



WHEN THE LIGHTS GO OUT

Lessons From The SBRPCA Power Outage

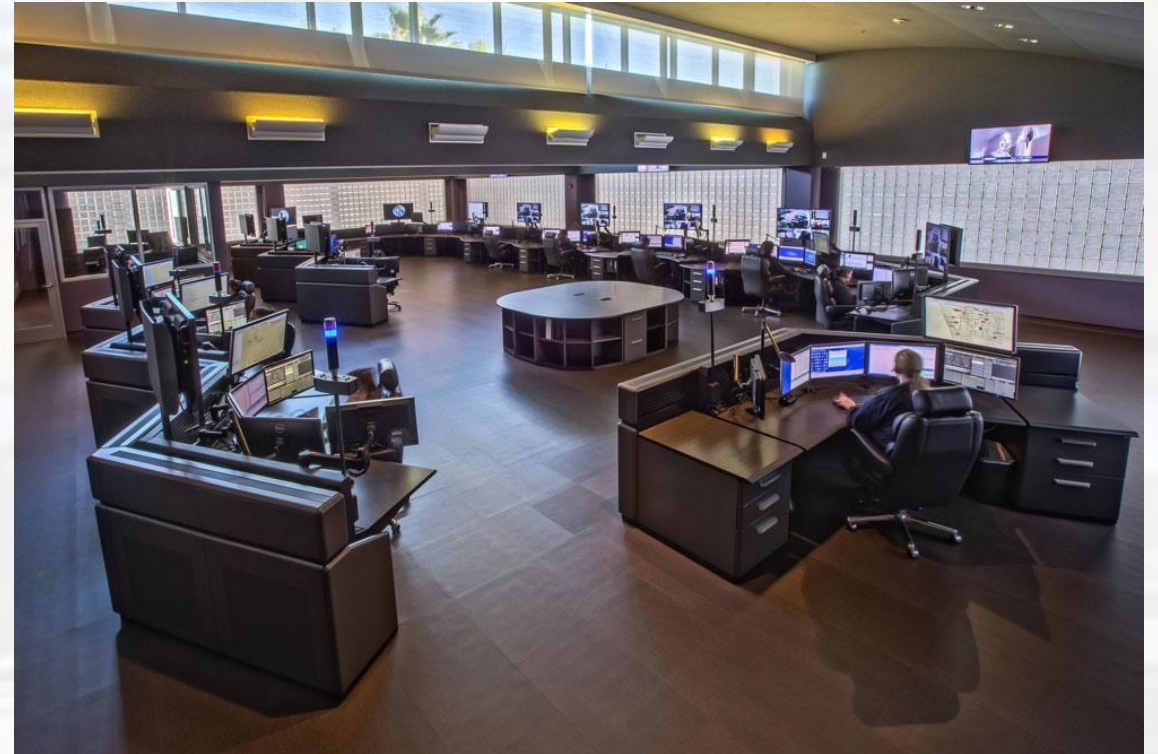
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CalAPCO 2025 | Sacramento, CA

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INTRODUCTION

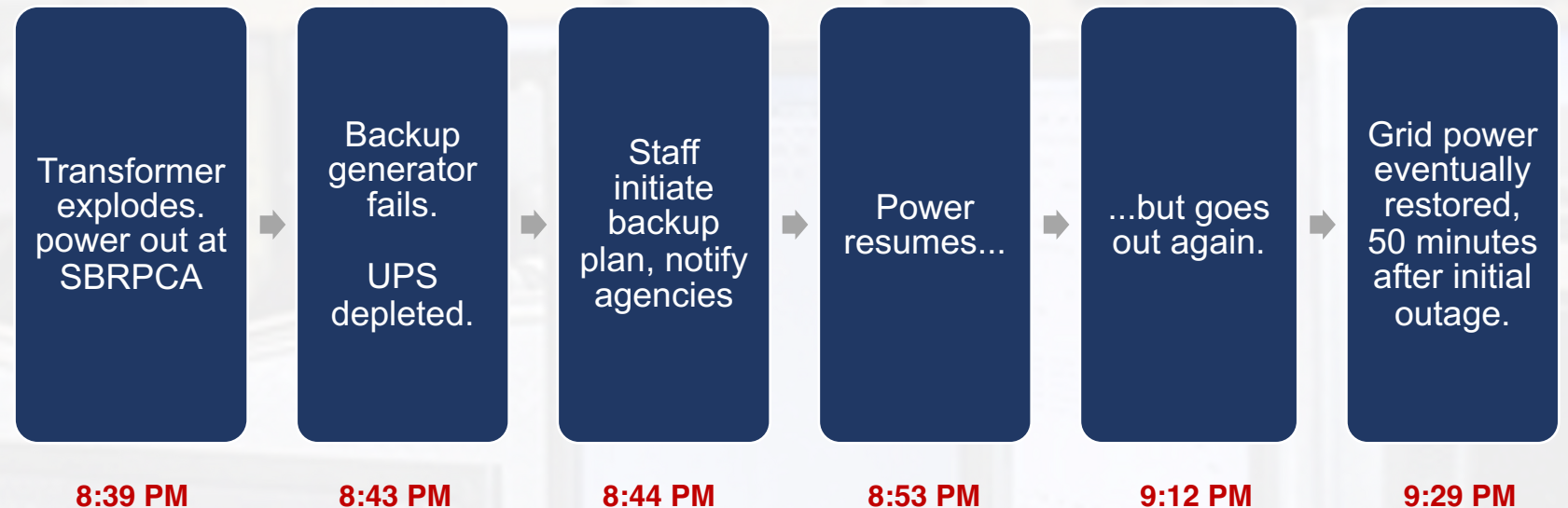
- Who are we?
- What are we talking about here?
- Why does this matter for PSAPs?



THE EVENT – WHAT HAPPENED?

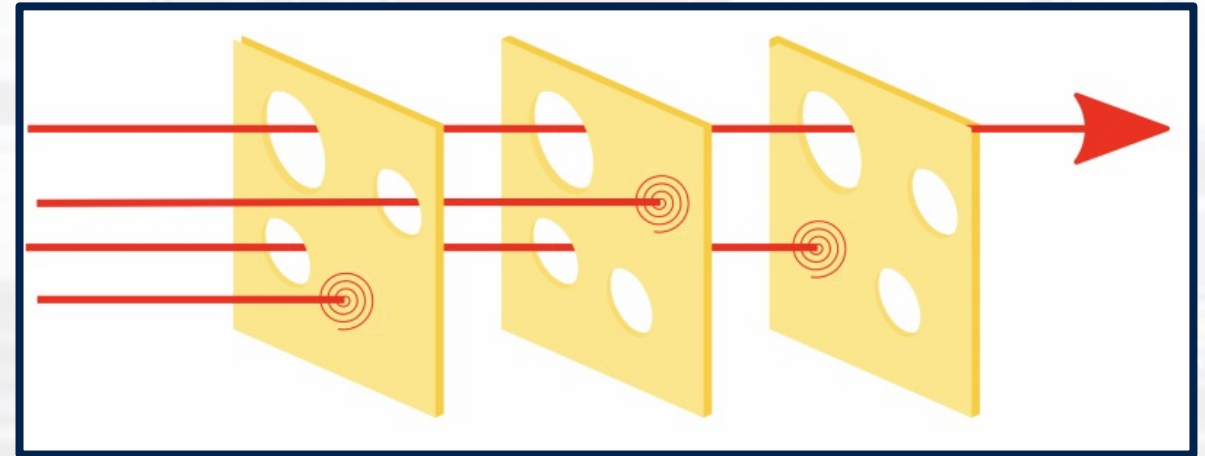
- Failure of backup generator *and* UPS
- Power loss resulting in near-total blackout for ~50 minutes

- No Phones
- No CAD
- No Radio



LESSONS LEARNED: THE “SWISS CHEESE” MODEL

- How multiple small gaps aligned:
 - Fuel day tank for generator
 - Generator testing
 - UPS condition
 - UPS alerting
- What one fix might have prevented failure?



Reason, James (1990-04-12). "The Contribution of Latent Human Failures to the Breakdown of Complex Systems". [*Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*](#). **327** (1241): 475–84.



STAFF RESPONSE IN THE MOMENT

- Notifications to agencies served
- 9-1-1 rerouting and relocation efforts
- Improvised manual CAD process
- Use of cell phones and flashlights
- Dispatchers sent to backup sites



LESSONS LEARNED: POST-EVENT CORRECTIONS

- Generator and fuel system upgrades
- New radios, batteries, and communications gear
- Cloud-based contact lists and portable power banks
- Consideration of solar backup



Diesel fuel day tank



AFTER ACTION REVIEW

- A third-party review provides objectivity and credibility to findings.
- What were the root causes and contributing factors?
- Where are the blind spots?
- How do we compare with industry best practices?
- What can we implement to prevent and prepare for catastrophic events?

After Action Report & Evaluation

South Bay Regional Public Communications Authority

March 27, 2024

matrix 
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BEST PRACTICES COMPARISON

- Professional standards (NENA/NFPA)
 - NENA INF-017.3-2018 2.3
 - NENA INF-109.3-2022
 - NENA INF-0202.2-2017
 - NENA INF-026..2-2023
 - NFPA 110
- Redundancy and resiliency for electrical power/HVAC, phones, radios, and CAD; survivability documentation; drills and exercises; generator and UPS testing; systems and operations contingency testing



BEST PRACTICES – RESILIENCE AND REDUNDANCY

- Two diverse power paths into the facility; power system controls visible from workstations (NENA INF-109.3-2022); diverse internet access pathways
- Backup generator capable of supplying the center indefinitely; emergency fueling contract in place; all electrical and digital systems connected to UPS, (NENA INF-017.3-2018 2.3)
- Registration for priority access to communications during emergency; access to public alerting systems including deaf/HOH (NENA INF-017.3-2018 2.3)
- Backup radio system in case of primary system loss; dual core CAD system; alternative procedures for (manual) dispatch in case of system loss (NENA INF-017.3-2018 2.3)

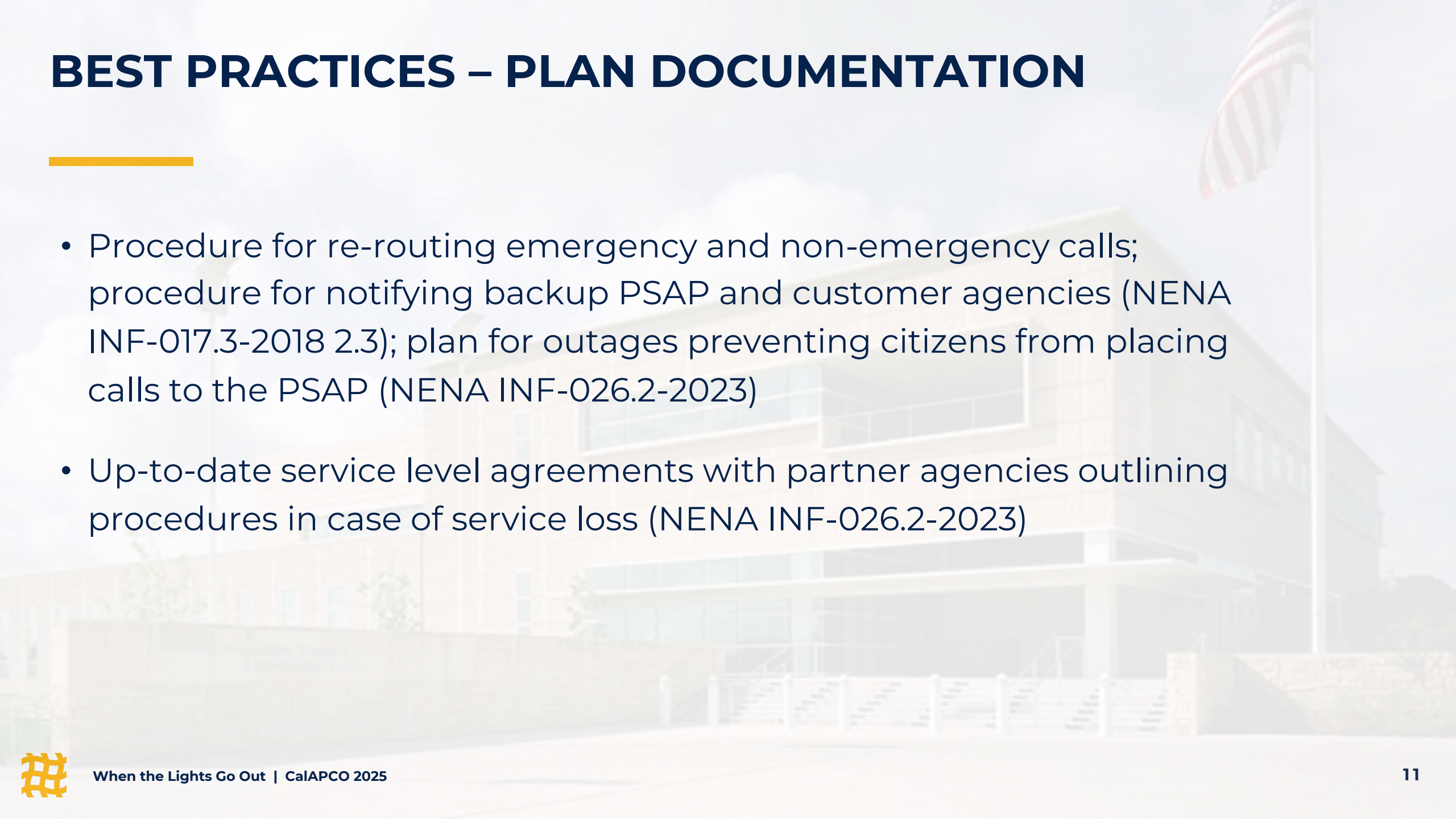


BEST PRACTICES – TESTING AND EXERCISES

- Training of all staff on contingency plans (NENA INF-0202.2-2017); testing of all resilient and redundant systems for operability monthly (NENA INF-017.3-2018 2.3)
- Live rehearsal of backup PSAP utilization by all shifts annually; rehearsal of backup CAD procedures by each shift semi-annually, including at backup PSAP site if applicable; field testing of backup radio systems annually; vendor training on monitoring power depletion/loss (NENA INF-026.2-2023)
- Generator tested at full load for 2hrs monthly (NFPA 110); tested for 8hrs annually, maintenance semi-annually; rehearsal of emergency refueling annually; testing of automatic switchover to generator power annually (NENA INF-026.2-2023)
- Testing of UPS capacity and duration annually; testing of power transfer from generator to UPS annually; UPS maintenance semi-annually (NENA INF-026.2-2023)



BEST PRACTICES – PLAN DOCUMENTATION



- Procedure for re-routing emergency and non-emergency calls; procedure for notifying backup PSAP and customer agencies (NENA INF-017.3-2018 2.3); plan for outages preventing citizens from placing calls to the PSAP (NENA INF-026.2-2023)
- Up-to-date service level agreements with partner agencies outlining procedures in case of service loss (NENA INF-026.2-2023)



BEST PRACTICES – CONTINUITY OF OPERATIONS PLAN

- Continuity of Operations Plan (COOP) with nine essential elements (NENA INF-0202.2-2017)
 1. Orders of Succession
 2. Delegation of Authority
 3. Essential Functions
 4. Alternate Capability
 5. Vital Records
 6. Capability to Sustain Operations
 7. Internal / External Communications
 8. Devolution Plans
 9. Reconstitution Plans



PRACTICAL TAKEAWAYS

- Monday checklist –
 - **Generator:** How frequently is it tested/maintained? Does the agreement specify full-load testing? Does it include fuel tank and system inspection? Does it include testing of power switchover under live conditions? What do the results of the most recent tests say?
 - **UPS:** How frequently is this tested/maintained? Do we test its capacity under real-world power loads? Can we see the power control panels? Do we know what the low power alert sounds like?
 - **Go bags:** Do we have everything we need in our go bags? When were these components last tested? Do we have a replacement schedule? Who is responsible for maintaining them?
 - **Documentation:** Do we have written procedures for our backup PSAP? For alerting our agencies? For operating without our CAD software? For using our backup radio system? Do we have a written COOP?
- Long-term fixes: Evaluate system resilience/redundancy regularly. Maintain updated plans and documentation. Train staff on all backup systems and procedures. Rehearse them regularly and debrief results.





QUESTION & ANSWER