



**Pacific Gas and
Electric Company™**

Matthew Pender

Mailing Address
P.O. Box 7442
San Francisco, CA 94120

Street/Courier Address
77 Beale Street, 28th Floor
San Francisco, CA 94105

(415) 973-3604
Email: matthew.pender@pge.com

September 11, 2020

VIA E-MAIL
Caroline.Thomasjacobs@cpuc.ca.gov

Caroline Thomas Jacobs, Director
Wildfire Safety Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Subject: Pacific Gas and Electric Company's Change Order Report

Dear Ms. Jacobs,

Pursuant to Resolution WSD-002, Ordering Paragraph 10, Pacific Gas and Electric Company (PG&E) submits its first Change Order Report to the Wildfire Safety Division (WSD) to seek a modification to an initiative set forth in our 2020 Wildfire Mitigation Plan (WMP).

BACKGROUND

Resolution WSD-002 directed the electrical corporations to submit two Change Orders Reports, the first report to be submitted three months after the ratification of the Resolution WSD-002 and the second report to be submitted six months after ratification of Resolution WSD-002. The Change Order is intended to describe changes to our WMP programs and initiatives as new information becomes available and to make adjustments based on this information. As stated, the goal of the Change Order process is to make changes to our WMP as they pertain to "WMP approval criteria (i.e., completeness, technical feasibility, effectiveness,

and resource use efficiency).”¹ PG&E’s first Change Order is limited to a single initiative change due to the technical feasibility of completing this project on the initially proposed timeline, as detailed below.

PROPOSED CHANGE

I. Proposed Change

In Section 5.3.2 of PG&E’s 2020-2022 WMP, Situational Awareness and Forecasting, we proposed various initiatives intended to reduce ignition probability and wildfire consequence. One such initiative described on page 5-94 of the WMP, is the Sensor IQ pilot. The Sensor IQ pilot customizes reads and alarms with the goal of identifying service transformer failures. The data collected through Sensor IQ may prove valuable for a variety of other wildfire related initiatives including: (1) Rapid Earth Fault Current Limiter which requires feeder phasing to determine the line-earth capacitive imbalance; and (2) increasing data and the frequency of data collected, thereby improving wires down algorithms to find faults.

PG&E planned Sensor IQ pilot deployment on approximately 500K Smart Meters™ in High Fire Threat District (HFTD) areas before the upcoming wildfire season, covering approximately 25,597 distribution line miles.

a. Budget Impact

In Attachment 1, Table 22 of the WMP, PG&E estimated the 2020 forecast for the Sensor IQ pilot to be approximately \$1.8 million. Of the estimated \$1.8 million forecast, as of August 31st, \$1.384 million has been spent towards setting up the underlying infrastructure required to deploy Sensor IQ technology to Smart Meters™ and capture and store the granular load, voltage, and outage data to further enable predictive maintenance data analytics. The overall annual forecast of \$1.8 million remains unchanged at this time.

As of August 31, 2020, there have been no formal redeployments of any unspent budget from the Sensor IQ pilot to any other initiatives. Moreover, there is often no targeted one to one reallocation of budgets across initiatives, instead, unspent budgets in one or many initiatives are offset by one or many budget overruns in other initiatives.

b. Change Description

PG&E is proposing a change in deployment timing due to a vendor product interoperability issue and technology constraints related to a data center upgrade required to capture and store granular load, voltage, and outage data that the Sensor IQ software collects from the Smart Meters™.

At this point, PG&E is not able to provide a revised schedule for the Sensor IQ Pilot until the product interoperability issue can be fully assessed with the vendor and a technological

¹ Resolution WSD-002, p.32.

solution can be determined. PG&E is optimistic that the data collected from the Sensor IQ technology will benefit grid operations and predictive maintenance analytics to support wildfire risk reduction efforts, therefore, PG&E remains committed to deploying Sensor IQ technology to all 500K Smart Meters™ once the technological limitations have been resolved. PG&E plans to utilize the next Change Order scheduled for December 11, 2020 or the 2021 WMP Filing to provide a revised schedule for the Sensor IQ Pilot.

II. Justification for the Proposed Change

Currently, initial testing has determined that it is technically infeasible to deploy the current version of the Sensor IQ tool to PG&E's Smart Meters™ due to incompatibility issues between the firmware version currently installed on the Smart Meters™ and the Sensor IQ software. PG&E is working closely with the software vendor to identify a resolution to these compatibility issues. It is therefore necessary to delay the Sensor IQ deployments until compatibility issues can be resolved. Waiting to deploy a Sensor IQ tool that is compatible with the firmware will allow for the granular load, voltage, and outage data to be accurately captured and subsequently utilized to explore its value towards wildfire risk reduction efforts. Alternatively, deploying incompatible Sensor IQ software to Smart Meters™ is unlikely to result in useable and accurate data being collect and has the potential to create other unintended consequences that could adversely impact current Smart Meter™ operability and functionality.

Additionally, as had briefly been mentioned to WSD leadership, PG&E identified during the development of the Sensor IQ pilot that the current data center that will be used to aggregate the Sensor IQ data has previously unidentified capacity limitations. If the incompatibility issues identified above can be resolved timely PG&E will be limited to deploying Sensor IQ to no more than 200,000 Smart Meters™ in 2020. A data center upgrade and conversion will be completed in early 2021 that would increase the capacity to support Sensor IQ on all 500,000 Smart Meters™.

III. Changes in Expected Outcomes from Proposed Change

The Sensor IQ Pilot was originally expected to utilize Sensor IQ data deployed on 500K Smart Meters™ in Tier 2 and 3 HFTD areas before the start of wildfire season to explore the development of improved preventative maintenance analytics to detect system anomalies, potential equipment failure, and ignition sources by December 31, 2020.

With the delay in the Sensor IQ deployments described above, there will be an associated delay in conducting a strategic assessment to understand what operational value can be derived using granular load, voltage, and outage data collected by the Sensor IQ technology to improve preventative maintenance analytics to detect system anomalies, potential equipment failure, and ignition sources. Since the use cases for the data are unknown until a strategic assessment is conducted, potential outcomes associated with the proposed adjustment of this initiative, including quantitative ignition probability and PSPS risk reduction outcomes, are also unknown.

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Thank you for your consideration of this Change Order. If you have any questions, or require any additional information, please contact me at the Matthew.Pender@pge.com.

Sincerely,
Matthew Pender



Director, Electric Operations Regulatory Strategy & Community Wildfire Safety Program PMO
77 Beale Street, 28th Floor
San Francisco, CA 94105
(415) 973-3604
Matthew.Pender@pge.com

cc:
WildfireSafetyDivision@cpuc.ca.gov
CALFIREUtilityFireMitigationUnit@fire.ca.gov
R.18-10-007 service list