

**PACIFIC GAS AND ELECTRIC COMPANY  
Wildfire Mitigation Plans Discovery 2023  
Data Response**

PG&E Data Request No.:	OEIS_002-Q004		
PG&E File Name:	WMP-Discovery2023_DR_OEIS_002-Q004		
Request Date:	April 13, 2023	Requester DR No.:	P-WMP_2023-PG&E-002
Date Sent:	April 18, 2023	Requesting Party:	Office of Energy Infrastructure Safety
DRU Index #:		Requester:	Colin Lang

**SUBJECT: REGARDING WEATHER STATIONS**

**QUESTION 004**

- a. On page 567, PG&E references the weather stations deployed over their 70,000 square mile territory for monitoring conditions.
  - i. Provide the instillation standard that all PG&E weather stations are installed to. Include height from ground, direction of cross-arm, and which side of the pole/tower they are installed on.
- b. On page 570, PG&E references the maintenance for their weather stations and calibrations preformed to “our standard”.
  - i. Provide the PG&E specific standard that is being referenced for the calibrations as compared to the manufactures standards.
  - ii. Provide the total number of stations that are serviced annually over the past 3 years, and the maintenance preformed on each station.
  - iii. Provide the total number of stations not serviced annually over the past 3 years due to “remoteness of location” and “weather conditions”.
  - iv. Provide the estimated life span of each sensor and the replacement cycle for each.

**ANSWER 004**

- a.
  - i. Please see the attachment “*WMP-Discovery2023\_DR\_OEIS\_002-Q004Atch01CONF.pdf*” for the requested information.
- b.
  - i. Please see the attachment “*WMP-Discovery2023\_DR\_OEIS\_002-Q004Atch01Atch02CONF.pdf*” for the requested information. We developed our calibration procedure in coordination with Western Weather Group, who provides guidance on calibration and maintenance cycles.
  - ii. Over the last 3 years, 611 out of 622 stations were calibrated in 2020, 981 out of 991 stations in 2021, and 1297 out of 1315 stations in 2022. The remainder

of these stations were not able to be serviced due to External Factors such as customer refusals, environmental-concern related refusals, weather conditions, and safety issues. We are unable to provide the historical maintenance performed on each station but—based on historical data—we forecast 30% of our weather stations to have an incident-ticket issued per year. This is corrective maintenance as opposed to preventive (calibration) maintenance.

During preventative maintenance (calibrations), technicians are instructed to inspect the weather station for issues such as missing or damaged hardware and equipment. They are also instructed to document weather station information, perform tests on equipment, upgrade software, and replace any equipment that is not working correctly.

- iii. Over the last 3 years, 6 weather stations could not be calibrated in 2021 and 3 in 2022 due to the remoteness of the location and weather conditions.
- iv. Below is a table with estimated life span for weather station equipment. This was provided by our partner, Western Weather Group.

Part	Lifespan	Warranty
Datalogger	10-15 Years	3 Years (Campbell)
Charging Regulator	10-15 Years	5 Years (Campbell)
Temp/RH Sensor	10-15 Years	1 Year (Campbell)
Wind Sensor	10-15 Years	1 Year (Campbell)
New Power Relay	10 Years	1 Year (WWG)
Cellular Modem	As technology advances	3 Years (WWG)
Sealed Lead Acid Battery	2-5 Years	No Warranty
Lithium Battery	10-20 Years	10 Years (WWG)
Enclosure	5-10 Years	1 Year (Campbell)
65W Solar Panel	10-15 Years	1 Year (Campbell)
4ft Crossarm	20+ Years	1 Year (Campbell)