9% of medical baseline customers
- [Q.I.IIIc.r2] 3 years from now (by end of year 2022) v. >99.9% of medical baseline customers

[Q.I.IIId] How does the utility assist where helpful with communication of information related to power outages to customers?

- [Q.I.IIId.r1] Today ii. Through availability of relevant evacuation information and links on website and toll-free telephone number, and assisting disaster response professionals as requested

- [Q.I.IIId.r2] 3 years from now (by end of year 2022) ii. Through availability of relevant evacuation information and links on website and toll-free telephone number, and assisting disaster response professionals as requested

[Q.I.IIIe] How does the utility with engage other emergency management agencies during emergency situations?

- [Q.I.IIIe.r1] Today iii. Utility has detailed and actionable established protocols for engaging with emergency management organizations
- [Q.I.IIIe.r2] 3 years from now (by end of year 2022) iii. Utility has detailed and actionable established protocols for engaging with emergency management organizations

[Q.I.IIIf] Does the utility communicate and coordinate resources to communities during emergencies (e.g., shelters, supplies, transportation etc.)?

- [Q.I.IIIf.r1] Today ii. Yes
- [Q.I.IIIf.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.I.IVa] Is there a protocol in place to record the outcome of emergency events and to clearly and actionably document learnings and potential process improvements?

- [Q.I.IVa.r1] Today ii. Yes
- [Q.I.IVa.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.IVb] Is there a defined process and staff responsible for incorporating learnings into emergency plan?

- [Q.I.IVb.r1] Today ii. Yes
- [Q.I.IVb.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.IVc] Once updated based on learnings and improvements, is the updated plan tested using "dry runs" to confirm its effectiveness?

- [Q.I.IVc.r1] Today ii. Yes
- [Q.I.IVc.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.IVd] Is there a defined process to solicit input from a variety of other stakeholders and incorporate learnings from other stakeholders into the emergency plan?

- [Q.I.IVd.r1] Today ii. Yes
- [Q.I.IVd.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.I.Va] Does the utility conduct an evaluation or debrief process after a wildfire?

- [Q.I.Va.r1] Today ii. Yes
- [Q.I.Va.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.Vb] Does the utility conduct a customer survey and utilize partners to disseminate requests for stakeholder engagement?

- [Q.I.Vb.r1] Today iii. Both
- [Q.I.Vb.r2] 3 years from now (by end of year 2022) iii. Both

[Q.I.Vc] In what other activities does the utility engage?

- [Q.I.Vc.r1] Today iii. Debriefs with partners
- [Q.I.Vc.r2] 3 years from now (by end of year 2022) iv. Public listening sessions, debriefs with partners, and others

[Q.I.Vd] Does the utility share with partners findings about what can be improved?

- [Q.I.Vd.r1] Today ii. Yes

- [Q.I.Vd.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.Ve] Are feedback and recommendations on potential improvements made public?
- [Q.I.Ve.r1] Today ii. Yes
- [Q.I.Ve.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.Vf] Does the utility conduct proactive outreach to local agencies and organizations to solicit additional feedback on what can be improved?
- [Q.I.Vf.r1] Today ii. Yes
- [Q.I.Vf.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.Vg] Does the utility have a clear plan for post-event listening and incorporating lessons learned from all stakeholders?
- [Q.I.Vg.r1] Today ii. Yes
- [Q.I.Vg.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.Vh] Does the utility track the implementation of recommendations and report upon their impact? Clarification: Recommendations here refer to recommendations from customers, local agencies, organizations and other stakeholders received following a wildfire or PSPS event
- [Q.I.Vh.r1] Today ii. Yes
- [Q.I.Vh.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.I.Vi] Does the utility have a process to conduct reviews after wildfires in other the territory of other utilities and states to identify and address areas of improvement?
- [Q.I.Vi.r1] Today ii. Yes
- [Q.I.Vi.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.J.Ia] Does the utility actively work to identify best practices from other utilities through a clearly defined operational process?
- [Q.J.Ia.r1] Today iii. Yes, from other global utilities
- [Q.J.Ia.r2] 3 years from now (by end of year 2022) iii. Yes, from other global utilities

[Q.J.Ib] Does the utility successfully adopt and implement best practices identified from other utilities?
- [Q.J.Ib.r1] Today ii. Yes
- [Q.J.Ib.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.J.Ic] Does the utility seek to share best practices and lessons learned in a consistent format?
- [Q.J.Ic.r1] Today ii. Yes
- [Q.J.Ic.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.J.Id] Does the utility share best practices and lessons via a consistent and predictable set of venues/media?
- [Q.J.Id.r1] Today ii. Yes
- [Q.J.Id.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.J.Ie] Does the utility participate in annual benchmarking exercises with other utilities to find areas for improvement?
- [Q.J.Ie.r1] Today ii. Yes
- [Q.J.Ie.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.J.If] Has the utility implemented a defined process for testing lessons learned from other utilities to ensure local applicability?
- [Q.J.If.r1] Today ii. Yes

- [Q.J.If.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.J.IIa] Does the utility have a clear and actionable plan to develop or maintain a collaborative relationship with local communities?
- [Q.J.IIa.r1] Today ii. Yes
- [Q.J.IIa.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.J.IIb] Are there communities in HFTD areas where meaningful resistance is expected in response to efforts to mitigate fire risk (e.g. vegetation clearance)?
- [Q.J.IIb.r1] Today i. No
- [Q.J.IIb.r2] 3 years from now (by end of year 2022) i. No

[Q.J.IIc] What percent of landowners are non-compliant with utility initiatives (e.g., vegetation management)?
- [Q.J.IIc.r1] Today v. Less than 0.5%
- [Q.J.IIc.r2] 3 years from now (by end of year 2022) v. Less than 0.5%

[Q.J.IId] What percent of landowners complain about utility initiatives (e.g., vegetation management)?
- [Q.J.IId.r1] Today iv. Less than 1 %
- [Q.J.IId.r2] 3 years from now (by end of year 2022) iv. Less than 1 %

[Q.J.IIe] Does the utility have a demonstratively cooperative relationship with communities containing >90% of the population in HFTD areas (e.g. by being recognized by other agencies as having a cooperative relationship with those communities in HFTD areas)?
- [Q.J.IIe.r1] Today ii. Yes
- [Q.J.IIe.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.J.IIf] Does utility have records of landowners throughout communities containing >90% of the population in HFTD areas reaching out to notify of risks, dangers or issues in the past year? Clarification: For this year, please identify whether the question holds true for 2019. For three years from now, specify whether you expect the question to hold true in 2022.
- [Q.J.IIf.r1] Today ii. Yes
- [Q.J.IIf.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.J.IIIa] Can the utility provide a plan to partner with organizations representing Limited English Proficiency (LEP) and Access & Functional Needs (AFN) communities?
- [Q.J.IIIa.r1] Today i. No
- [Q.J.IIIa.r2] 3 years from now (by end of year 2022) i. No

[Q.J.IIIb] Can the utility outline how these partnerships create pathways for implementing suggested activities to address the needs of these communities?
- [Q.J.IIIb.r1] Today i. No
- [Q.J.IIIb.r2] 3 years from now (by end of year 2022) i. No

[Q.J.IIIc] Can the utility point to clear examples of how those relationships have driven the utility's ability to interact with and prepare LEP & AFN communities for wildfire mitigation activities?
- [Q.J.IIIc.r1] Today i. No
- [Q.J.IIIc.r2] 3 years from now (by end of year 2022) i. No

[Q.J.IIId] Does the utility have a specific annually-updated action plan further reduce wildfire and PSPS risk to LEP & AFN communities?
- [Q.J.IIId.r1] Today i. No

- [Q.J.IIId.r2] 3 years from now (by end of year 2022) i. No

[Q.J.IVa] What is the cooperative model between the utility and suppression agencies?
- [Q.J.IVa.r1] Today iii. Utility cooperates with suppression agencies by working cooperatively with them to detect ignitions, in addition to notifying them of ignitions as needed
- [Q.J.IVa.r2] 3 years from now (by end of year 2022) iii. Utility cooperates with suppression agencies by working cooperatively with them to detect ignitions, in addition to notifying them of ignitions as needed

[Q.J.IVb] In what areas is the utility cooperating with suppression agencies?
- [Q.J.IVb.r1] Today iii. Throughout utility service areas
- [Q.J.IVb.r2] 3 years from now (by end of year 2022) iii. Throughout utility service areas

[Q.J.IVc] Does the utility accurately predict and communicate the forecasted fire propagation path using available analytics resources and weather data?
- [Q.J.IVc.r1] Today ii. Yes
- [Q.J.IVc.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.J.IVd] Does the utility communicate fire paths to the community as requested?
- [Q.J.IVd.r1] Today ii. Yes
- [Q.J.IVd.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.J.IVe] Does the utility work to assist suppression crews logistically, where possible?
- [Q.J.IVe.r1] Today ii. Yes
- [Q.J.IVe.r2] 3 years from now (by end of year 2022) ii. Yes

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[Q.J.Va] Where does the utility conduct substantial fuel management?
- [Q.J.Va.r1] Today iii. Utility conducts fuel management throughout service area
- [Q.J.Va.r2] 3 years from now (by end of year 2022) iii. Utility conducts fuel management throughout service area

[Q.J.Vb] Does the utility engage with other stakeholders as part of its fuel management efforts?
- [Q.J.Vb.r1] Today iv. Utility shares fuel management plans with other stakeholders, and coordinates fuel management activities, including adjusting plans, to cooperate with other stakeholders state-wide to focus on areas that would have the biggest impact in reducing wildfire risk
- [Q.J.Vb.r2] 3 years from now (by end of year 2022) v. Utility shares fuel management plans with other stakeholders, and pro-actively coordinates fuel management activities, including adjusting plans, to cooperate with other stakeholders state-wide to focus on areas that would have the biggest impact in reducing wildfire risk

[Q.J.Vc] Does the utility cultivate a native vegetative ecosystem across territory that is consistent with lower fire risk?
- [Q.J.Vc.r1] Today ii. Yes
- [Q.J.Vc.r2] 3 years from now (by end of year 2022) ii. Yes

[Q.J.Vd] Does the utility fund local groups (e.g., fire safe councils) to support fuel management?
- [Q.J.Vd.r1] Today ii. Yes
- [Q.J.Vd.r2] 3 years from now (by end of year 2022) ii. Yes

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