



Reliability Performance

Pilot Communities

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Our electric system



We are committed to delivering safe, reliable, affordable and clean energy.



operates and maintains
107,302 miles
of distribution lines



18,616 miles
of interconnected transmission lines
focused on clean energy



Our electric system



Power Generated at
13–25 kV

Transmission Line
60, 115, 230 or 500 kV

Distribution Line
4, 12, 17 or 21 kV

Home or Business
120–480 Volts

Why are there outages and interruptions?



Weather



Vegetation (trees contacting power lines)



Animals



Equipment failure



Vehicle accidents



Digging into underground electric lines

Outage Classifications

The company classifies outages according to industry definitions, in the Institute of Electrical and Electronic Engineers (IEEE) standards.



Momentary Outage

An outage less than 5 minutes in duration. (these are excluded in this presentation).



Sustained Outage

An outage more than 5 minutes in duration.



Planned Outage

Outages which are customer or public official-requested or where the company has provided notice to the customer (these are excluded in this presentation).



Major Event Day (MED)

A set of outages which occurred during a specific time and location and which combined, exceeds historically expected outage duration for at least one day (as defined in IEEE 1366-2012)

How We Manage Reliability

Immediate Response

Restoration crews make repairs and improvements to the electric system due to an outage

Daily Reviews

Previous day outages are reviewed and near-term system improvement projects are identified

Weekly and Monthly Reviews

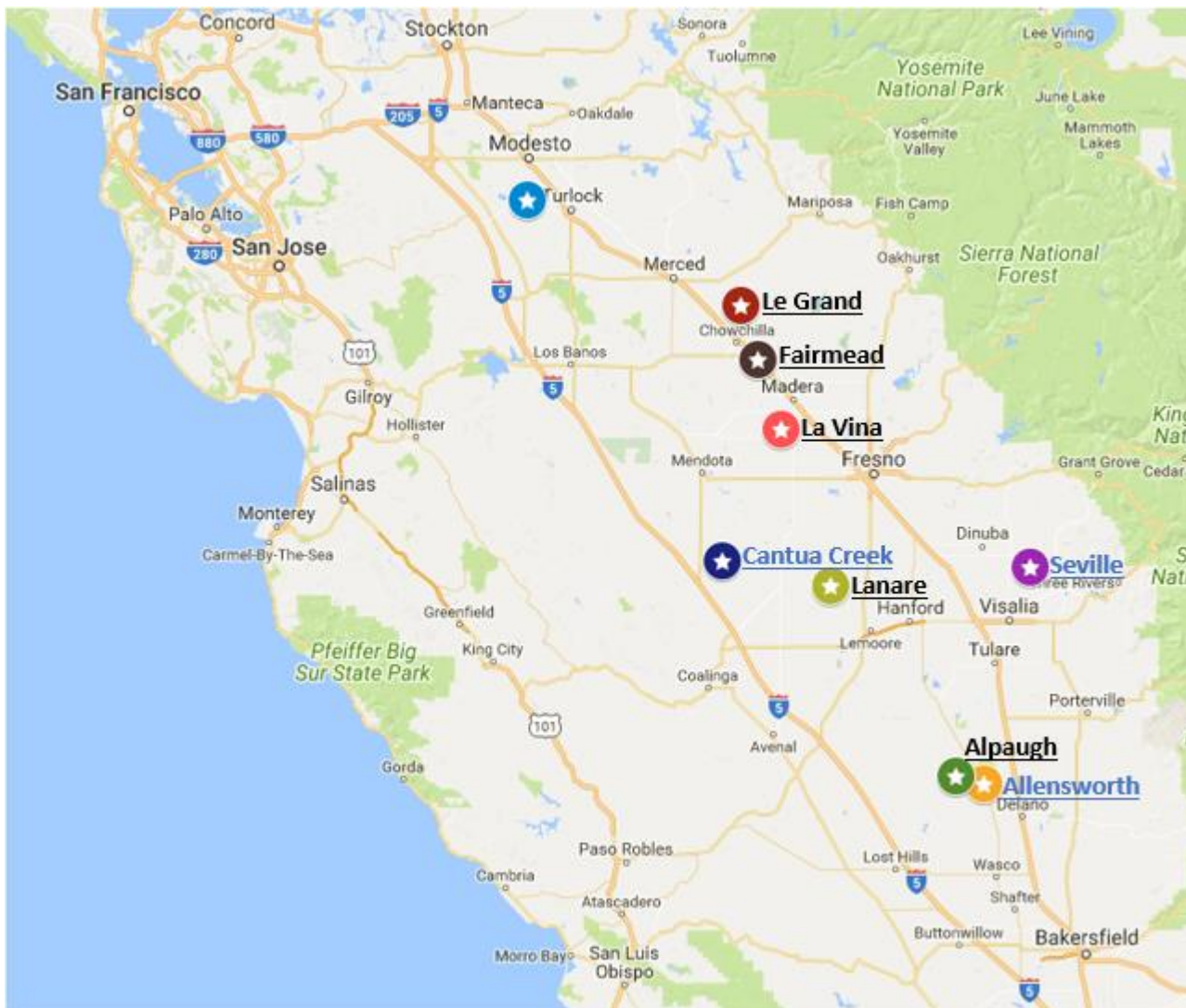
Trends in electric reliability are reviewed and action items are developed for both near- and long-term system improvement projects

Annual Reviews

Long-term (one year or greater) system improvement projects are identified and planned



SJV DAC Pilot Areas

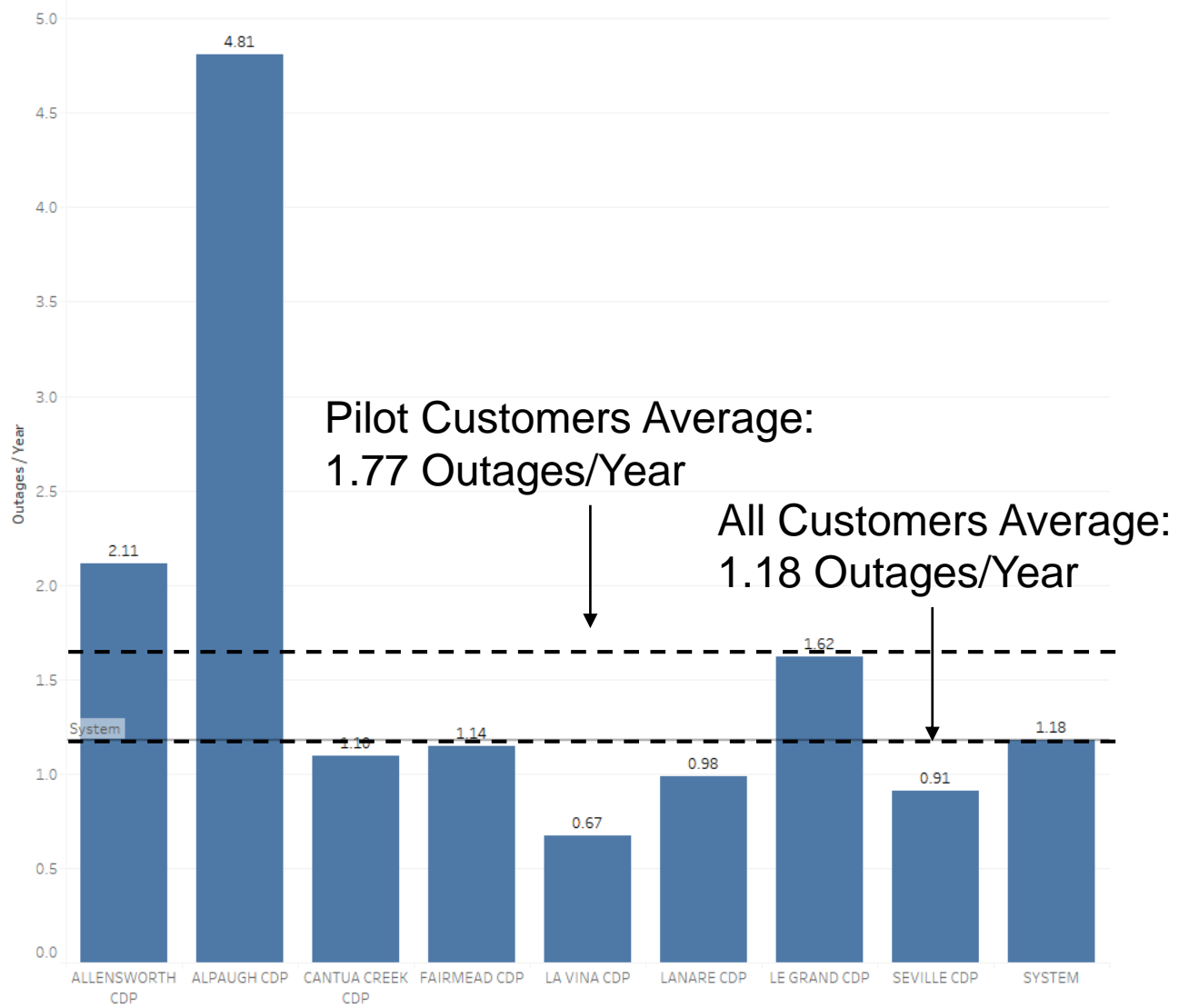


Legend:
Third-party administered pilots
PG&E- administered pilots



Reliability Metrics By Pilot Community – Includes MEDs

Average Annual Reliability Performance (2016-2018) - Including MEDs



On average, pilot customers experience slightly more outages per year than the average customer.

This difference is 0.59 more outages per year (i.e. ~ one additional outage every 2 years).

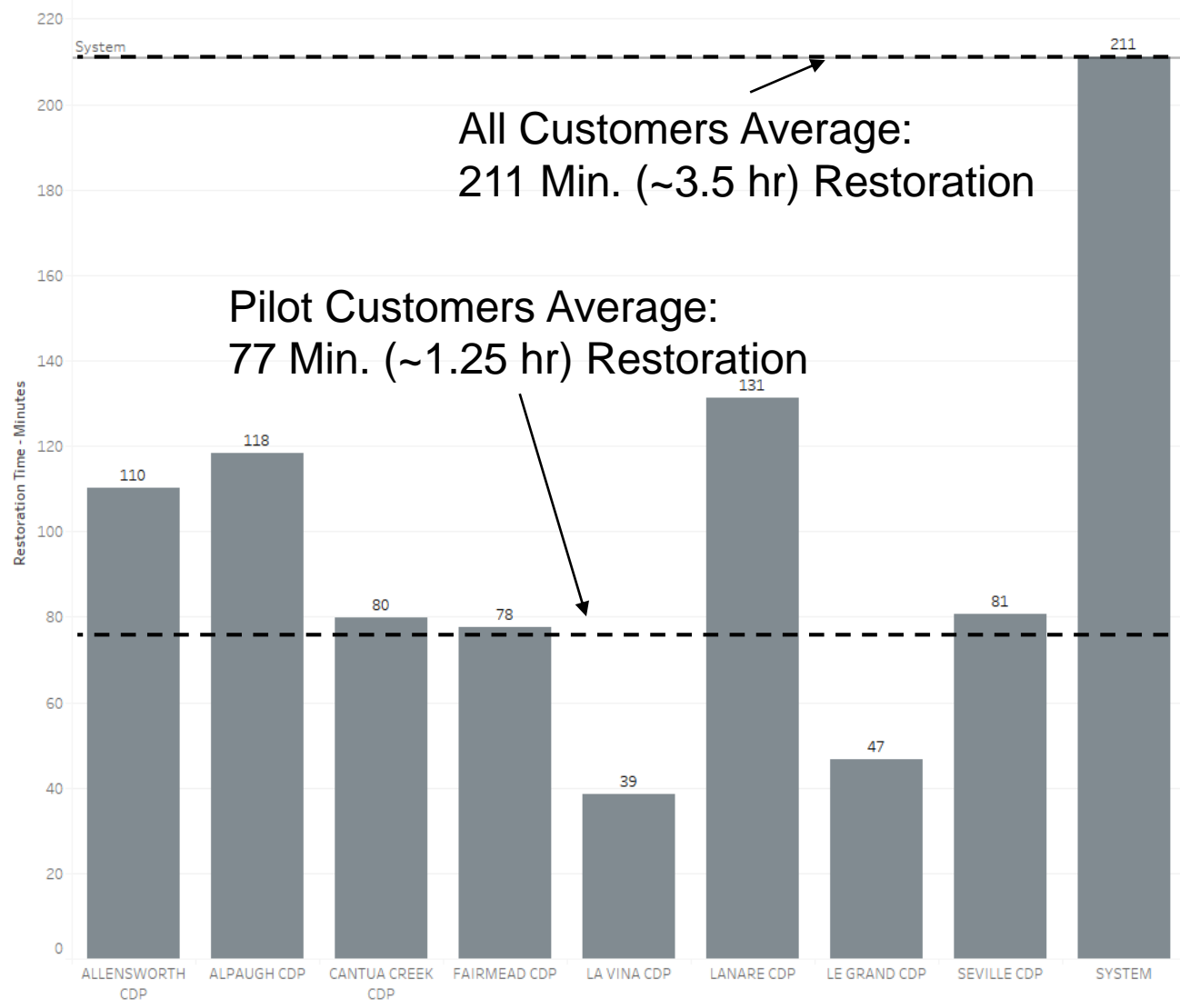
Alpaugh CDP has the highest outage frequency among pilot communities

Note: Major Events Days are days that experience a significant number of outages system-wide, typically due to large storm events.



Reliability Metrics By Pilot Community – Includes MEDs

Average Annual Reliability Performance (2016-1018) - Including MEDs



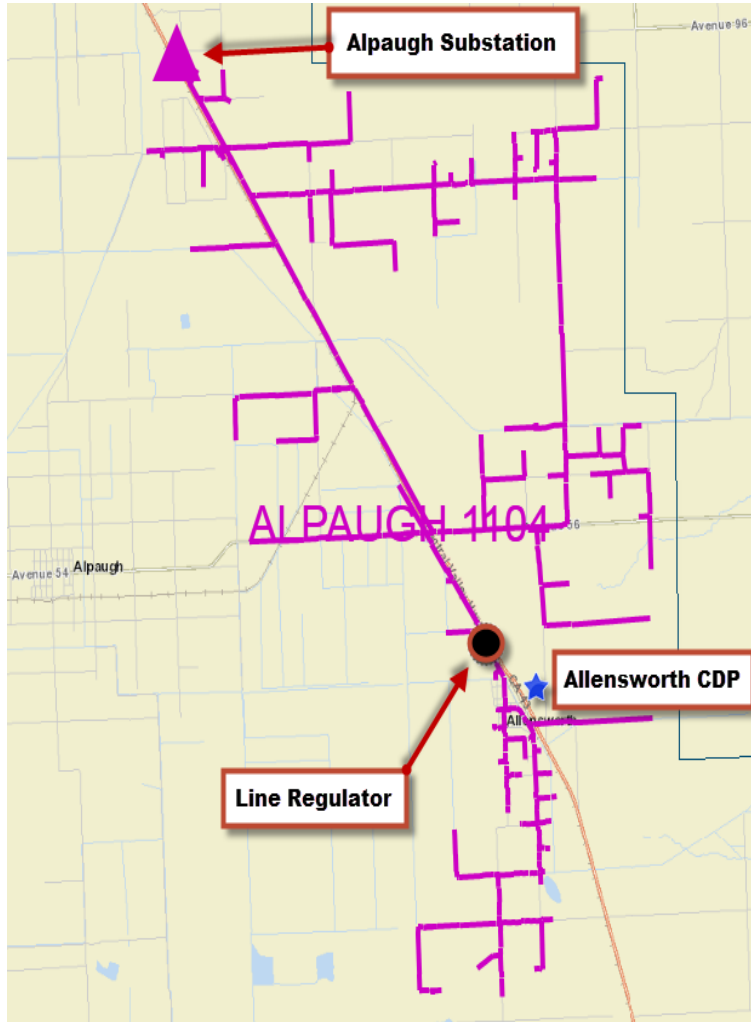
Pilot customers experience significantly better service restoration times than the average customer.

On average, outages for pilot customers are 2+ hours shorter than for a typical customer.

Note: Major Events Days are days that experience a significant number of outages system-wide, typically due to large storm events.

PG&E® Allensworth CDP Line Voltage Regulator Failure Outage Example

Equipment Failure outage on February 3, 2017



Failed voltage regulator impacting 106 Allensworth CDP customers. All customers fully restored in 346 minutes (~6 hours).

Locating the failed voltage regulator and muddy conditions contributed to the restoration time.

Bird nest found at location (see picture).

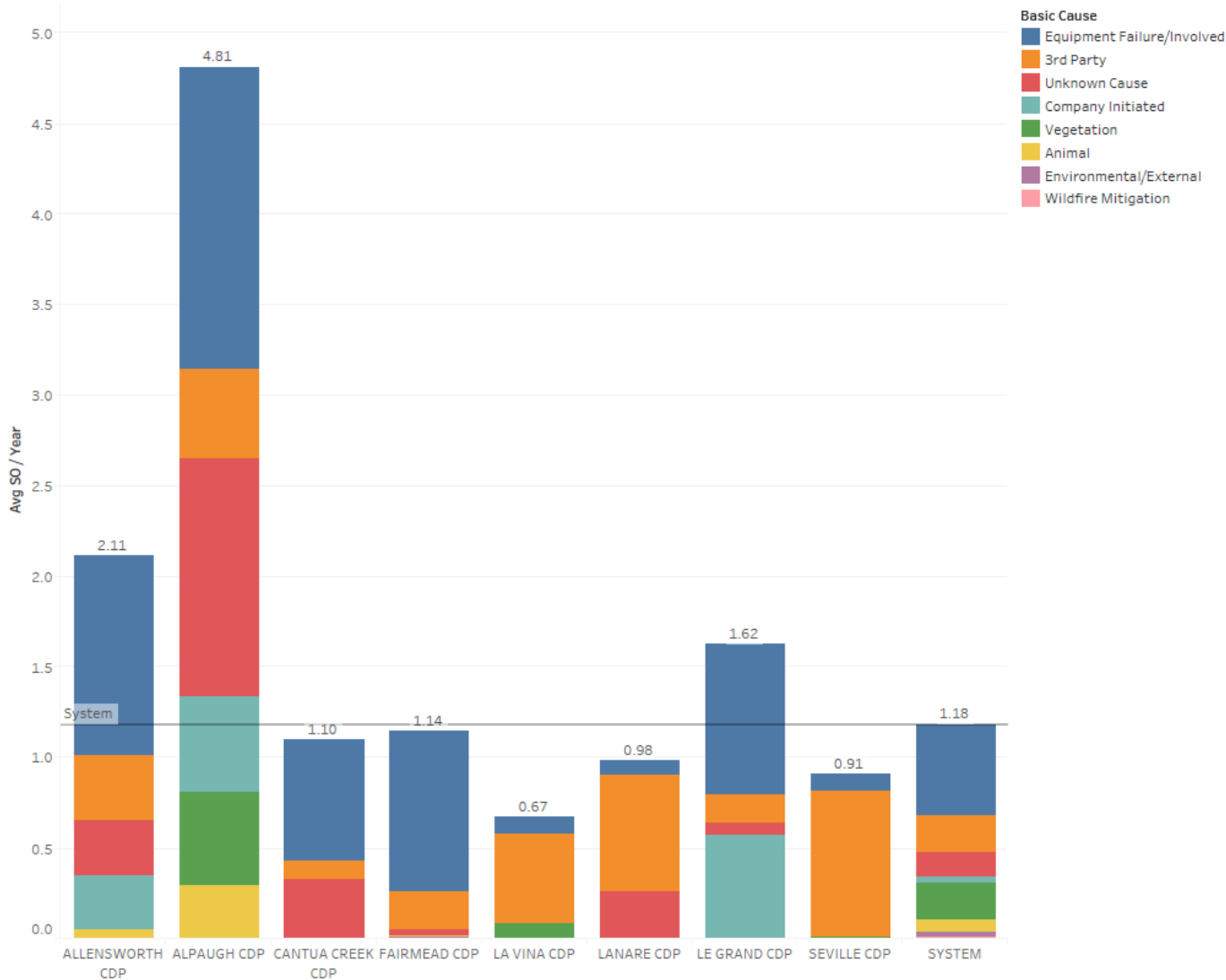
New voltage regulator with bird guarding installed.

No new outages observed at this location since the new installation.



Reliability Metrics By Pilot Community

Average Annual Reliability Performance by Basic Cause (2016 - 2018)



This is the outage cause profile that a Pilot Community Customer experiences in a given year.

Equipment Failure, 3rd Party and Vegetation, are the primary outage causes (77%) that drives an average PG&E customer outage experience.

Equipment Failure, Unknown, and 3rd party are the primary outage causes (72%) that drives an average Alpaugh CDP customer outage experience.



Appendix (Additional Slides To Be Added)

Appendix: Decision Language

dealing with lack of reliability, PG&E and SCE shall each provide, via a Tier 1 Pilot Community Reliability Advice Letter, a report analyzing root causes of the outages in the communities in their service territory and timelines for corrective action. Prior to filing this advice letter, SCE, in coordination with PG&E, shall host a workshop to discuss the intended format of the report, and the elements and analysis to be included in the report. Each report shall contain clear metrics and should compare the pilot communities to others in the service territory. It should include overview findings that are accessible to a non-technical audience, since one of the purposes for this report is to support community education about the severity, causes, and intended solutions to local electric reliability issues. For Allensworth, PG&E shall include the causes for the failed line voltage regulator and what remediation PG&E will be investing in and under what time frame in order to ensure reliable electricity service. This Tier 1 Advice Letter and report shall be submitted within 180 days from issuance of this decision. In considering what corrective actions are needed to ensure community reliability, PG&E and SCE should consider what role IFM storage can have and if any of these pilot communities should be considered for a Distributed Energy Resource Pilot.