



***Cal* OES**

GOVERNOR'S OFFICE  
OF EMERGENCY SERVICES

# 9-1-1 Outage Reporting & Emergency Support Function 2

March 2020



# Briefing Overview

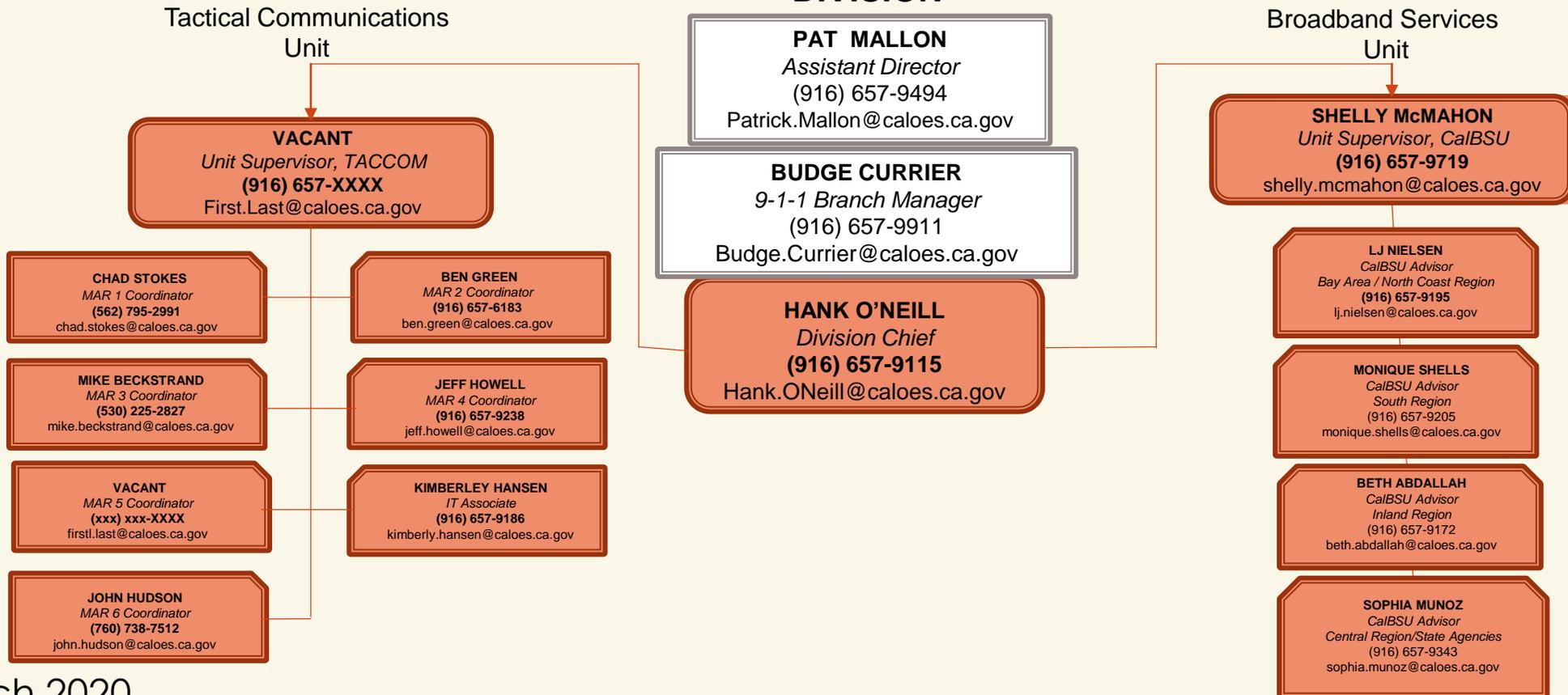
- Cal OES Emergency Communications Division
  - Mission and structure
  - Capabilities Discussion
- 9-1-1 Outage Reporting
- Discussion and Questions



# Emergency Communications Division Organizational Chart

Mission: Facilitate the availability of First Responder Broadband and Land Mobile Radio Communications to maximize operational integration Statewide.

## EMERGENCY COMMUNICATIONS DIVISION





# Broadband Services Unit

- Promotes the Public Safety Broadband Network service integration into 9-1-1 for all service providers and for all Public Safety entities
- Performs outreach, education, and coverage assessments for FirstNet deployment
- Facilitates communications among responders during emergencies and performs all duties related to Emergency Support Function 2, Communications, as required
- Manages the integration of broadband services with the Next Generation 9-1-1 system, Computer Aided Dispatch, Mobile Data Computer, Mobile Data Terminals and Public Safety Answering Point (PSAP) integration
- Works with AT&T and FirstNet through the 25-year federal project timeline to ensure the needs of public safety in California are understood and addressed
- Manages CalNET contracts for AT&T/FirstNet, Sprint, T-Mobile, and Verizon
- Provides communication planning expertise for emergency planning
- Supports communications exercises and training



# Tactical Communications Unit (TACCOM)

- Coordinates with Operational Areas within each respective Mutual Aid Region to:
  - Assists local & tribal governments in their communications planning to increase resiliency and interoperability
  - Identify gaps in communications and assist with identifying comprehensive solutions
- Responsible for providing Interoperable and Emergency Telecommunications solutions in support of Incident Command requirements
- Recruits/trains/maintains a roster of Communication Reserve Unit volunteers that play a pivotal role in performing the TACCOM Mission statewide
- Coordinates operational communications at Inland, Coastal and Southern Regional Emergency Operation Centers and the State Operations Center



# Emergency Support Function #2 – Communications (CA-ESF2) Overview

- CA-ESF2 coordinates status of communication systems and facilitates providing resources needed to sustain and restore the public communications infrastructure
  - Assists State, tribal, and local governments with emergency communications (TACCOM Deployable Comm Assets)
  - Assists with restoration of public safety communications systems and first responder networks
  - Informs local and state agencies to affect sound decision making
- All information requests are urgent unless otherwise indicated
- Contact Information:

[EF2@caloes.ca.gov](mailto:EF2@caloes.ca.gov)

Activated in SOC

24/7/365 CSWC

916-845-8546

916-845-8911



# Use Case: Public Safety Power Shutoff (PSPS) Summary – October 2019

- PG&E – between October 9 and October 11 – shut down power to an estimated population of 1.8 million people. Some of those customers were without power for more than 2 days
- In late October, we saw the most widespread outages
- PG&E de-energized an estimated 447,400 people between October 23 and October 25
- Between October 26 and November 1, across two separate PSPS events, PG&E shut off power to an estimated population of 2.4 million people (roughly 15% of the state's population. Some of those people that lost power on October 26 did not see their power restored for 6 days
- At the same time PG&E executed PSPS in the north state, SoCal Edison cut power to an estimated 181,000 people and San Diego Gas & Electric to an estimated 54,000 people
- Throughout the October events, 17 of California's 58 counties saw between 50,000 to more than 150,000 people lose power; 13 counties experienced 5 or more separate PSPS power outage events



# PSPS Considerations – Cascading Impacts

- **Communications:** how do we ensure first responders have the ability to communicate with each other, 9-1-1 centers have the ability to take calls, and every individual has the ability to *make* those 9-1-1 calls?
- **Schools:** how do we ensure children can still go to school? And be safe once there? At the height, 564 schools closed due to PSPS outages, affecting 171,955 students
- **Sheltering and Feeding:** how do we ensure wraparound support for those who are forced from their homes because they lack of power? How do we support small grocery stores, restaurants, and school cafeterias whose back-up power is not sufficient during back-to-back, multiple day black-outs?
- **Transportation:** what measures need to be put in place when traffic signals are out? How do we keep transit systems, rail arms, tolls, bridges, and tunnels operational for commuters?
- **Commodities:** how do we provide support to move fuel, food, and other essential commodities?
- **Public Health:** how do we ensure hospitals, clinics, and other health care facilities aren't adversely impacted and diverted from their primary purposes? How do we ensure safe drinking water and wastewater services and that there are no detrimental public health and environmental impacts?
- **Preparing for Fire:** amidst all these areas and more, we had to stand ready to respond to the elevated fire risk across the state.

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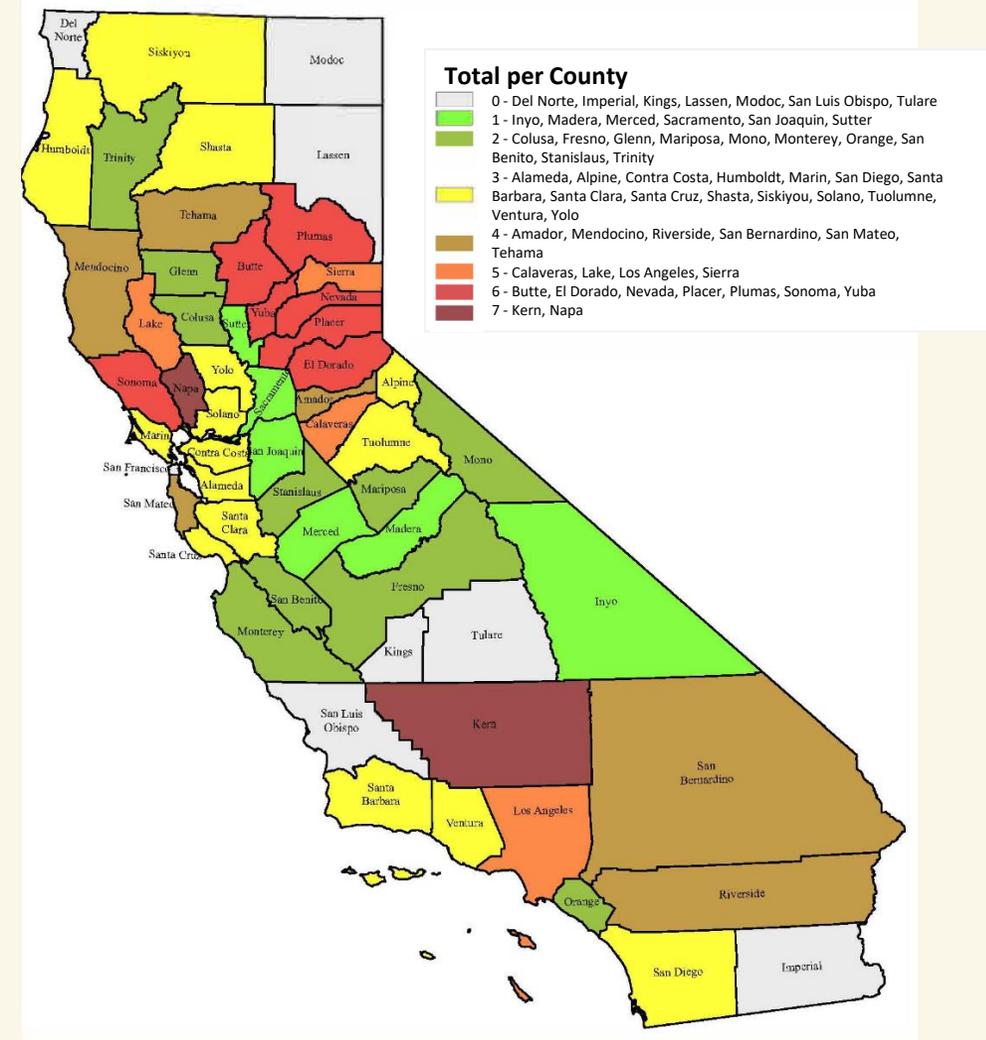
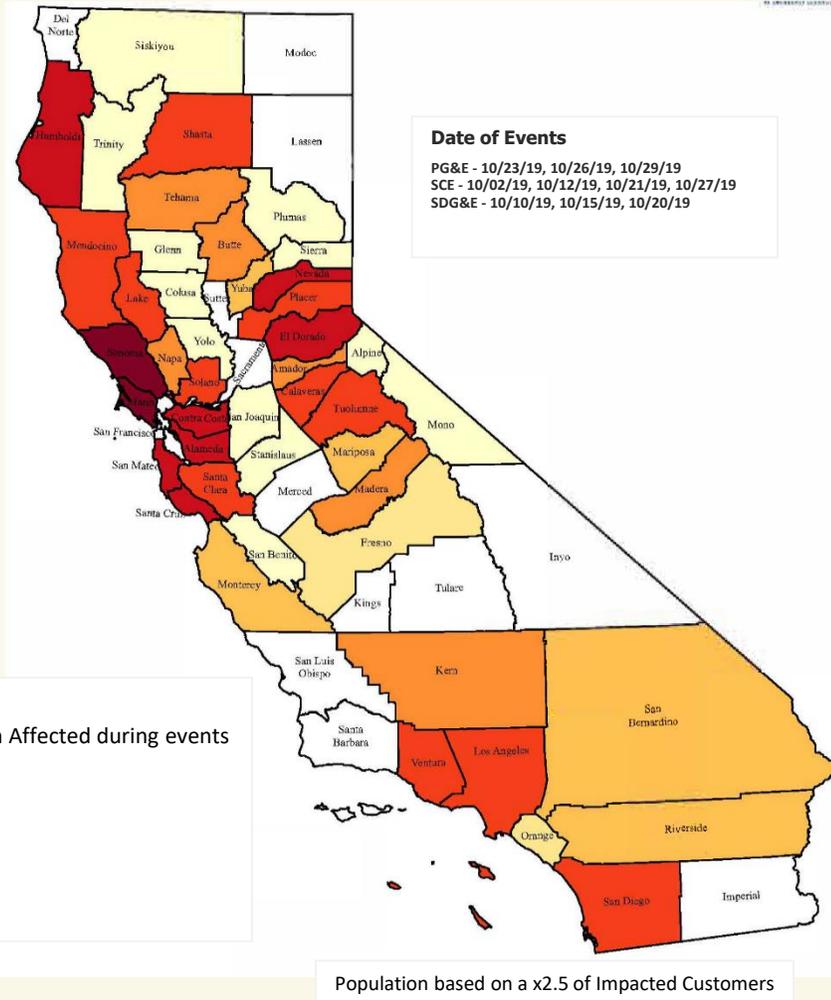


# PSPS Impact on Communications

- The PSPS event, coupled with the numerous, simultaneous fires throughout California, highlighted some of the vulnerabilities of the communication systems in California
- At the peak, **874 cell sites** and **454,722 VoIP/wireline** customers lost service  
In Marin County, 57% of their cellular sites were out of service at one point during the PSPS events
- During this same timeframe, zero LMR sites were offline
- Cal OES worked with the FCC to activate DIRS for the event  
<http://www.fcc.gov/powershutoff>
- Cal OES is working to define outage reporting regulations in support of SB 670 to address the outage reporting challenges
- Ultimately, backup power is needed for cellular, wireline and VoIP



# PSPS County Impacts





# Priority Counties for Back Up Power

PRIORITY COUNTIES		
Total PSPS Events Per County	County	Population Affected
6	Sonoma	150k +
6	El Dorado	100-150k
6	Nevada	100-150k
7	Kern	25-50k
7	Napa	25-50k
6	Placer	50-100k
3	Marin	150k +
6	Butte	25-50k
4	San Mateo	100-150k
5	Calaveras	50-100k
5	Lake	50-100k
5	Los Angeles	50-100k

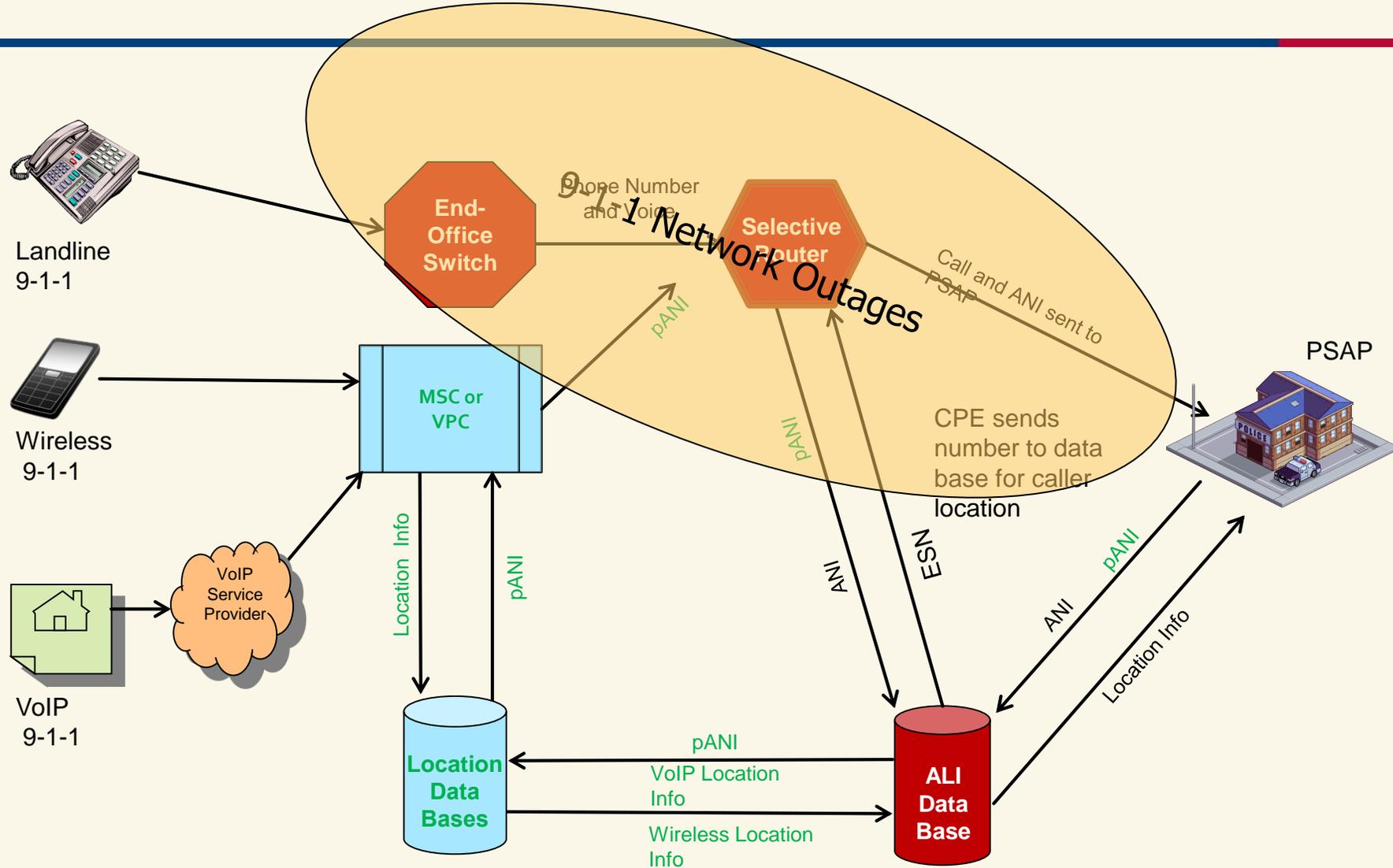


# 9-1-1 Outage Reporting

- Staff on call 24/7/365
- [CA911outages@caloes.ca.gov](mailto:CA911outages@caloes.ca.gov)
- Interface with carriers and providers
- 9-1-1 Branch may contact PSAP for more info
- What to do for TDOS or DDOS
  - Contact Telecom Vendor
  - Cal OES State Threat Assessment Center (STAC)
    - <https://calstas.org/default.aspx?menuitemid=179>



# 9-1-1 Network Outages





# Network Outage Summary

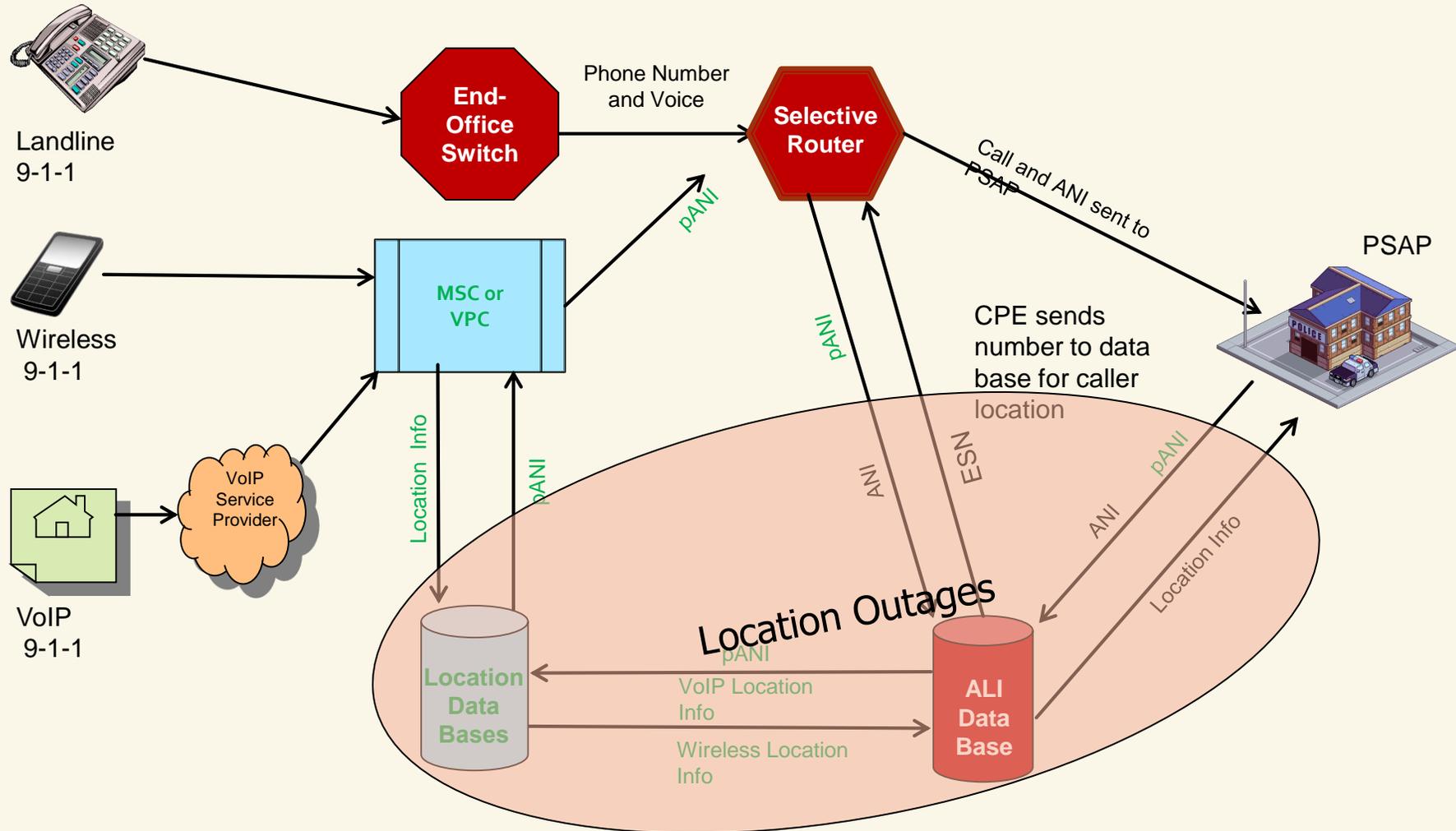
## 9-1-1 Network Outages:

- An average of 16 outages per month
- An average of 263 hours per month
  - Someone who needed help might not have been able to reach 9-1-1

**Next Gen 9-1-1 will dramatically reduce these outages**



# 9-1-1 Location Outages





# Location Outage Summary

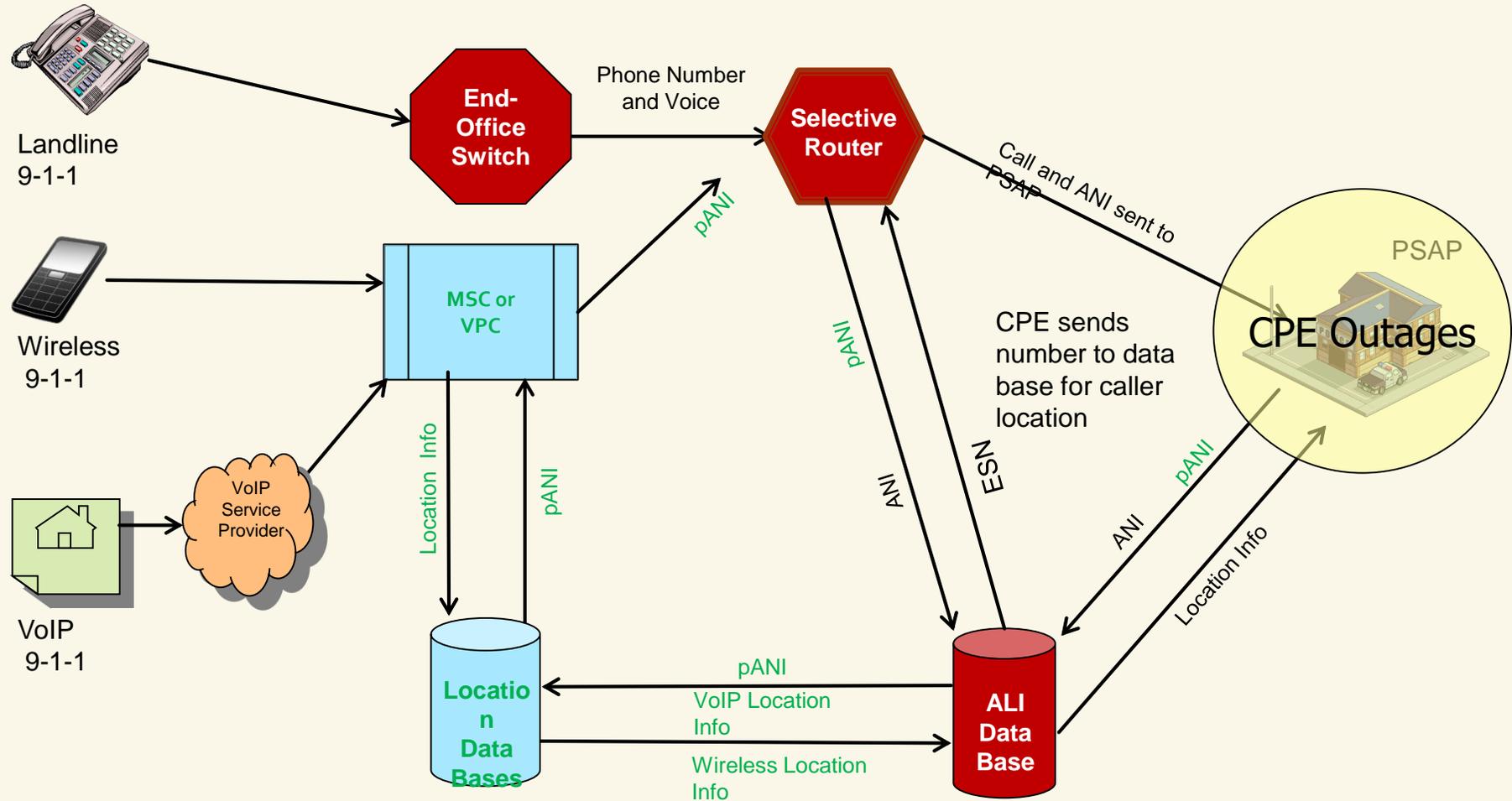
## Automatic Number Information and Automatic Location Information (ANI/ALI) outages

- An average of 19 outages per month
- An average of 145 hours per month where location data was not available
- About 50% of all 9-1-1 calls arrive without location information
- When location information is not available, valuable time is lost asking where the 9-1-1 caller is located

**Next Gen 9-1-1 increases location accuracy**



# CPE Outages





# CPE Outage Summary

- An average of 13 outages per month
- An average of 340 hours per month

How can Cal OES help?

- Ensure vendor is meeting the requirements in the SOW
- Escalate outages using contacts for each vendor

PSAP should notify your vendor as well as send email to CalOES outage

[CA911outages@caloes.ca.gov](mailto:CA911outages@caloes.ca.gov)



# Outage Reporting – A look ahead

- CA Legislature passed SB 670, which was signed into law. The outage reporting process will address many of the current outage reporting challenges
- SB 670 requires telecommunication companies to report outages to Cal OES
- Cal OES must send information to Sheriff's, Emergency Managers and PSAPs
- Cal OES must also develop regulations that define the outage reporting thresholds and how the outages will be reported
- Cal OES has started the regulatory process, which should be completed by July of 2020

[https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\\_id=201920200SB670](https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200SB670)

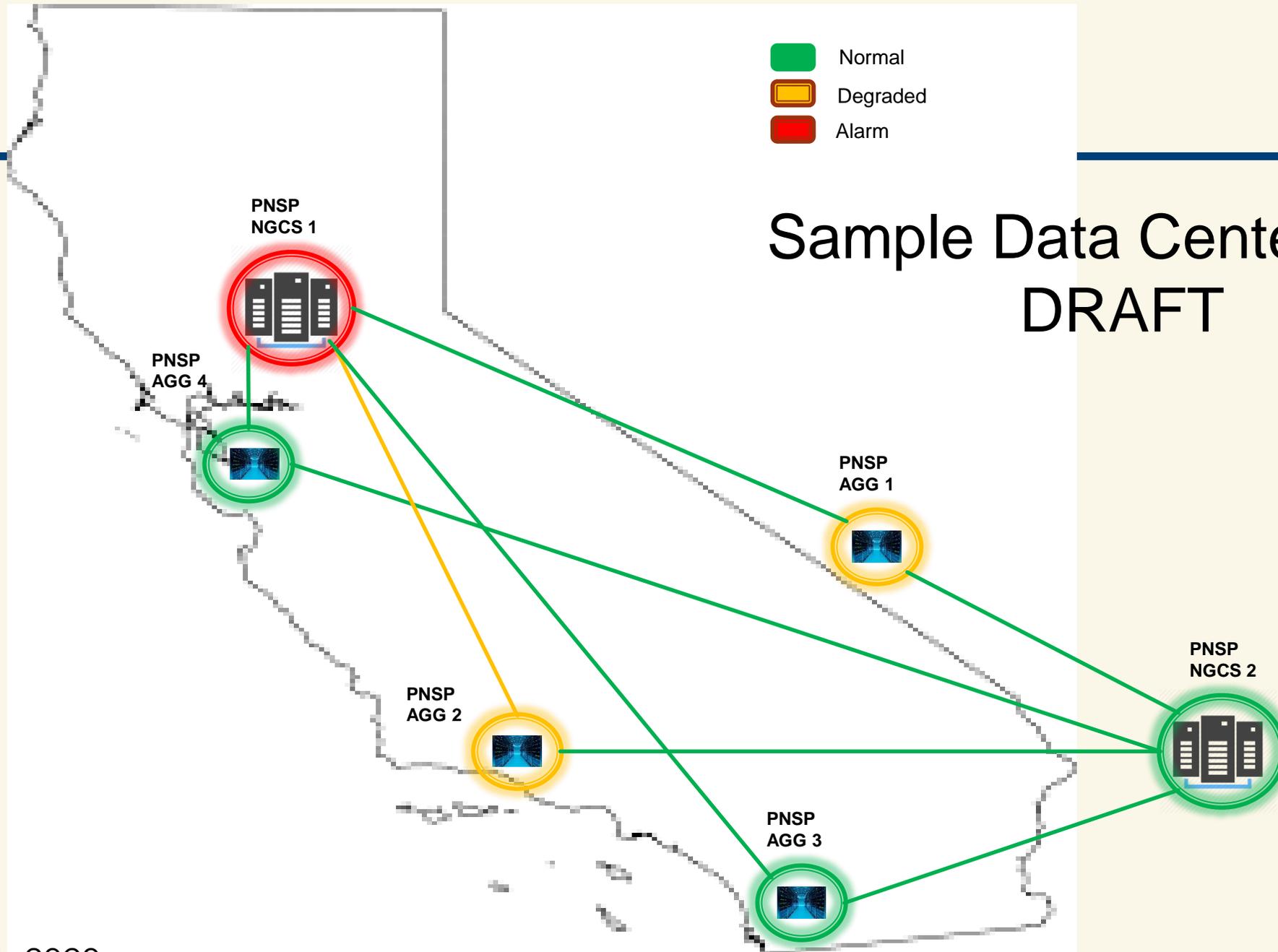


# NG 9-1-1 System Monitoring

- In today's environment, we have no direct visibility into the 9-1-1 system
  - We are dependent on carriers for outage information
- The NG9-1-1 system will be monitored 24/7/365 via PNSP/RNSP
- The Prime and all Regions will provide a dashboard for Cal OES to monitor the health and stats for end-to-end state NG 9-1-1 system
- Dashboard may be available to PSAPs to provide increased situational awareness
- eBonding trouble tickets enables PSAPs to have a single point of contact

-  Normal
-  Degraded
-  Alarm

# Sample Data Center View DRAFT





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# Questions and Discussion