

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

PG&E Data Request No.:	TURN_022-Q01		
PG&E File Name:	WildfireMitigationPlans_DR_TURN_022-Q01Supp01		
Request Date:	March 10, 2021	Requester DR No.:	WMP 2021 DR TURN-PGE-008
Date Sent:	March 15, 2021 Supp01: March 16, 2021	Requesting Party:	The Utility Reform Network
PG&E Witness:		Requester:	Tom Long

**QUESTION 01**

With respect to the Distribution System Hardening Program discussed in WMP Section 7.3.3.17.1, on page 558, PG&E states that it is targeting 180 miles in 2021. PG&E further states on p. 558:

“While this 2021 target of 180 miles does represent a drop from the 2020 mileage target, this is as a result of the previously referenced improvement in modeling and significant pivot in targeting. PG&E needed to change course, stop previously selected projects and start different projects that are in alignment with our updated risk model. More importantly, the 180 miles targeted in 2021 represent a greater risk reduction value than if we had continued on the previously planned work plan and executed approximately 300 miles in 2021. Under the new risk model the 301 miles of potential system hardening work originally planned for 2021 equated to 125 risk units in PG&E’s multi-attribute value function (MAVF) calculation. The 180 miles now targeted for completion in 2021 are worth 198 risk units, a 58% increase in quantifiable risk reduction even though the mileage number is reduced.”

- a. Please provide workpapers showing the calculations and inputs for the risk unit values given in the quote above. Please also provide a written explanation of how PG&E derived those risk unit values.
- b. Please explain how PG&E determined that 180 miles of this activity should be its target for 2021, instead of a lesser number of miles. Please do not repeat the discussion quoted above about 180 miles providing more risk reduction than the 301 miles previously targeted for 2021.
- c. Please describe in detail any risk analysis that PG&E performed using its new risk model prior to submission of its WMP of a target for this program less than 180 miles and provide any documents reflecting such analysis. Please include in the description whether PG&E considered the potential for any new or emerging technologies, such as those discussed in Section 7.1.D of the WMP, to provide comparable risk reduction benefits at lower cost, and, if so, how such consideration affected PG&E’s thinking about the appropriate target for this program.

- d. Whether or not such analysis was prepared prior to the submission of its WMP, please provide the following information:
- i. For each increment of 10 miles of this program in 2021, starting from 0 miles up to the 180 mile target, please provide the risk reduction, cost, and RSE, using PG&E's new risk model.
  - ii. Please provide the inputs and calculations to derive the numbers in "i" above.
  - iii. Please show how the RSE numbers requested in "i" above are correlated with the 6.047 RSE value shown in Attachment 1, Table 12 of the WMP, which TURN assumes to be an average RSE for the target of 180 miles.
  - iv. If PG&E is unable to provide the values requested in "i" above, please explain why not.
  - v. If PG&E is unable to provide the values requested in "i" above, does PG&E agree that, assuming PG&E prioritizes the work in this program where the risk is highest, the risk reduction and RSE will decline with each increment of 10 miles? If PG&E does not agree, explain your response.

#### **ANSWER 01 SUPPLEMENTAL 01**

- c. We did not do any risk modeling for programs sized less than 180 miles before the 2021 WMP submission. With that in mind, while modeling for a 180 mile program, we considered other technologies such as REFCL and DTS-FAST in developing the target for this program. However, the alternatives considered (e.g., REFCL and DTS-FAST) did not impact the program target of 180 miles because these technologies are not sufficiently tested to be an equivalent risk mitigation to system hardening for purposes of work to be done in 2021.
- d (v). No. The risk buy-down curve included in the original response is shown by circuit segment, not by 10-mile increments, and these segments vary in length from less than 1 mile to greater than 100 miles. In general, we agree with the premise that if you prioritize the highest risk work first, the remaining work will have lower priority and risk reduction benefits.

#### **ANSWER 01**

- a. We are providing "WildfireMitigationPlans\_DR\_TURN\_022-Q01-Atch01" to support this answer. The tab "Risk Comparison" compares the 2021 Wildfire Distribution Risk Model vs. the 2019-2020 Wildfire Risk Model. Additional detail is found in the sections labeled "2021 Wildfire Distribution Risk Model" and "2019-2020 Wildfire Risk Model" in the attachment. Upon further review of the 301-mile portfolio, the actual risk reduction equated to ~118 units of risk, not 125 as described in the 2021 WMP – with this correction, the actual increase is 68% vs. 58%.
- b. PG&E's shift in System Hardening targeting strategy, to reflect the 2021 Wildfire Distribution Risk Model enhancements, required a pivot in the workplan proposed for 2021. This pivot focused System Hardening efforts on projects which:

1. Were a part of on-going fire rebuild programs
2. Were in construction with either (a) a significant amount of work completed (i.e., poles replaced) or (b) supporting on-going pilots required to streamline our permitting processes
3. Represented the highest risk circuit protection zones (e.g., CPZs in the top 20%), with a primary focus of the top 250 miles of the CPZs.
4. Fell on highest PSPS impacted circuits (e.g., top quartile event frequency and median customer count from a 10-year lookback analysis conducted by PG&E)

At the time of the 2021 WMP submission, there were ~275 miles of System Hardening projects which were contemplated for inclusion in the 2021 System Hardening workplan. These projects fell at different stages of the project lifecycle, reflecting the amount of effort which PG&E had already undertaken to scope and plan these projects. PG&E assumed that projects which were underway (items 1 and 2 above, representing ~74 miles) could be completed in 2021 based on current estimates. New projects that were proposed as a result of the risk model updates (items in 3 and 4 above, representing ~201 miles) were discounted by the planning and execution teams to reflect executability challenges within 2021. Executability challenges include, but are not limited to:

- Long lead times to complete undergrounding (which represents up to 40% of the total miles expected to be hardened in the near term)
- Time requirements for the planning and execution teams to effectively scope mitigations, acquire permits, safely execute projects, etc.

Reaffirming our commitment to reduce wildfire risk as quickly and safely as possible, the 180 mile target represents PG&E best estimate of the miles it can safely harden in 2021 per the assumptions above.

- c. We did not do any risk modeling for programs sized less than 180 miles before the 2021 WMP submission. With that in mind, while modeling for a 180 mile program, we considered other technologies such as REFCL and DTS-FAST in developing the target for this program.
- d. We have not determined the specific 180 miles that will be hardened in 2021, which is a function of the fact that the 2021 System Hardening workplan is still being finalized (for reference, this was addressed in “WildfireMitigationPlans\_DR\_CalAdvocates\_044-Q06”), so we cannot provide the requested analysis. The workplan is reviewed weekly with the Wildfire Risk Governance Steering Committee, which approved 180 miles as the 2021 target based on the discussion in subpart b above.

We are also using a Risk Buy-Down curve, included below, to help determine which miles meet the goals of the program.

