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CEJA Comments on Wildfire Mitigation Plans, R.18-10-007
Attachment 1: PG&E Data Request Responses

**PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans
Rulemaking 18-10-007
Data Response**

PG&E Data Request No.:	CEJA_001-Q01		
PG&E File Name:	WildfireMitigationPlans_DR_CEJA_001-Q01		
Request Date:	February 14, 2019	Requester DR No.:	001
Date Sent:	February 22, 2019	Requesting Party:	California Environmental Justice Alliance
PG&E Witness:	Nick Moran	Requester:	Deborah Behles

QUESTION 01

California Executive Order N-05-19 requires consideration of “socioeconomic factors and vulnerable populations that exacerbate the human toll of wildfires” when CAL FIRE develops a “[m]ethodology to assess which communities are at the greatest risk from wildfire and the projects within/nearby areas that would reduce the threat of a catastrophic wildfire if completed.” When developing your prioritization for hardening the grid, have you considered “socioeconomic factors and vulnerable populations that exacerbate the human toll of wildfires”? If you have, please describe how these factors were considered in the evaluation of how to prioritize projects to harden the grid. If you have not, please describe why these factors have not been considered and any plans you may have to consider these populations in the future.

ANSWER 01

PG&E’s Wildfire Safety Plan as currently directed, has not taken socioeconomic factors or vulnerable population information into consideration. In order to maximize the efficacy of the wildfire risk reduction measures, PG&E prioritized circuits and proposed measures using a risk-based approach. Under this approach, PG&E evaluated each circuit within the HFTD for wildfire risk using three factors: likelihood of asset failure, the risk of wildfire spread and consequence, and egress risk. In addition to these three factors, PG&E also incorporated a “field analysis”, which is defined as incorporating qualitative factors based on engineering subject matter experts inside PG&E familiar with the circuit location, design and performance. PG&E will continue to enhance the Wildfire Safety Plan and may re-prioritize measures or circuits based upon new information and experience, and PG&E is open to suggestions on how to incorporate socioeconomic factors or vulnerable population information into the Plan.

**PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans
Rulemaking 18-10-007
Data Response**

PG&E Data Request No.:	CEJA_001-Q02		
PG&E File Name:	WildfireMitigationPlans_DR_CEJA_001-Q02		
Request Date:	February 14, 2019	Requester DR No.:	001
Date Sent:	February 22, 2019	Requesting Party:	California Environmental Justice Alliance
PG&E Witness:	Ahmad Ababneh	Requester:	Deborah Behles

QUESTION 02

As described by California Executive Order N-05-19, how do you define populations that are at the greatest risk from wildfires due to socioeconomic factors?

ANSWER 02

PG&E has not defined populations at the greatest risk of wildfires due to socioeconomic factors.

PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans
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Data Response

PG&E Data Request No.:	CEJA_001-Q03		
PG&E File Name:	WildfireMitigationPlans_DR_CEJA_001-Q03		
Request Date:	February 14, 2019	Requester DR No.:	001
Date Sent:	February 22, 2019	Requesting Party:	California Environmental Justice Alliance
PG&E Witness:	Vy Manthripragada	Requester:	Deborah Behles

QUESTION 03

San Diego Gas & Electric’s plan includes Community Resilience Centers. Are you also planning to develop Community Resilience Centers for communities at risk from wildfires and deenergization? If so, please describe the work you anticipate doing in 2019 to develop these centers. If not, please describe why not. In your response, please describe whether your plan will include: transportation for community members that do not have access to transportation, filtered air if outside air quality is poor, and whether your plan includes work with community organizations and translators to ensure that hard-to-reach and linguistically isolated populations are aware of these centers.

ANSWER 03

PG&E currently maintains a local presence in our communities with the deployment of mobile answer centers to support customers during emergencies providing information on service restoration. Mobile answer centers provide a local alternative to live customer support over the phone, in pop-up locations throughout areas where the highest level of impacted customers reside.

PG&E is exploring the option of developing community-based solutions similar to SDG&E’s Community Resilience Centers in coordination and partnership with local OESs and other critical members of the community. Solutions may include initiatives such as “Enhanced Cooling Centers” to provide additional services to medical baseline, life support, and our most vulnerable customers. This collaborative effort comprised of community-based organizations, local stakeholders, and first responders would be designed to provide a safe, energized location for those most in need. Included would be the ability to support the transportation of vulnerable residential customers to and from these centers.

Once these Enhanced Cooling Centers are established, we would coordinate closely with local OESs and mass media and leverage digital platforms such as our website and social media to make sure that all impacted customers are made aware of their locations. We would also ensure that communications regarding these centers are available in alternate formats for our disabled, and non-native English-speaking customers (using in-language where possible).

**PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans
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Data Response**

PG&E Data Request No.:	CEJA_001-Q05		
PG&E File Name:	WildfireMitigationPlans_DR_CEJA_001-Q05		
Request Date:	February 14, 2019	Requester DR No.:	001
Date Sent:	February 22, 2019	Requesting Party:	California Environmental Justice Alliance
PG&E Witness:	Vy Manthripragada	Requester:	Deborah Behles

QUESTION 05

San Diego Gas & Electric Company's plan has a warning system that allows for advanced preparation in the event of potential wildfire and/or deenergization conditions. Do you plan to have a similar warning system? If so, please describe your planned system. If not, please describe why not?

ANSWER 05

PG&E interprets this question as relating to customer notifications in advance of a de-energization event. Please see in Section 4.6.3 (pp.105-106) of PG&E's Wildfire Safety Plan for the details of PG&E's customer notification strategy, which includes advance notification, where and when possible.

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PG&E Data Request No.:	CEJA_001-Q07		
PG&E File Name:	WildfireMitigationPlans_DR_CEJA_001-Q07		
Request Date:	February 14, 2019	Requester DR No.:	001
Date Sent:	February 22, 2019	Requesting Party:	California Environmental Justice Alliance
PG&E Witness:	Joe Herr	Requester:	Deborah Behles

QUESTION 07

In relation to your plans to develop resilient communities, have you considered how to prioritize communities that are more vulnerable to wildfire risks due to socioeconomic factors? If so, please describe how you are planning to prioritize these communities, and if not, please describe why not.

ANSWER 07

Resilience Zones are one of several strategies that PG&E is developing to alleviate the risks and impacts of proactive de-energization on our communities. Resilience Zones are designed to reduce outage impacts by enabling central community resources, where technically feasible, such as; food, fuel, hygiene, shelter, medical, and critical infrastructure to remain energized while the broader area is shut off to reduce ignition risk.

Because Resilience Zones target shared community resources in commercial corridors rather than residential areas, sites for development in 2019 are currently being targeted based on factors such as the likelihood that they will experience extreme wind events, PSPS impacted circuits, proximity to non-impacted resources, and the nature of the community resources that would be kept energized via a Resilience Zone, rather than the explicit socioeconomic factors of residents in the area. Corridors in Tier 3 HFTDs that feature providers of critical services (i.e. fire stations, health facilities, etc.) and services that maintain a sense of community normalcy (i.e. grocery stores, gas stations, etc.) are some of the most important targets for Resilience Zone development this year.

That said, CalEnviroScreen has and will continue to be used to identify areas with disadvantaged communities fitting the community-resource targeting criteria for Resilience Zones. As PG&E completes its Resilience Zone pilot, it will work with the respective Offices of Emergency Services including, when appropriate, the local Health and Human Services to align with regional emergency planning thereby providing awareness to customers of available resources.

**PACIFIC GAS AND ELECTRIC COMPANY
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Data Response**

PG&E Data Request No.:	CEJA_001-Q08		
PG&E File Name:	WildfireMitigationPlans_DR_CEJA_001-Q08		
Request Date:	February 14, 2019	Requester DR No.:	001
Date Sent:	February 22, 2019	Requesting Party:	California Environmental Justice Alliance
PG&E Witness:	Vy Manthripragada	Requester:	Deborah Behles

QUESTION 08

With respect to back-up generators for mitigating the impacts of deenergization, what technologies are you examining for back-up generators?

ANSWER 08

Page 103 of PG&E's Wildfire Safety Plan details several customer support programs that PG&E is exploring in 2019. We believe this question refers to the discussion of OEM and Retail Partnerships, where PG&E would partner with major retailers and equipment suppliers to support onsite back-up generation systems that can provide continuous power during a PSPS event. PG&E would neither own nor operate this equipment, instead helping to facilitate the awareness and benefits an onsite system would provide during an emergency event.

If this program is implemented, PG&E would not own or operate the equipment, and therefore the customer would choose the technology that would be implemented on their premise. That said, PG&E would aim to partner with manufacturers that align with the utility's clean energy standards.

**PACIFIC GAS AND ELECTRIC COMPANY
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PG&E Data Request No.:	CEJA_001-Q09		
PG&E File Name:	WildfireMitigationPlans_DR_CEJA_001-Q09		
Request Date:	February 14, 2019	Requester DR No.:	001
Date Sent:	February 22, 2019	Requesting Party:	California Environmental Justice Alliance
PG&E Witness:	Jennie Tong	Requester:	Deborah Behles

QUESTION 09

In relation to the inspection costs described in your plan, please provide a more detailed accounting of what accounts for the over \$1 billion of projected inspection costs in the plan?

ANSWER 09

Please See Attachment titled "WildfireMitigationPlans_DR_CEJA_001-Q09Atch01"

PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans
Rulemaking 18-10-007
Data Response

PG&E Data Request No.:	CEJA_002-Q01		
PG&E File Name:	WildfireMitigationPlans_DR_CEJA_002-Q01		
Request Date:	February 28, 2019	Requester DR No.:	002
Date Sent:	March 6, 2019	Requesting Party:	California Environmental Justice Alliance
PG&E Witness:		Requester:	Deborah Behles

QUESTION 01

What percentage of your customers in Tier 2 or Tier 3 areas do not speak one of the five languages into which you plan to translate your outreach material?

ANSWER 01

PG&E only tracks data related to language preferences when customers voluntarily share that information. Other than this, PG&E does not have data related to which languages customers speak. Per our records, less than 1% of our customers speak languages outside of the five into which we plan to translate our outreach materials. PG&E offers language line services through its 24/7 Contact Center for those customers who would benefit from additional in-language support.

**PACIFIC GAS AND ELECTRIC COMPANY
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Data Response**

PG&E Data Request No.:	CEJA_002-Q03		
PG&E File Name:	WildfireMitigationPlans_DR_CEJA_002-Q03		
Request Date:	February 28, 2019	Requester DR No.:	002
Date Sent:	March 6, 2019	Requesting Party:	California Environmental Justice Alliance
PG&E Witness:		Requester:	Deborah Behles

QUESTION 03

In the event of a wildfire, what plans do you have to ensure that customers impacted by the wildfire are aware of it? Do you have plans for linguistically isolated community members? Do you have plans if the cell-phone tower goes down?

ANSWER 03

Please see Section 4.6.3 of PG&E’s Wildfire Safety Plan for our PSPS notification strategy in advance of a wildfire to ensure potentially impacted customers are made aware of an upcoming PSPS event.

In the event of a wildfire, PG&E communicates with customers who may be experiencing an outage to share restoration timeframes. Notification of emergencies such as the start of a wildfire are typically communicated by local governments.

Linguistically isolated customers are encouraged to use language line services through our 24/7 contact center as needed. Following a wildfire, PG&E provides customer support through a series of billing and service modifications to provide disaster relief to support customers. These measures are included in PG&E’s Emergency Consumer Protection Plans.

For the Public Safety Power Shutoff program, we are coordinating closely with telecommunications companies to ensure they are aware of potential shutoffs and can therefore prepare accordingly. In the event of a wildfire, PG&E will communicate with telecommunications providers if they have an outage, and prioritize them during restoration along with other critical service providers.

**PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans
Rulemaking 18-10-007
Data Response**

PG&E Data Request No.:	CEJA_002-Q05		
PG&E File Name:	WildfireMitigationPlans_DR_CEJA_002-Q05		
Request Date:	February 28, 2019	Requester DR No.:	002
Date Sent:	March 6, 2019	Requesting Party:	California Environmental Justice Alliance
PG&E Witness:		Requester:	Deborah Behles

QUESTION 05

With relation to ignitions caused by equipment failure that are discussed on page 26 of your plan, have you analyzed how effective past inspections have been in identifying equipment that may fail? For example, was any of the equipment that caused an ignition identified in an inspection before the ignition as needing replacement? If so, please identify the percentage of equipment that was identified as needing replacement before the ignition. Do you expect the ability of inspections to identify problematic equipment to change with the enhanced inspection program described in your Plan?

ANSWER 05

PG&E does not have aggregated data available to calculate the “percentage of equipment that was identified as needing replacement before the ignition.” During ignition investigations information about outstanding maintenance tags from prior inspections may be reviewed to identify lessons learned, but this data has not been aggregated in an historical ignition dataset.

PG&E’s inspection program and practices continue to evolve to incorporate lessons learned. The Wildfire Safety Inspection Programs outlined in PG&E’s Wildfire Safety Plan further matured this evolution through the updating of a risk-based approach including conducting a Failure Modes and Effects Analysis or “FMEA.” The focus of the FMEA was to identify single points of failure of electric system components that could lead to fire ignition and then aid in the development of inspection methods that can most appropriately identify the condition of these respective components.

**PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans
Rulemaking 18-10-007
Data Response**

PG&E Data Request No.:	MGRA_001-Q15		
PG&E File Name:	WildfireMitigationPlans_DR_MGRA_001-Q15		
Request Date:	March 3, 2019	Requester DR No.:	001
Date Sent:	March 7, 2019	Requesting Party:	Mussey Grade Road Alliance
PG&E Witness:	Matthew Pender	Requester:	Joseph W. Mitchell

SUBJECT: THE FOLLOWING SET OF QUESTIONS PERTAINS TO PLANS FOR EXPANDED OR “ENHANCED” VEGETATION MANAGEMENT PLANNED BY MAJOR UTILITIES TO BE APPLIED TO “AT RISK” OR “RELIABILITY” TREES IN THE “STRIKE ZONE”.

QUESTION 15

Are all trees of “at risk” or “reliability” species within the “strike zone” of utility equipment planned for trimming or removal? If arborist discretion is to be used, what factors will be used to determine which trees will be trimmed or removed, and what approximate fraction of “at risk” or “reliability” tree species will be trimmed or removed as enhanced vegetation management is implemented?

ANSWER 15

Not all individual trees of the at-risk tree species population will be trimmed or removed. The determination on which trees to trim or remove is made by a utility arborist leveraging the in-field criteria provided below. Because PG&E does not have comprehensive data on the total population of at-risk tree species trees with strike potential of powerlines, the data is not available to estimate the “approximate fraction of ‘at risk’ or ‘reliability’ tree species [that] will be trimmed or removed as enhanced vegetation management is implemented”.

Targeted Tree Species Outside of 4’ Overhang Zone

The species below should be considered for treatment. The guidelines below should be used to inform the vegetation management prescription for trees with the potential to impact electric overhead primary conductors. The Hazard Tree Rating System (HTRS) scoring below provides guidance to complement local conditions and considerations. Exact scores for trees (whether they are identified to be worked or not) are not expected to be recorded or tracked.

Targeted Tree Species with High Failure Likelihood List Outside of 4’ Overhang Zone

#	Tree Species	Consider removal of	Remove limbs or tree if
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		limbs or tree if HTRS Strike Likelihood score is:	HTRS Strike Likelihood score is greater than:
1	Black oak	0-1	1
2	Tanoak	1-4	4
3	Gray Pine	1-4	4
4	Coast Live Oak	1-4	4
5	Blue Gum / Eucalyptus	4-6	6
6	Valley Oak	4-6	6
7	Douglas-fir	4-11	11
8	Live Oak	4-11	11
9	Ponderosa Pine	4-11	11
10	Monterey Pine	4-11	11

Relevant excerpt (Strike Likelihood Assessment tool) from the Hazard Tree Rating System:

TD-7102P-07-F01 Hazard Tree Rating System, 1/25/2018, Rev. 1											
Decide if the assessment will evaluate a tree or part of a tree that has the potential to make contact with electrical facilities. More than one assessment can be completed on a single tree.											
ELEMENT	CONDITION (RATING IN BLUE)							Assessment			
								A	B	C	
STRIKE LIKELIHOOD											
Total height & distance to the conductor of the part that is most likely to fail	Tree height < conductor (STOP)	Distance > than tree height (STOP)	Distance = Tree Height (0)	Distance ≤ 90% of tree height (1)	Distance ≤ 75% of tree height (3)	Distance ≤ 50% of tree height (5)	Distance ≤ 25% of tree height (7)				
Path (part most likely to fail)					No path to facility (0)	Possible path or domino to facility (1)	Likely path or domino to facility (3)				
Lean (part most likely to fail)			Severe away from facility (-7)	Mod away from facility (-5)	Slight away from facility (-3)	Vertical or slight to facility (3)	Mod to facility (5)	Severe to facility (7)			
Weight (part most likely to fail)			Severe away from line (-5)	Mod away from line (-3)	Slight away from line (-1)	Neutral or slight line side (1)	Mod line side (3)	Severe line side (5)			
STRIKE TOTAL								0	0	0	
<1=None; STOP	1-4= Very Low (VL)	5-6= Low (L)	7-11= Mod (M)	12-16= High (H)	>16 Very High (VH)	Strike Likelihood Level			STOP	STOP	STOP

**PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans
Rulemaking 18-10-007
Data Response**

PG&E Data Request No.:	MGRA_001-Q17		
PG&E File Name:	WildfireMitigationPlans_DR_MGRA_001-Q17		
Request Date:	March 3, 2019	Requester DR No.:	001
Date Sent:	March 7, 2019	Requesting Party:	Mussey Grade Road Alliance
PG&E Witness:	Matthew Pender	Requester:	Joseph W. Mitchell

SUBJECT: THE FOLLOWING SET OF QUESTIONS PERTAINS TO PLANS FOR EXPANDED OR “ENHANCED” VEGETATION MANAGEMENT PLANNED BY MAJOR UTILITIES TO BE APPLIED TO “AT RISK” OR “RELIABILITY” TREES IN THE “STRIKE ZONE”.

QUESTION 17

How many instances of outages due to vegetation contact or fall-in occurred over the last five years for circuits using covered conductor or “tree wire”? How many ignitions? What is the rate per deployed mile of vegetation-caused outages and vegetation-caused ignitions for covered conductor? How does this compare to bare conductor?

ANSWER 17

For the purposes of this data request, PG&E reviewed all vegetation-caused electric distribution system outages throughout the PG&E service territory from 2014-2018. During that period 1,693 vegetation-caused outages were on spans where “tree wire” was reported to be present.

A similar analysis of ignition data across the entire PG&E service territory identified that 11 vegetation-caused fire ignitions were on spans where “tree wire” was reported to be present.

Unfortunately, PG&E used the term “tree wire” broadly for the purposes of classifying conductors in the outage and ignition databases, and this use is not consistent with PG&E’s current definition of covered conductor. So, while PG&E estimates that there were approximately 245 circuit miles in service with covered conductor as of late 2018, there was an uncertain volume of additional circuits equipped with other classes of “tree wire.” This “tree wire” designation in some cases included circuits with only a fabric sleeve over the conductor to provide minimal insulation if a line were to come into contact with vegetation. Therefore, PG&E is unable to calculate the rate of vegetation-cause outages or ignitions per mile of covered conductor and how that compares against bare conductors.