ESF-2 Lessons from the 2017 Hurricane Season

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FEMA RX

Busy Year

Solar Eclipse

Hurricane Harvey (TX, LA)

Hurricane Irma (VI, PR, FL, GA)

Hurricane Maria (VI,PR)

N CA Wildfires

S CA Wildfires

Why look at Puerto Rico and USVI?

Mini Cascadia?

- Isolated from rest of United States by road
- Major communications infrastructure damage
- Challenge for moving resources in and around
- Large, multi-agency response
- Longer term outage
- Major industry response

Type 1 Disasters – Our Bread and Butter

Type 1 → Catastrophic

- Communications networks and systems are built to sustain impacts from Type 3 and Type 2 disasters.
- It takes a Type 1 event to trigger the need for a true ESF-2 response.
- This is what we need to prepare for.
- This is where emergency communications live.

Overarching Observations

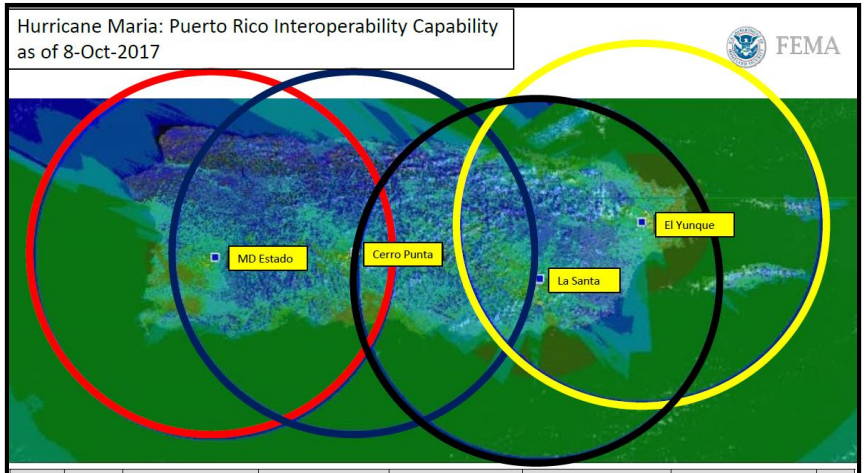
- Whole community ESF-2
  - Many tools in toolbox
  - Must work together!
- Practice, no really practice
- Set realistic expectations
- Priorities
- Understand what systems were in place prior
- Long Term Restoration and Recovery

Tactical Communications

- Know what was there
- Know and prioritize key public safety infrastructure
- Understanding of roles and players
- Know the resources and how to get them
- Reporting and rapid assessments
- Rumor control and false issues
- Spectrum Management
  - Outside responders!
- Work together
- Answers may come from odd places
- Not the time to test “good ideas”

Spectrum Coordination

- What is being used?
- What are outsiders bringing in?
  - EMAC
  - DoD
  - Federal
- Will they work together?
- Adding new frequencies
- Special Temp Authorities



Channel	Color	Location	TX Frequency mobile	RX Frequency mobile	TX Frequency Repeater	RX Frequency Repeater	NAC
LE4	RED	MONTE DEL ESTADO	163.2875	168.1125	168.1126	163.2875	$68F
LE5	BLUE	CERRO PUNTA	163.4250	168.4625	168.4625	163.4250	$68F
LE2	BLACK	LA SANTA	162.2625	167.2500	167.2500	162.2625	$68F
LE3	YELLOW	El YUNQUE	162.8375	167.7500	167.7500	162.8375	$68F

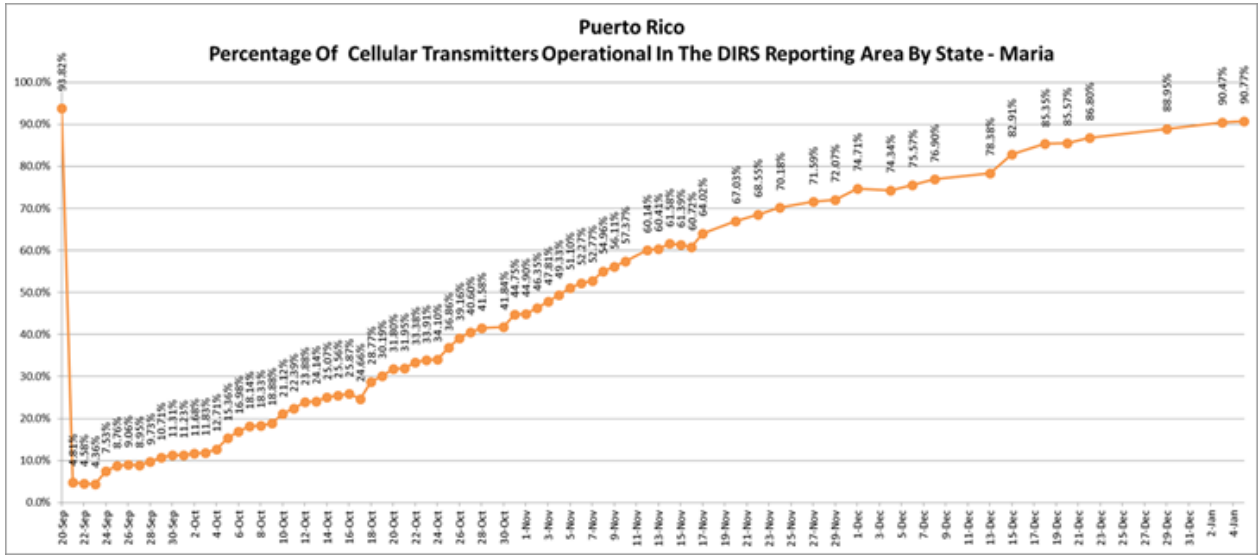
Innovative Solutions

- Are we adequately researching innovative solutions?
  - Do we know what solutions are out there and how to get them?
  - It is difficult to sort through the barrage of capabilities when you are in the middle of a response.

Industry

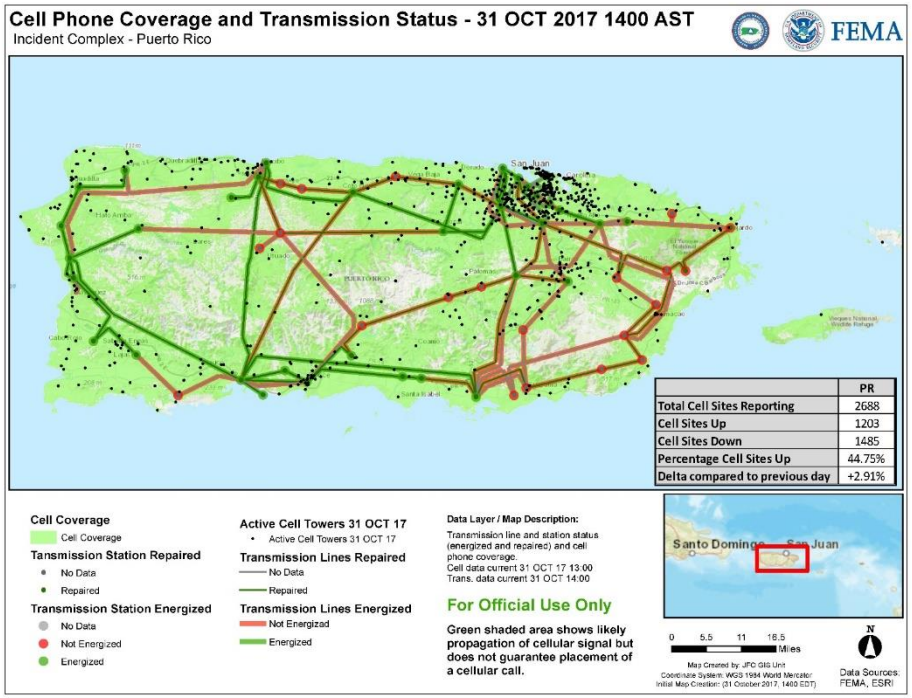
PART OF THE TEAM!!!!

- Unprecedented collaboration
- Power and Fuel (don't forget propane)
- Access letter
- Backhaul and Power
- LTE Roaming
- Transportation
- Security
- Data biggest need
- Capacity vs. Coverage
- Tower inspectors
- Voice vs. Data



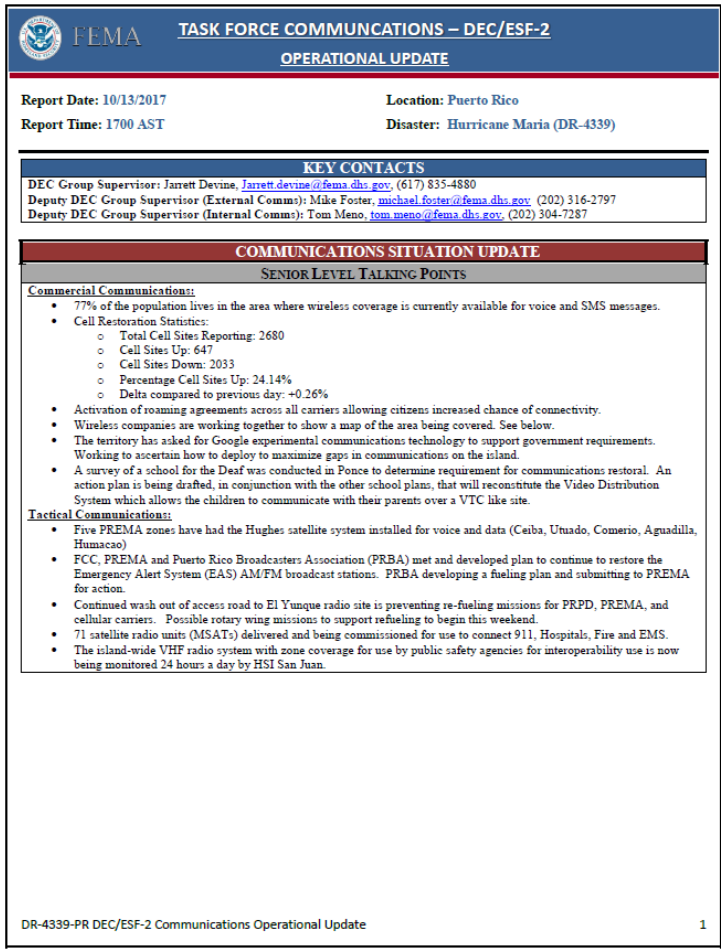
Are we tracking the right information?

- In DIRS and other reporting:
  - Is all information we are gathering and presenting informing the response?
  - Is it the right information?
  - Is it packaged in the right way?
  - Does it include the “So what?”
- Amount of different reporting chains
- What do key leaders need?



Documentation and accurate messaging is key.

- We must document our actions and be clear in our messaging.
  - Perception is reality…if we do it, we must document it in a way where it can not be questioned.
    - If it doesn't look professional it will not be trusted.
      - Hospital Communications Assessments
  - Our messaging must be accurate and leave no room for interpretation.
    - The ability for folks to communicate in the field does not directly correlate with the ability for those folks to be reached while they are in the field.



FEMA

TASK FORCE COMMUNCATIONS – DEC/ESF-2

OPERATIONAL UPDATE

Report Date: 10/13/2017 **Location:** Puerto Rico

Report Time: 1700 AST **Disaster:** Hurricane Maria (DR-4339)

KEY CONTACTS

DEC Group Supervisor: Jarrett Devine, Jarrett.devine@fema.dhs.gov, (617) 835-4880
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COMMUNICATIONS SITUATION UPDATE

SENIOR LEVEL TALKING POINTS

Commercial Communication:

- 77% of the population lives in the area where wireless coverage is currently available for voice and SMS messages.
- Cell Restoration Statistics:
  - Total Cell Sites Reporting: 2680
  - Cell Sites Up: 647
  - Cell Sites Down: 2033
  - Percentage Cell Sites Up: 24.14%
  - Delta compared to previous day: +0.26%
- Activation of roaming agreements across all carriers allowing citizens increased chance of connectivity.
- Wireless companies are working together to show a map of the area being covered. See below.
- The territory has asked for Google experimental communications technology to support government requirements. Working to ascertain how to deploy to maximize gaps in communications on the island.
- A survey of a school for the Deaf was conducted in Ponce to determine requirement for communications restoral. An action plan is being drafted, in conjunction with the other school plans, that will reconstitute the Video Distribution System which allows the children to communicate with their parents over a VTC like site.

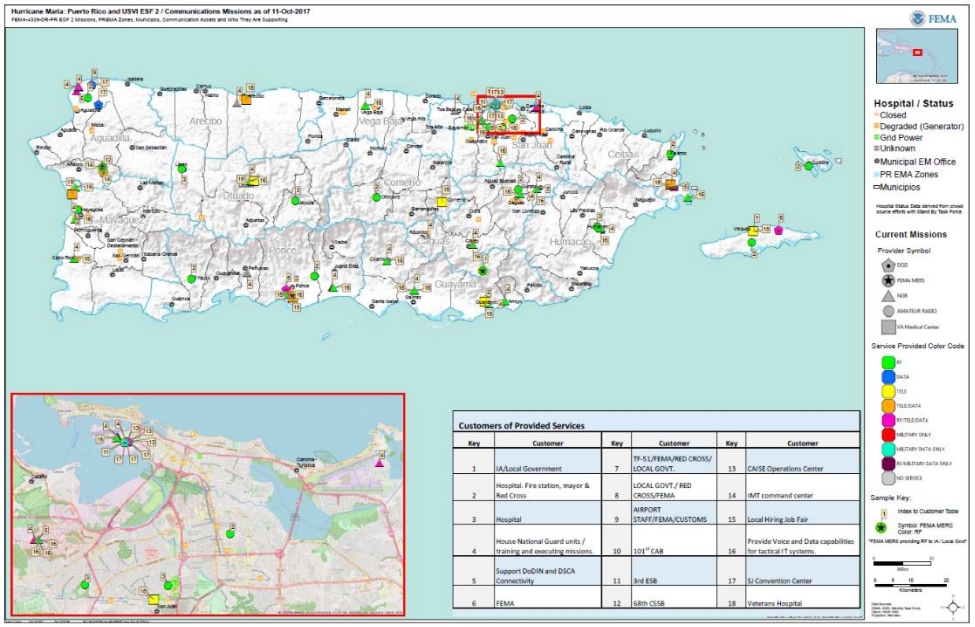
Tactical Communications:

- Five PREMA zones have had the Hughes satellite system installed for voice and data (Ceiba, Utuado, Comerio, Aguadilla, Humacao)
- FCC, PREMA and Puerto Rico Broadcasters Association (PRBA) met and developed plan to continue to restore the Emergency Alert System (EAS) AM/FM broadcast stations. PRBA developing a fueling plan and submitting to PREMA for action.
- Continued wash out of access road to El Yunque radio site is preventing re-fueling missions for PRPD, PREMA, and cellular carriers. Possible rotary wing missions to support refueling to begin this weekend.
- 71 satellite radio units (MSATs) delivered and being commissioned for use to connect 911, Hospitals, Fire and EMS.
- The island-wide VHF radio system with zone coverage for use by public safety agencies for interoperability use is now being monitored 24 hours a day by HSI San Juan.

DR-4339-PR DEC/ESF-2 Communications Operational Update 1

Restoration and Recovery

- Significantly lacking in understanding and execution
- We need to be positioned to support recovery.
- If we want to positively impact the future resiliency of communications we need to be prepared to support through the recovery phase.
- Its not as flashy as response, but it is where real change is possible.



Key	Customer	Key	Customer	Key	Customer
1	IA/Local Government	7	TF-51/FEMA/RED CROSS/ LOCAL GOVT.	13	CAISE Operations Center
2	Hospital. Fire station, mayor & Red Cross	8	LOCAL GOVT / RED CROSS/FEMA	14	IMT command center
3	Hospital	9	AIRPORT STAFF/FEMA/CUSTOMS	15	Local Hiring Job Fair
4	House National Guard units / training and executing missions.	10	101st CAB	16	Provide Voice and Data capabilities for tactical IT systems.
5	Support DoDIN and DSCA Connectivity	11	3rd ESB	17	SJ Convention Center
6	FEMA	12	68th CSSB	18	Veterans Hospital

It is time for realistic practice

- We need to get the EM community to stop avoiding this
  - "It's too hard" is never going to get easier
- Catastrophic incidents are not the time to figure out what we do
- Partnerships and relationships are built

- Cascadia Rising 2022!
  - Push for realistic inclusion
  - Start training and practice now
  - Play it for all systems

What does the future hold?

- FEMA Strategic Plan
  - Build a Culture of Preparedness
  - Ready the nation for catastrophic disasters
  - Reduce the complexity of FEMA
- Regional Communications Plan
  - What do we need to know
  - Less waste of words
  - Build it for others
- Exercises and tests
  - RECCWG
  - Preparing for CR22

Overarching Observations – a review

- Whole community ESF-2
  - Plan, train, practice
- Practice, no really practice
  - Too hard is not an excuse
- Set realistic expectations
  - And communicate them!
- Priorities
  - What really must be restored first
- Understand what systems were in place prior
- Long Term Restoration and Recovery
  - Started as soon as you respond

Questions?

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