Deployable Aerial Communications Architecture Light Fixed Wing Asset Successes Using USAF Auxiliary/Civil Air Patrol Assets

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Whole Community Initiative

 ...The "Whole Community" initiative recognizes that FEMA is not the nation's emergency management team—FEMA is just part of the team." — FEMA Administrator Craig Fugate (03/11)

One Approach- Use Local Volunteer Resources

- Single engine, fixed wing aircraft highmedium altitude orbits
- Deployable/tactical repeater packages
- Broadband, multi frequency antennas installed on aircraft
- Volunteer agency assets equals low cost to users







1998 Florida Wildfires

- Multiple large complex fires
- Requirement for wide area VHF communications for fire fighting operations
- FL Wing CAP lifted forest service repeaters in race track orbits providing vital communications links





2009 Kentucky Ice Storms

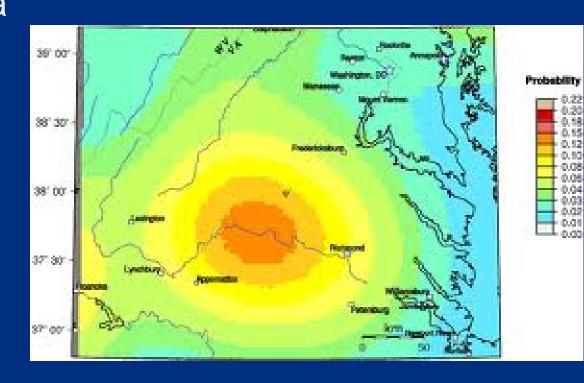
- State of Kentucky request
- KY Wing CAP flew tactical repeaters to provide critical communications on KY selected frequencies
- Dusk-to-dawn flight ops
- Supported door-to-door survivor search by the KY National Guard





2011 VA Earthquake

- Richmond, VA area earthquake
- Cellular network saturated
- VA Wing CAP flew tactical repeaters providing real time, emergency communications



2011 Texas Wildfires

- Forest Service personnel using limited range, handheld radios
- Life safety environment required USFS repeater to be flown for communications.
- TX Wing CAP flew dawn-todusk from 22-29 April, total 120 air hours, 65 sorties, 368 man-days.
- Used local squadrons
- Total cost was \$10,259





2011-FEMA US&R Task Forces

Texas TF1 is currently in discussions with Texas Wing CAP to equip identified Texas CAP aircraft with broadband antennas to support TXTF1 communications operations.



Lessons Learned-Planning

- Prepare for it now, build it into your plans
- Test system operations before you need it
- Minimal cost for return on investment (cost of antennas-vs-benefit of reliable-flexible communications)
- CAP is a cost efficient asset to lift ECOMM packages



Lessons Learned-MAs

- Pre-scripted mission assignments for supporting emergency communications will limit the time to wheels up for the deployment of airborne repeater platforms.
- Needs to be established prior to the event



Pre-Scripted Mission Assignments

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Lessons Learned-Antennas

- For the maximum flexibility the aircraft need to be equipped with external antennas for
 - 136-174 MHZ
 - 380-512 MHZ
 - 700/800 MHZ
- 3 separate antennas or 2 dual band-broad band antennas



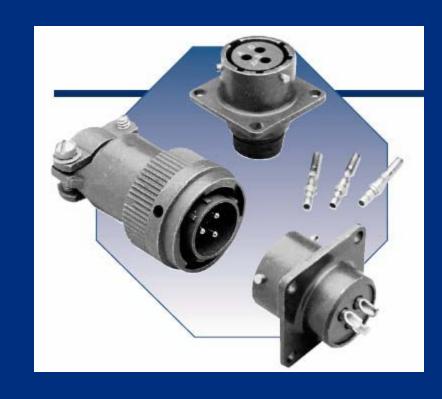
Lessons Learned-Power

- Aircraft need to be configured to support multiple forms of power connections.
- Temporary plug assemblies are not reliable for life safety communications.
- Agencies need to establish beforehand their power requirements and connections for their equipment.



CAP A/C Auxiliary Power Connector

CAP's new Cessna's are equipped with a standardized connector for supplying power to portable equipment. This connector has three pins and is suitable for both +12V DC and +24V DC connections.



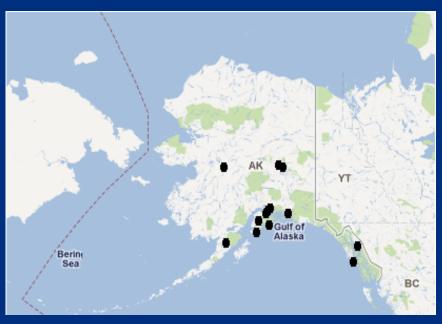
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CAP CONUS Aircraft Locations



508 Aircraft in CONUS

CAP OCONUS Aircraft Locations



29 Aircraft in Alaska Wing

10 Aircraft in Hawaii Wing



3 Aircraft in Puerto Rico & Virgin Islands Wing

Summary

- FEMA's "Whole Community" Initiative engages local assets to improve community resilience and self-reliance during response operations
- FEMA recognized the need for rapidly deployable LMR networks based on aerial platforms in the 1990's
- FEMA has partnered with the Civil Air Patrol/US Air Force
 Auxiliary to provide a low cost solution to this problem using
 volunteer resources from the affected communities
- FEMA continues to broaden the use of local volunteer resources to solve local response problems
- Preparedness planning and preparation is the key to success

Questions?

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