



# Overview of the Florida Emergency Power Initiative

Florida Healthcare Engineering Association Spring Meeting

May 18, 2018



Safeguarding Power in Critical Care Facilities

## Powered for Patients™ Inspired by Katrina & Sandy

- Backup power failures in New Orleans triggered by Katrina flooding created life threatening situations
- Failure of backup power during Hurricane Sandy prompted emergency evacuation of four New York City area hospitals
- Lack of sufficient coordination among stakeholders problematic in both disasters



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## **Key Challenges Around Emergency Power & Prioritized Power Restoration**

- Post-disaster fuel shortages, generator reliability, access of service and fuel providers to facilities
- Insufficient coordination and info sharing between government, hospitals, generator service providers and utilities
- Lack of protocol for early notification of government officials of threat to emergency power

# Powered for Patients Mission



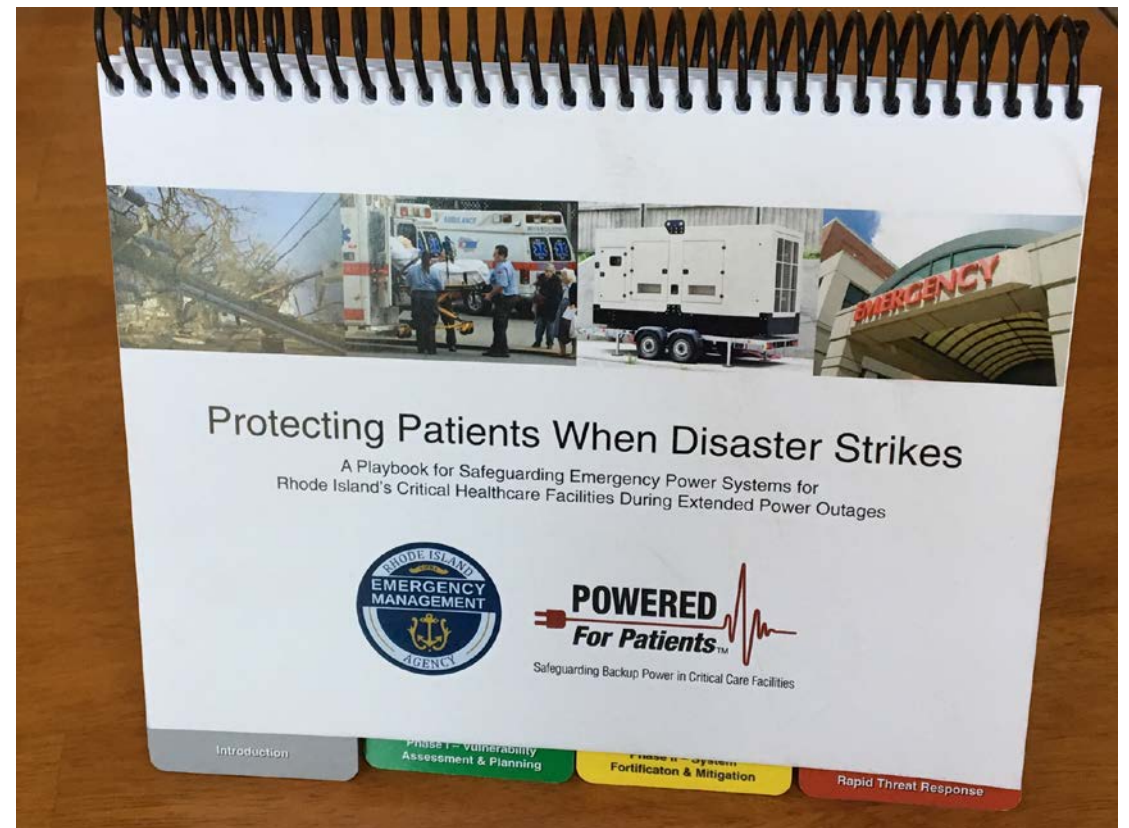
- Protecting backup power and expediting power restoration for critical healthcare facilities through:
- Facilitating enhanced collaboration and information sharing among key stakeholders
- Promoting best practices in maintenance of emergency power systems and prioritized power restoration



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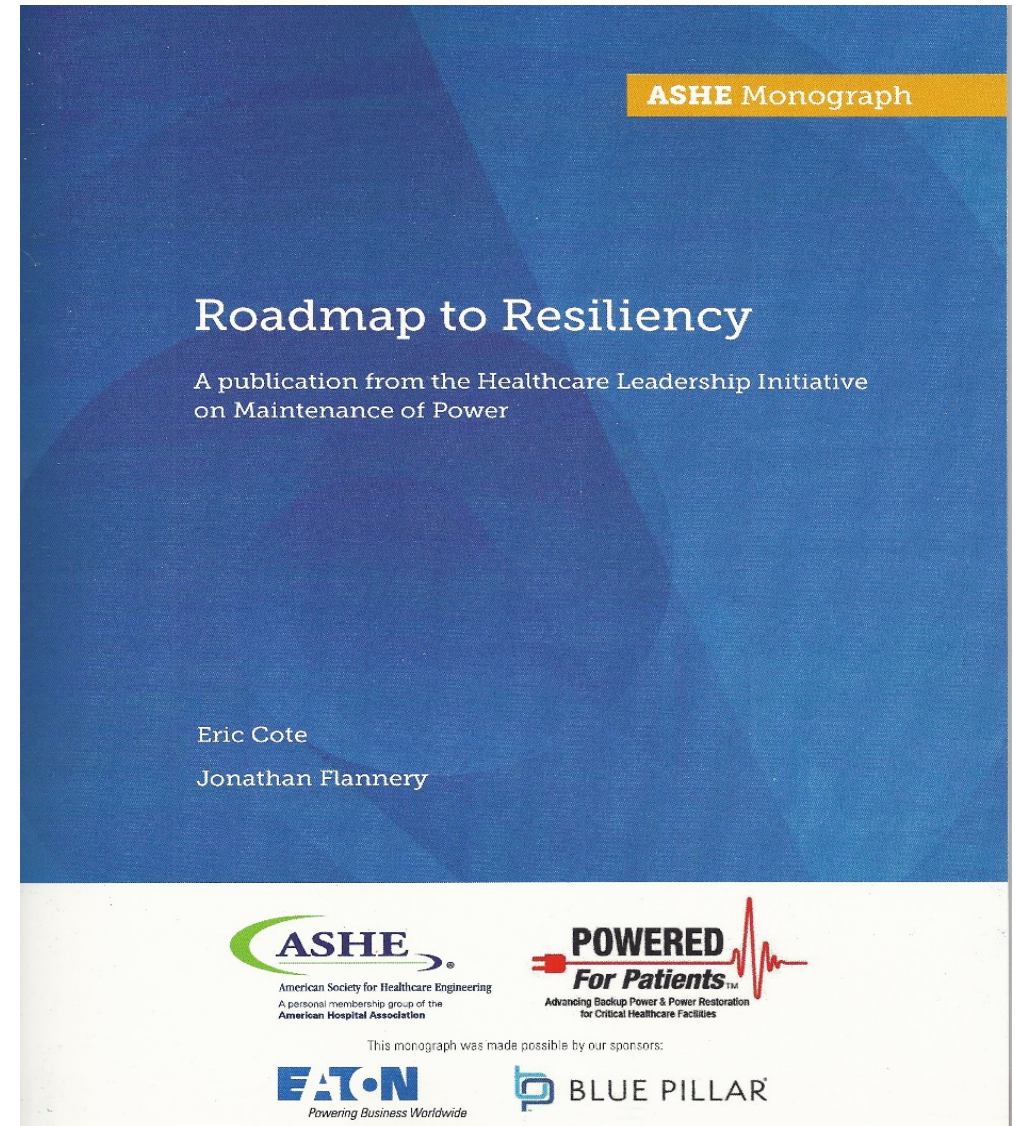
## History of Federal Support & Industry Engagement

- Received initial federal funding from HHS/ASPR in 2014
- Second round of federal funding from DHS for Stakeholder Engagement Initiative with Rhode Island Emergency Management Agency in 2015



# History of Federal Support & Industry Engagement

- Launched initiative with ASHE in 2016 to advance best practices in safeguarding emergency power and adopting advanced technologies; led to publication of *Roadmap to Resiliency White Paper* in 2017.
- White paper and Playbook introduced new protocols for hospitals to provide early warning of potential generator failures.





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## Engagement During 2017 Hurricane Season

Largest deployment of FEMA generators to impacted facilities in history of temporary power program

Texas (Hurricane Harvey)	45
Florida (Hurricane Irma)	42
U.S. Virgin Islands (Hurricanes Irma and Maria)	180
Puerto Rico (Hurricane Maria)	<u>1456</u>
Totals	1,723



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## FEMA/USACE 2017 Generator Deployment Details

- 85 to 90% of deployments were to facilities that did not have emergency power.
- Puerto Rico generator deployments: 316 of the 1456 deployments were for facilities that either needed additional emergency power capacity or had emergency power that failed. (Approximately 100 generator deployments in Puerto Rico were to replace failed generators).

# Details on FEMA/USACE 2017 Florida Generator Deployments

- Sewer Lift Stations – 29 (Most of all of these were in Naples, FL)
- Senior Living Facilities – 2
- Mass Care Shelters – 5
- Water/Wastewater Treatment Facilities – 4
- Airport – 1
- Municipal Administrative Facilities – 1

Note – There were four (4) other senior living facilities that required fuel only for their existing generator. In one case, the State of FL ESF #12 staff contacted Duke Energy to have the restoration of the electrical grid feeding that facility given a higher priority as the facility's existing generator had failed.

Note – Potential Generator Deployments by Garner Environmental Services to Florida medical facilities on behalf of State of Florida is unknown at this time.



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## Lessons to Be Learned/Questions to Address from FEMA/USACE Deployment

- What were the primary causes of generator failure? Addressing this question will provide valuable lessons learned for facility managers and emergency power system operators.
- What was the timeline and communications process associated with the request for assistance and deployment of temporary power? Detailing this timeline, and the communications process leading to a federal deployment, will provide valuable insight into opportunities for process improvement.



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## How to Accelerate Deployment of FEMA Generator to Your Facility

- Register your facility with FEMA/USACE's Emergency Power Facility Assessment Tool (EPFAT)



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## Engaging Following Hurricane Irma

Post Nation

Power still out at dozens of Florida nursing homes as investigation continues into 8 deaths





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## Engaging Following Hurricane Irma





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## Four-Phase Florida Emergency Power Initiative to Address Lessons Learned from 2017 & 2016 Hurricane Seasons

- Key stakeholders:
- Government (Federal, state and local)
- Healthcare industry (Hospitals, nursing homes, dialysis centers)
- Generator service and fuel providers
- Utility sector (Electric, Water and Wastewater)



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## Key Stakeholders

### Healthcare Stakeholders

- Florida Hospital Association
- Florida Healthcare Engineering Association
- Florida Health Care Association
- Florida Health Care Coalitions (HCCs)
- Florida Association of Community Health Centers (FACHC)
- South Florida Hospital and Health Care Association (SFHHA)



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## FHEA Statement of Support

“As healthcare engineers one of our primary responsibilities is to maintain a reliable source of power to support our healthcare facility’s ability to care for those whose lives have been interrupted by injury or illness.

The need to have a reliable source of emergency power was never more evident during the widespread power outages associated with hurricane Irma. For this reason, the Florida Healthcare Engineering Association proudly supports Powered for Patients and the Florida Emergency Power Initiative.

We encourage everyone associated with providing any type of healthcare services in the state of Florida to support this initiative as we work together with our utility providers, regulatory agencies, and our local and state governments to ensure power reliability and decreased response time to restore normal power.”

Kevin Daniel, CHE  
President  
Florida Healthcare Engineering Association



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## Key Stakeholders

### Key Government Stakeholders

- Federal agencies – DHS/FEMA, HHS, DOE
- State agencies – FDEM, FLDOH, PSC, ACHA
- Local municipalities represented by:
- Florida Emergency Preparedness Association
- Florida League of Cities
- Florida Association of Counties



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## Four-Phase Florida Emergency Power Initiative to Address Lessons Learned from 2017 & 2016 Hurricane Seasons

- Phase I - Convene stakeholders and assess lessons learned from Hurricanes Hermine, Matthew & Irma around threats to emergency power and process of prioritized restoration
- Phase II – Align statewide protocols in one or more counties to produce local version of Protecting Patients When Disaster Strikes.
- Phase III – Launch pilot study to assess value of sharing remotely monitored generator data with government and utilities during disasters
- Phase IV – Plan and implement exercises and drills to test new protocols



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## Florida Emergency Power Initiative – Phase I Detail

- Assess lessons learned from the tragic and avoidable deaths of senior citizens at the Hollywood Hills Rehabilitation Facility
- Is there a better way to prioritize restoration for facilities facing a life threatening situation?
- Develop accelerated process to vet requests for emergency power support
- Seek input from FHEA members on experiences with emergency power and restoration



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## Phase I Detail continued

- Determine number of Florida hospitals employing remote monitoring and automated reporting technology on emergency power systems and assess their willingness to participate in pilot study around sharing this data during disasters
- Encourage hospitals to take Emergency Power System Assessment Survey
- Develop report with recommended protocols to better address threats to emergency power and prioritized restoration through enhanced communications and coordination among stakeholders



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## Emergency Power System Vulnerability Assessment Survey

<b>Unique Powered for Patients Questions not included in HCRI Requested Data or EPFAT</b>	<b>Yes</b>	<b>No</b>
In addition to conducting required testing on backup generators, do you routinely test switch gear equipment?	14	1
Do you have a service contract for your emergency power system?	14	1
Have you already identified locations for temporary generator installations on your campus?	14	1
Does the hospital have a stock of recommended spare parts for the diesel generator or assurances from local diesel distributor to provide spare parts?	10	5
Have appropriate personnel been trained on manual operation of the diesel generators or emergency system?	13	2



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## Emergency Power System Vulnerability Assessment Survey

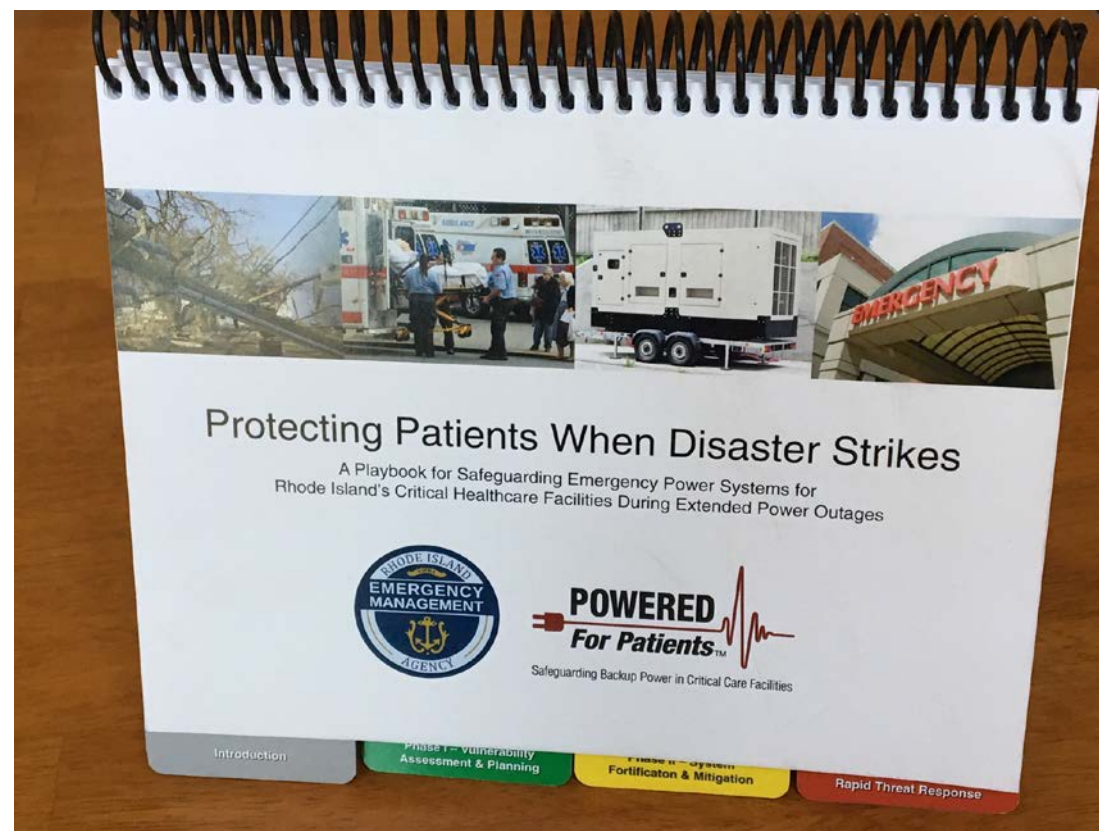
Does your emergency generator system have any unique cooling or operational requirements that may require special measures during a disaster (heat exchangers, cooling towers, etc.)?	3	12
Do you have a protocol for detaching and reattaching to NGRID during power outages?	7	8
*Does your hospital have plans to replace some or all of your generators within the next three to five years?	5	9
Are there restrictions in place with respect to which service companies are authorized to provide service to any of your generators, switch gear equipment or automatic transfer switches?	7	8
Is your water system dependent on power for water pressure due to building elevation?	3	13
Is your wastewater system dependent on power for sewage flow away from your facility into local sewer or septic systems?	2	13



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## Florida Emergency Power Initiative – Phase II Detail

- Implement findings of Phase I report in two or three geographic locations in Florida and develop localized *Protecting Patients When Disaster Strikes* playbooks





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## Florida Emergency Power Initiative Phase III Detail

- Launch pilot study to assess efficacy of sharing remotely monitored generator data from hospitals with designated government officials and utilities during times of disaster
- Enhanced situational awareness of generator status, including fuel supply, can expedite government response and prioritized power restoration
- Establish training process to enable state officials and utilities to understand how to respond to automated reports during disasters and differentiate between less critical and catastrophic fault indicators



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## Florida Emergency Power Initiative – Phase IV Detail

- Conduct exercises and drills to test new protocols developed during Phases I, II, and III



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## Florida Emergency Power Initiative Timeline

- Phase I – June/July through early 2019
- Phase II – 2019
- Phase III – 2019
- Phase IV – Late 2019/Early 2020



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## Florida Emergency Power Initiative Sponsors to Date

- Cummins
- Schneider Electric
- Siemens
  
- Funding request is pending with Florida Department of Health



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## Q&A

Contact info:

Eric Cote, Project Director

Powered for Patients

202-810-0125

[cote@poweredforpatients.org](mailto:cote@poweredforpatients.org)