2023 DISASTER PLANNING CONFERENCE SACRAMENTO

# How Coalitions can Safeguard Patients in Power Outages

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# Overview of the LA County EMS Agency's Emergency Power Resilience Initiative & Emergency Power Resilience Playbook



CHA Emergency Preparedness Conference: October 4, 2023

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# Demographics

- 4,084 square miles
- Population 10,014,042
- 88 cities, 140 unincorp. areas
- 3 Public Health Departments
- 80 HPP hospitals


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# LA County EMS Agency Initiative Overview

- Four-phase initiative launched in May 2019 as Public Safety Power Shutoff (PSPS) threats increased
- Powered for Patients, 501c3 non-profit, hired as contractor
- Initiative sought to:
  - Evaluate existing protocols around generator threat reporting and response by government agencies

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# LA County EMS Agency Initiative Overview

- Assess emergency power fleet in LA county hospitals
- Develop new protocols to better safeguard emergency power
- Create Playbook to introduce new protocols
- Develop training resources and hold exercises to socialize new protocols and best practices

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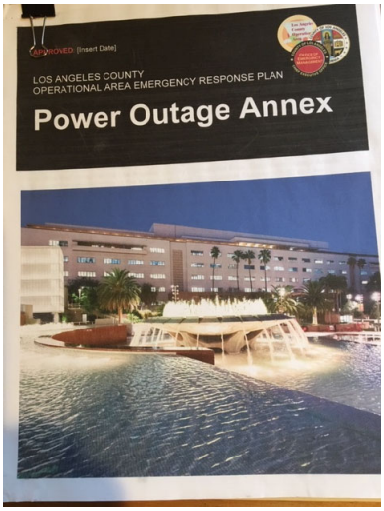
# Phase I Focus

- Review existing state and county protocols and identify gaps
- LA County Office of Emergency Management developed initial framework for addressing emergency power threats but never adopted policy

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# Phase I Focus

- Conduct preliminary assessment of emergency power systems in hospitals in LA County
- Identify custodians and locations of a substantial generator fleet collectively owned by three LA County agencies and the cities of Long Beach and Los Angeles

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# The LA County Generator Fleet: Twelve 800 kW generators and twenty-three 200 kW generators


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## Key Phase I Recommendations

- Conduct a detailed census of Hospital Emergency Power Systems in the 80 hospitals participating in the ASPR Hospital Preparedness Program to identify any vulnerabilities
- Develop a comprehensive Emergency Power Threat Reporting and Response Protocol to include an Early Warning and Status Update Protocol via ReddiNet

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## Key Phase I Recommendations (cont.)

- Create a confidential Risk Rating of the Emergency Power Systems in LA County Hospitals
- Create an Emergency Power Industry Work Group to liaise with LA County EMS Agency and LA County OEM during disasters

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## Phase II Focus - Implement Key Phase I Recommendations

- Conduct Emergency Power System Census
- Develop new protocols to accelerate emergency power threat reporting and response and better safeguard emergency power

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## Emergency Power Census Findings

- Census captured data on 271 generators across 80 hospitals
- Census identified a high percentage of seriously outdated generators
- Identified 14 facilities with less than 40 hours of run time based on onsite fuel storage capacity

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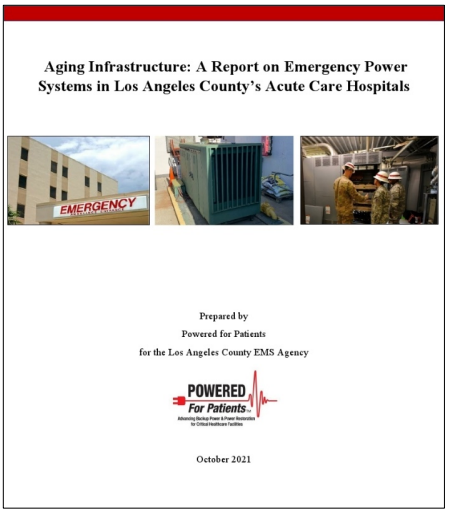
# Census Triggered EMS Agency Report on Dangers of Aging Infrastructure

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# Aging Generators

Among the 271 generators across 80 hospitals, 32% were older than 30 years of age (considered the useful life of a generator per report by ASHE and P4P)

| Age Range | # of Generators | % of Total |
|---|---|---|
| 0 to 9 years | 47 | 17.34% |
| 10 to 19 years | 69 | 25.80% |
| 20 to 29 years | 68 | 25.00% |
| 30 to 39 years | 32 | 11.80% |
| 40 to 49 years | 40 | 14.76% |
| 50 to 59 years | 9 | 3.32% |
| 60 to 69 years | 6 | 2.21% |

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## Aging Generators in Single Generator Hospitals

More than 64% over 30 years of age

| Age Range | # of Generators | % of Total |
|---|---|---|
| 0 to 9 years | 2 | 14.2% |
| 10 to 19 years | 1 | 7.1% |
| 20 to 29 years | 2 | 14.2% |
| 30 to 39 years | 2 | 14.2% |
| 40 to 49 years | 3 | 21.4% |
| 50 to 59 years | 3 | 21.4% |
| 60 to 69 years | 1 | 7.1% |
| | Total 14 | |

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## EMS Agency Leverages Technology to Mitigate Risks in Single Generator Hospitals

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## Fuel Storage

- Limited onsite fuel storage. Nearly 20% of hospitals have less than 40 hours of run time.

| Run Time Range | # of Hospitals | % of Total |
|---|---|---|
| Less than 30 hours | 6 | 7.6% |
| 30 to 39 hours | 8 | 10.2 % |
| 40 to 59 hours | 13 | 16.6% |
| 60 to 79 hours | 6 | 7.7% |
| 80 to 99 hours | 11 | 14.1% |
| 100 to 149 hours | 19 | 24.3% |
| 150 to 199 hours | 10 | 12.8% |
| 200 hours + | 5 | 6.4% |
| | Total 78 Hospitals | |

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## Phase II – Creation of New Protocols to Better Safeguard Emergency Power

- Accelerated Threat Reporting & Status Updates Required via ReddiNet
- Emergency Power System Vulnerability Assessment

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## Phase II – New Protocols

- Emergency Power System Review discussion of Assessment Results among Facility Director, EMO, and Administrator
- Confidential Two-Tier Risk Classification of Hospital Emergency Power Systems

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## Emergency Power System Risk Classification Details

- Tier 1 – No concerns with emergency power system (42 hospitals)
- Tier 2 – Concerns based on outdated generators, lack of redundant emergency power, or limited run time due to low onsite fuel capacity (37 hospitals)

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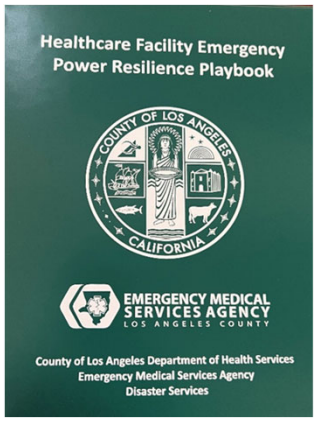
# Phase III – Create Emergency Power Resilience Playbook





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# Playbook Overview

- Introduction of new protocols and best practices broken out for key stakeholders across 4-Phase Planning and Operational Continuum


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# Playbook Overview

Key Stakeholders for whom Playbook was developed:

- Hospital and Sub-acute SNF (Facility directors, Emergency Management Officers and Administrators)
- Government officials
- Generator service, fuel, and rental providers
- Utilities

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# Playbook Overview (cont.)

Stakeholder Responsibilities for Each Phase Summarized in Easy to Post Charts

| Phase I – Vulnerability Assessment | |
|---|---|
| **Stakeholder** | **Key Responsibility** |
| Facility Director/Staff for Hospitals and sub-acute SNFs | Action Item 1 – Review Playbook in its entirety<br>Action Item 2– Complete Emergency Power System Assessment Worksheets |
| Emergency Management Officer | Action Item – 1 – Review Playbook in its entirety<br>Action Item 2- Determine which risk tier the hospital's emergency power system has been assigned to by the LAC EMS Agency<br>Action Item 3 – Evaluate communication protocols around generator testing, operations, and failures of emergency power |

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## Summary Checklist of Key Stakeholder Responsibilities

Phase I – Vulnerability Assessment | **Phase II – System Fortification & Mitigation Planning** | Phase III – Rapid Threat Response | Phase IV – Post Power Outage Recovery

| Phase II – System Fortification & Mitigation Planning | |
|---|---|
| **Stakeholder** | **Key Responsibility** |
| Facility Director/Staff for Hospitals and sub-acute SNFs | Action Item 1 – Schedule and lead Emergency Power System Review di<br>Action Item 2 – Develop a mitigation strategy to address emergency vulnerabilities<br>Action Item 3 – Conduct a pre-outage review of the emergency power s FEMA D-1 Checklist (See Appendix N) |
| Emergency Management Officer | Action Item – Participate in Emergency Power System Review discussio |
| Facility Administrator | Action Item – Participate in Emergency Power System Review discussio |
| Government Officials | Action Item – Review responsibilities for assisting hospitals and sub-ac during power outages outlined in Playbook |
| Generator Service, Fuel, and Rental Providers | Action Item – Support client efforts to address emergency power syste vulnerabilities |

## Summary Checklist of Key Stakeholder Responsibilities

Phase I – Vulnerability Assessment | Phase II – System Fortification & Mitigation Planning | **Phase III – Rapid Threat Response** | Phase IV – Post Power Outage Recovery

| Phase III – Rapid Threat Response | |
|---|---|
| Summary Checklist of Key Stakeholder Responsibilities | |
| **Stakeholder** | **Key Responsibility** |
| Facility Director/Staff for Hospitals and sub-acute SNFs | Action Item 1 – Conduct a review of the emergency power system using th Checklist (located in Appendix O)<br>Action Item 2– Keep Emergency Management Officer, or other designated apprised of emergency power status |
| Emergency Management Officer | Action Item 1 – Ensure that emergency power status updates are provided v<br>Action Item 2 – Request deployment of temporary generators from LAC EM necessary) |
| Facility Administrator | Action Item 1 – Maintain situational awareness of emergency power statu<br>Action Item 2 – Approve any request for deployment of LAC EMS Agency |
| Government Officials | Action Item – Actively monitor emergency power status reporting via Red |
| Generator Service, Fuel, and Rental Providers | Action Item – Maintain disaster response posture |
| Electric Utility Providers | Action Item – Provide timely updates to hospitals and sub-acute SI Estimated Time of Restoration |

## Summary Checklist of Key Stakeholder Responsibilities

Phase I – Vulnerability Assessment | Phase II – System Fortification & Mitigation Planning | Phase III – Rapid Threat Response | **Phase IV – Post Power Outage Recovery**

| Phase IV – Post Power Outage Recovery | |
|---|---|
| Summary Checklist of Key Stakeholder Responsibilities | |
| **Stakeholder** | **Key Responsibility** |
| Facility Director/Staff for Hospitals and sub-acute SNFs | Action Item – Conduct hotwash with the facilities team and participate in facility-wide hotwash |
| Emergency Management Officer | Action Item – Participate in facility-wide hotwash and help fulfill respective responsibilities arising from department-level hotwashes |
| Facility Administrator | Action Item – Participate in facility-wide hotwash and review the outcome of department-level hotwashes |
| Government Officials | Action Item – Conduct hotwash and participate in external hotwashes as needed |
| Generator Service, Fuel, and Rental Providers | Action Item – Conduct internal hotwash and participate in external hotwashes with clients and LAC EMS Agency as needed |
| Electric Utility Providers | Conduct hotwash assessments |

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# Power Safety and Power Reliability Tips Introduce Best Practices

**Power Reliability Tip** – The best way for a healthcare facility to guarantee access to a temporary private-sector generator during a power outage is to execute a contract with a rental provider that guarantees delivery of temporary generators.

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# Power Safety and Power Reliability Tips Introduce Best Practices

**Power Safety Tip** – Prior to initiating a generator test, be sure a member of the engineering department contacts the surgical unit to ensure that no unexpected emergency surgeries are underway. If emergency surgeries are underway, the test should be postponed.

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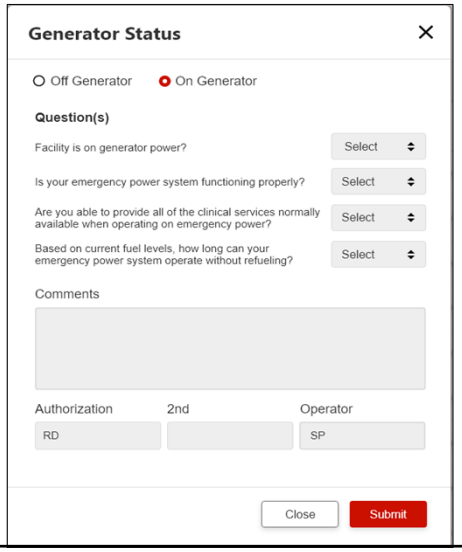
# New Emergency Power Status Reporting Requirements via ReddiNet Detailed

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# Color Coded Generator Pill Reflects Escalating Risk Posed by Emergency Power Threat

| LAC EMS Agency Medical Alert Center Response Based on Risk Level as Indicated by Generator Pill Color | | | | |
|---|---|---|---|---|
| | = No active monitoring | | = Stepped Up monitoring | |
| | = Initial monitoring | | = Initiate Contact, Alert EMS Agency Leadership, Active monitoring | |

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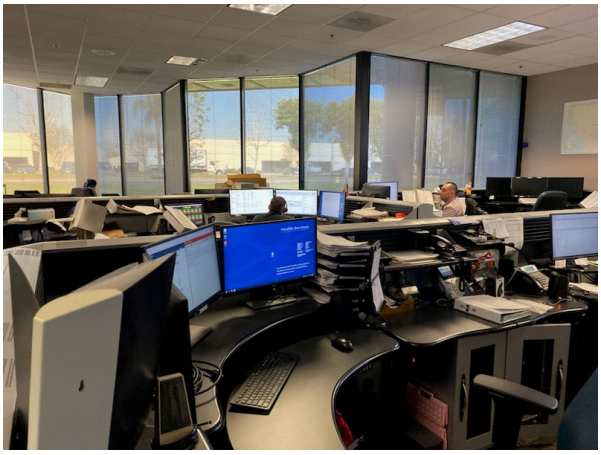
# LAC EMS Agency Medical Alert Center monitors threat reports



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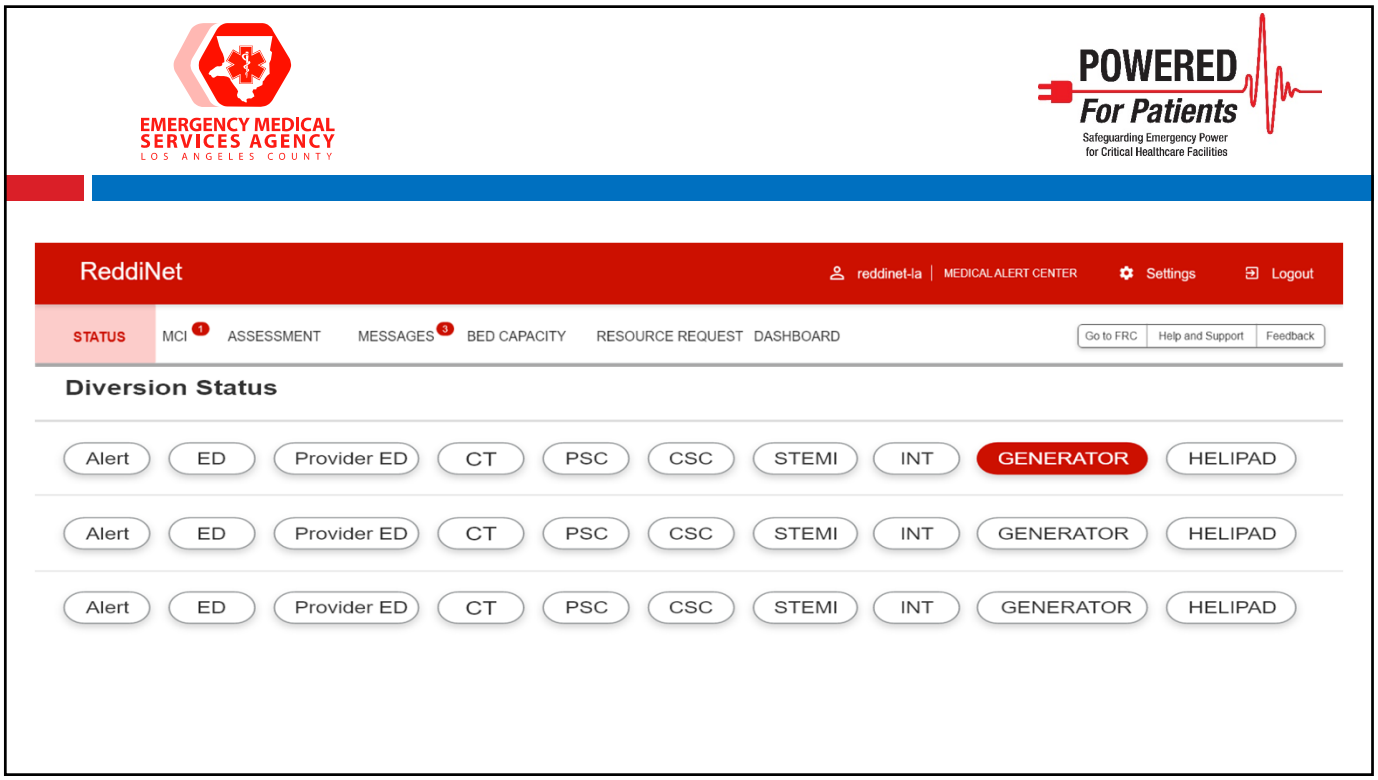


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# Appendix Resources

- Emergency Power System Assessment Worksheets For Hospitals and sub-acute SNFs
- FEMA Checklists for Safeguarding Emergency Power Before, During and After Power Outages
- The 10 Most Common Causes Of Generator Failure

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## Appendix Resources

- Understanding Government Emergency Power Assets and Response Plans When Emergency Power is Threatened
- Outdated Generators: A Risk to Patient Safety
- Electric Utility Protocols for Healthcare Facilities During Power Outages
- Inventory of Key Generator Parts and Fuel Consumption Rates

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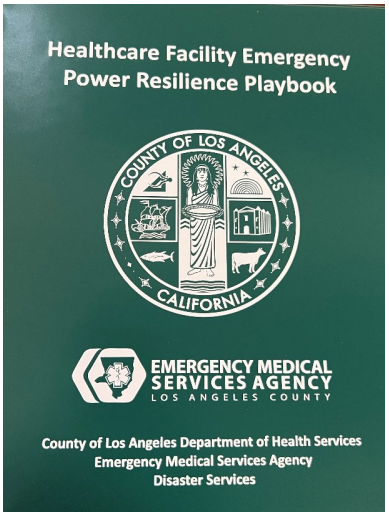
## Phase IV – Training and TTX Exercises Socialize Playbook, new protocols and best practices with Hospital and sub-acute SNF personnel

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# Questions?

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# Thank you.

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