Staying Ahead of the Sandy Curve

PUNISHMENT OF THE INNOCENT (A PREDICTION)

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What We're Going to Discuss
(Among Other Things)

As was in the aftermath of Katrina and Andrew we feel regulators might focus on the problems suffered by a small percentage of hospitals and assume they are an indication of how others are prepared to handle, and prevent, electrical utility failures from affecting patients. In this presentation we will discuss:

1. What the HHS and CMS found worthy of deficiencies and how to avoid them.
2. Best Practices you can implement that would add redundancy (aka, Plan B and C) to the EPSS and its subcomponents
3. What outside services you cannot depend on to defend in place.

2

Punishment of the Innocent

Consumer Reports in October, 2014 stated:

"Emergency Generators Don't Always Work When They Are Needed Most"

"The good news is that sustained generator failures are rare. The American Society for Healthcare Engineering recently surveyed 1,558 members about utility failures from July 1, 2011, to June 30, 2014. The 258 respondents reported an average of one power outage per year. During power failures, the emergency electrical system was successful 98.65 percent of the time."

3

Punishment of the Innocent

The AHA published in *Fast Facts on US Hospitals* (last and latest update in January 2013) that 5,724 "Registered" hospitals, as defined by the AHA, existed in the US.

98.65% = 5,647
01.35% = 77

Will the 98.65% be punished similar to, or worse than, how they were treated after Katrina?

4

Katrina Suggested Prescriptions

Connection boxes for portables – were they needed? Good idea ☑

5

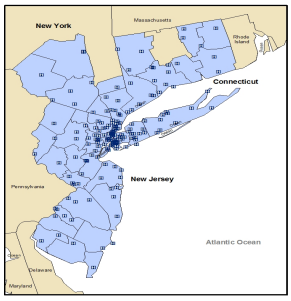
Sandy Appears to Have Created An Opportunity For New Standards

Daniel R. Levinson, Inspector General, Department of Health and Human Services (HHS) published a paper entitled: *HOSPITAL EMERGENCY PREPAREDNESS AND RESPONSE DURING SUPERSTORM SANDY*

(September 2014, OEI-06-13-00260)

6

Declared Disaster Areas



7

HHS

"We surveyed 174 Medicare-certified hospitals located in declared disaster areas in Connecticut, New Jersey, and New York during Superstorm Sandy."

"Prior to the storm, most hospitals received emergency-related deficiency citations from hospital surveyors"

"One of these conditions [of the COP] requires that hospitals develop and implement a comprehensive emergency plan and maintain a physical environment (e.g., emergency power and lighting in operating, recovery, intensive care, and emergency rooms) that ensures the safety and well-being of patients during emergencies."

8

What HHS Recommends

"The experiences of hospitals during Superstorm Sandy and the deficiencies cited prior to the storm reveal gaps in emergency planning and execution that might be applicable to hospitals nationwide. Given that insufficient community-wide coordination among affected entities was a common thread through the challenges identified by hospital administrators**, we recommend that the Office of the Assistant Secretary for Preparedness and Response (ASPR) continue to promote Federal, State, and community collaboration in major disasters. We also recommend that the Centers for Medicare & Medicaid Services (CMS) examine existing policies and provide guidance regarding flexibility for reimbursement under disaster conditions. ASPR and CMS concurred with the recommendations."**

9

HHS Report

"On December 27, 2013, 14 months after Sandy made landfall, CMS issued a notice of proposed rulemaking to establish national emergency preparedness requirements for providers and suppliers participating in Medicare and Medicaid. One of the proposed Medicare Conditions of Participation is that hospitals have an emergency plan and preparedness program that involves risk assessments, policies and procedures based on those assessments, communication plans that coordinate with external entities, and emergency training activities."

10

HHS Report

"Medicare Oversight of Hospital Emergency Preparedness. CMS includes oversight of hospital emergency preparedness as part of its broader Medicare compliance surveys conducted by State survey agencies and CMS-approved accreditation organizations." *10, 11*

- *10* Social Security Act (SSA); § 1865(a)(1); 42 U.S.C. 1395bb.
- *11* Four national accreditors review hospital compliance: The Joint Commission (TJC), the American Osteopathic Association (AOA), Det Norske Veritas Healthcare (DNVHC), and the Center for Improvement in Healthcare Quality (CIHQ). CMS, *CMS- Approved Accreditation Organizations*, 2013.

11

HHS Report

"During an accreditation survey, surveyors verify hospital compliance with the Medicare Conditions of Participation and additional performance standards imposed by the accrediting organization.*12* If surveyors find that a hospital does not meet a particular condition, they can cite the hospital with one or more deficiencies to indicate noncompliance and require a corrective plan of action or follow up with an onsite visit to validate correction. To continue providing care to Medicare patients, hospitals must correct deficiencies within a given timeframe depending on the seriousness of the deficiency."

- *12* For example, **TJC considers approximately 1,800 performance standards, only half of which correspond to a Medicare Condition of Participation**. Office of Inspector General (OIG) interview with TJC officials, November 15, 2013.

12

HHS Report

"We selected only the 3 States that were most heavily affected by the storm and the 40 counties within those States that were declared as disaster areas. For this reason, experiences of these hospitals may not be reflective of experiences of hospitals in other States or counties."

13

HHS Report

"Widespread power outages forced hospitals to rely on backup generators and use alternative procedures when delivering care to patients. Of hospitals in declared disaster areas, 69 reported experiencing electrical utility outages, and for **more than two-thirds of these hospitals (28 of 69), backup generators were not a reliable power source."**

14

HHS Report

"Hospitals struggled to secure sufficient fuel supply, which affected all aspects of hospital operations, including staff availability. For 29 hospitals, fuel shortage was a challenge that substantially affected patient care. Fuel needs included running backup generators, operating ambulances, ensuring delivery of supplies, and securing sufficient staffing levels. Although gasoline was often available, gas stations did not have backup generators to pump the gasoline when the main power went out."

15

HHS Report

"Utility systems found deficient, such as routine testing of generators. Surveyors cited 47 hospitals for emergency deficiencies that related to their utility systems, a prominent challenge reported by hospitals during Sandy**. Many of these deficiencies involved infrequent testing or incorrect testing of the hospital backup generator.** Other deficiencies related to infrequent testing or lack of emergency lighting systems. As noted earlier, 69 hospitals reported challenges with their electrical utilities that either required use of emergency power or placed them at risk of requiring its use. "

16

Hospital Infrastructure

Table B-1: Challenges Reported by Hospitals

Challenge	Hospitals (n=153)
Hospital infrastructure	**83**
Electrical utilities	69
Backup generator	35
Structural damage	29
Flooding	18
Water utilities	7
Gas utilities	3
Building security	3
Steam	2

17

Communication Issues

Communication	59
Communication with staff who were off work	25
Communication with local authorities responsible for emergency management	23
Communication with utility companies	22
Communication within the hospital	20
Communication with other hospitals	18
Communication with State and local health departments	13
Communication lost	5

18

Supplies

Supplies	47
Fuel	29
Pharmaceutical supplies	10
Food and water	9
Linen	6
Medical equipment (including furniture)	5

19

Collaboration

Collaboration	47
Collaboration with local authorities responsible for emergency management	27
Collaboration with State authorities responsible for emergency management	22
Collaboration with utility companies	11
Collaboration with other hospitals	9
Collaboration with State and local emergency response entities (EMS)	5
Collaboration with Federal authorities responsible for emergency management	3

20

We May Not Have Seen Anything Yet (Predictions)

- Unattainable Fuel Storage Requirements
- Unjustified Annual Testing
- Beyond the Code Requirements
- Grandfathering Neutered
- Documentation of Collaborative Efforts with "Others"
- Separation of Branches

21

EPSS Reliability Plans

- Plan A – Compliant with the most stringent of Regulations, Codes and NFPA Standards – Only 4.5% of all hospitals are totally compliant with plan A.
- Plan B – Ensuring redundancy of all EPSS components (elimination of single points of failure – and there are many), and assuming failure of outside support services. (Fuel – Parts – Communication – Water)
- Plan C – N+2 (Added redundancy); Portable Sets; Multiple Vendors; Tankage

Note: Nothing sucks like having to come up with a hastily designed plan C because a hastily designed B tanked.

22

Cell Tower, Fuel Depot and Water Plants

- Cell Towers – How much fuel in tanks and how are they maintaining? How much are you paying them for service?
- Fuel Depots – Do they have a generator and how are they maintaining it?
- Water plant – Ditto
- Local Gas Stations – Agreements to capture fuel and methods to retrieve?
- Purchasing and Leasing of Tanker?

23

RWJ Story

24

Where Are the 900 Standards?

HHS Report: "TJC considers approximately 1,800 performance standards, only half of which correspond to a Medicare Condition of Participation. Office of Inspector General (OIG) interview with TJC officials, November 15, 2013." (OEI-06-13-00260)

Were these 900 +/- standards consensus based? If not, why not?

Are these standards "totally coordinated" with consensus based standards?

25

Incoordination

- Sealed Batteries – CMS balking on answer – Add $19M
- Triennial Tests – Inclusion of ATS (Joint won't answer emails on their Note 5)
- Annunciator Panels – Older sets?
- Distribution of Branches – Which edition of NEC and NFPA 99?
- Ten second requirements – Proof?
- Annual vs. Triennial 4 hour tests – Add $34M

26

Wonder How They Will View This?

27

Why Coordination of Standards Will Probably Never Happen

- Loss of jobs
- Loss of influence and power
- Complexity builds job security
- A Lot of promises and predictions but no (1) specific goals/objectives, (2) milestones , and (3) deadlines.

Nothing is going to change until someone holds all AHJs accountable. The governed deserve a shot.

28

If the CMS Wants Us to Improve…

…then why not let us do it by "self adoption" of any applicable newer consensus based codes and standards - as they apply to the individual facilities.

It may be time for some serious push back.

The CMS gives us time to make comments before final edicts are passed. Who makes the decision on the comments and the "final rules"? Is it someone with a working knowledge of facility infrastructure? Do they ask for opinions on the final rule?

29

Adoption Suggestion (a draft)

"If any new or edited material appearing in a new edition of any NFPA standard will enhance reliability and/or improve patient safety, a healthcare facility is granted the option of adopting the material regardless of the NFPA edition(s) currently being followed/used by the CMS or any deemed status organization and will not be penalized for its adoption."

30

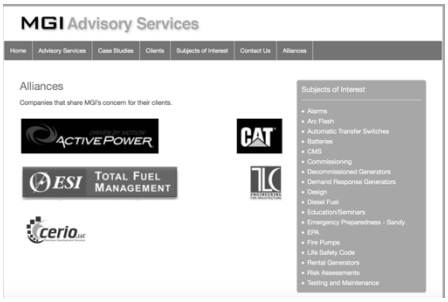
EPSS Risk Assessment

An EPSS risk analysis should be performed by a "qualified individual" who has experience in designing EPSS and witnessing their operation under long term stressful conditions. The risk analysis should consist of:

1. a dress rehearsal of the failure of every sub-component of the EPSS,
2. the failure of all outside services,
3. preparing for the CMS adopting the 2012 edition of NFPA 101, Life Safety Code, which will reference the latest NFPA 70 and 110 standards, and
4. a "reacceptance" test of all pre-alarms signals, remote annunciator panels, E-Stops, by pass solenoids, ad infinitum

31

Alliances



32

Reminder - EPSS Reliability Plans

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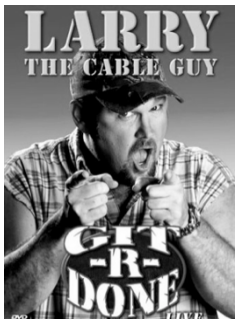
33

Be Proactive



34