PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans Discovery 2022
Data Response

PG&E Data Request No.:	OEIS_011-Q02		
PG&E File Name:	WMP-Discovery2022_DR_OEIS_011-Q02		
Request Date:	April 22, 2022	Requester DR No.:	OEIS-PG&E-22-011
Date Sent:	April 27, 2022	Requesting Party:	Office of Energy Infrastructure Safety
PG&E Witness:		Requester:	Kevin Miller

SUBJECT: SECTIONALIZATION DEVICES

QUESTION 02

In Table 5.3-1(A) of PG&E's 2022 WMP Update PG&E shows a decrease in targets for implementing sectionalization devices both at the distribution and transmission levels. For distribution, PG&E's targets decreased from 250 in 2021 to 100 in 2022. For transmission, PG&E's targets decreased from 29 in 2021 to 15 in 2022.

a. Explain why PG&E has decreased its targets from 2021 to 2022 for sectionalization devices for both distribution and transmission.

b. Provide any risk/benefit analysis completed for implementing more sectionalization devices for determination of targets.

c. Explain how PG&E intends to decrease the number of customers impacted by de-energization (both for EPSS and PSPS) through future sectionalization, including how such analysis is used for determination of targets.

ANSWER 02

a. For distribution, many of the highest impact locations have already been sectionalized so there may be lesser benefit (in terms of number of customers likely to benefit from such devices during PSPS events) as compared to work performed in prior years. As more devices are installed each year, the need to install additional devices in subsequent years decreases as the parts of the system experiencing highest frequency of outages and greatest number of customers impacted by PSPS events are addressed. There is decreasing marginal benefit of installing more devices. However, PG&E will continue to install some new sectionalizing devices closer to refined meteorological shutoff boundaries.

   For Transmission Line, additional units above the target are in progress in 2022, as noted in WMP Section 7.1.h (an approximate total of over 30 switches). Regarding the decrease in units by 9/1/22, note that sectionalizing device projects span multiple years and have a wide range of variables, dependencies and complexities impacting execution durations including material availability, clearance availability, permitting, seasonal location accessibility, competing high priority work and resource availability. PG&E is experiencing longer lead times and supply chain issues for critical materials. Additionally, the increased complexity of the active

projects is resulting in longer clearance durations moving more of the work into the fall when clearances are more available. As a result, less work is forecasted to complete prior to 9/1/22. Also, similar to distribution, as more devices are installed each year, the benefit from additional devices in subsequent years is lower based on the 10-year lookback.

b. For distribution, PG&E has utilized the PSPS 10-yr Lookback model to identify locations in 2022 for new automated sectionalizing devices with the highest frequency of PSPS occurrence. Selecting these locations to isolate the distribution circuits close to designated meteorology shutoff polygons helps to reduce the customer impact and scope of PSPS events.

   For transmission line, prioritization of new or upgraded transmission sectionalizing devices is based on circuit HFTD location, likelihood of potential de-energization during future PSPS events (based on a study of 10-years of weather data), and potential customer impact. Execution efficiencies are also considered in determination of workplan, such as bundling opportunities and switches that were already in progress/carry over from prior years before the lookback study was utilized.

c. For distribution, utilizing the PSPS 10-yr Lookback model, PG&E has identified locations for 2022 for new automated sectionalizing devices from the highest frequency of PSPS occurrence down to locations with 4 PSPS events within 10-years. PG&E is considering transitioning the PSPS sectionalizing device program into an EPSS sectionalizing device program beginning in 2023. Utilizing historical outage data, distribution circuits anticipated to have the highest frequency of EPSS outages, and circuits anticipated to have the highest number of customers impacted by EPSS outages, will be analyzed to determine key locations to replace Tap Line Fuses with new automated sectionalizing devices to reduce the size of EPSS zones.

   For transmission line, the 10-yr Lookback model, which was a factor in prioritization of the sectionalizing device work, takes into account the potential customer impact. However, because much of the transmission grid is network-configured, direct customer count is not the sole indicator of switch effectiveness. Sectionalizing devices support reliability by keeping networked paths energized, even if the device has no direct customer impact. In general, actual customer benefits due to switching vary based on severity and location of PSPS events, as well as grid operational conditions at the time of the event.