PinCo ACS Introduction to PACE

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PinCo ACS Introduction to PACE
Agenda

- Purpose, Objective, and Scope
- Development Process
- PACE Plan Examples

PinCo ACS Introduction to PACE

Purpose, Objectives, and Scope

- **Purpose:** The PACE communications plan is a tool that helps an organization prepare and train for the use of backup communications.
  - It establishes a well-defined process for selecting and implementing a backup communications channel.
- **Objective:** Establish redundancy so that some means of communications is *always* available.
- **Scope**: Plan should support all planned communications missions.

PRIMARY	ALTERNATE	CONTINGENCY	EMERGENCY

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Purpose, Objectives, and Scope

PRIMARY — The best and intended method of communications.

ALTERNATE — Another common, but less optimal method.

CONTINGENCY — Method may not be as fast, convenient, or reliable, but it can accomplish the task.

EMERGENCY — Communication method of last resort. Emergency methods may cause delays or otherwise affect operations

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Key Considerations

- **Feasible.** Have enough working systems and trained users to implement each step of the PACE plan for both *transmitting* and *receiving* users.
- **Acceptable.** Setting up a redundant capability must not interfere with operations or other continuity of operations activities that may be occurring simultaneously.
- **Suitable.** Redundant capabilities must have the capacity to meet operational requirements.
- **Distinguishable.** Redundant communications cannot rely on an impacted method. For example, if network data is not available, Voice over Internet Protocol would be a poor backup method.
- **Complete.** The PACE plan should outline each means of communication, and triggers for execution.

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Development Process

- Identify all potential Functions / Missions
- Identify available communications systems
- Document communications systems capabilities and limitations
- Determine communication system failure modes, dependencies, and trigger events
- Select communication system for each level of the PACE Plan

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Mission Identification – PinCo ACS Support

- PinCo EOC Communications Missions
  - Evacuation Shelter Manager (Voice and Data)
  - Hospitals (Voice and Data)
  - Municipality EOCs (Voice and Data)
  - State of Florida EOC (Voice and Data)

- Ancillary Missions
  - Navigation
  - Location Determination

Current PinCo ACS Mission List

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Communication Systems – Pinellas County

Cellular Networks	**Radio Systems**
• Multiple Commercial Services	• 800/700 MHz Trunked radio System
• FirstNet	• 800/700 MHz radio System Talk Around
Plain Old Telephone (POT)	• Statewide Law Enforcement Radio System (SLERS)
Internet	• VHF/UHF Amateur Radio
• Multiple Commercial Services	• Multiple Repeaters and Digipeaters
Satellite Systems	• Simplex
• Low Earth Orbit (Starlink)	• HF Amateur and SHARES
• Geosynchronous	• GMRS /FRS
• Global Navigation Satellite Systems (GNSS)	• GMRS Repeaters
• GPS, GPS Multi-Band	• Simplex
• Galileo, GLONASS, BeiDou	• Citizens Band Radio

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Communication Systems – Capabilities and Limitations

System	Capabilities	Limitations
VHF/UHF Amateur Radio		
Repeater	• Voice • Covers all of Pinellas County	• Amateur Radio License • No Confidentiality
Digipeater	• Covers most of Pinellas County • Winlink Data	• Amateur Radio License • Limited Bandwidth for Data • No Confidentiality
Simplex	• Voice • Winlink Data • APRS	• Amateur Radio License • Limited Bandwidth for Data • No Confidentiality • Limited Range (line-of-sight)

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Determine Points of Failure and Trigger Events

PACE Worksheet			
Mission:	**Shelter Manager to PinCo EOC - Voice**		
	Method	**Dependencies**	**Trigger Event**
Primary	Cell Phones	**1. Cellular Network** • FirstNet • Commercial **2. Commercial Power** • Cell Tower Site • Shelter Site (Phone Charging) **3. Back-up generator Power (Cell Tower Site)** • Generator Fuel Supply /Battery **4. Backhaul to Mobile Switching Center**	**Shelter:** Loss of Cellular Service **EOC:** Unable to Contact Shelter via Cell
Alternate	VoIP Phone System	**1. Internet** • Commercial Wired **2. Commercial Power** • Shelter Site (Modems, Routers, etc.) • Internet Distribution network **3. Back-up generator Power (Internet Substation)** • Generator Fuel Supply /Battery	**Shelter:** Loss of Wired Internet Service **EOC:** Unable to Contact Shelter via Shelter VoIP Phone
Contingency	PinCo ACS VHF/UHF Radio	**1. External Antenna System** **2. Commercial Power** **3. Backup Power (Battery, Solar, etc.)**	Loss of RF Connectivity between Shelter / EOC
Emergency	800 MHz Trunked Radio Sys	**1. Sheriff Deputy / EMS** **2. Trunked Radio System**	

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Determine Points of Failure and Trigger Events

PACE Worksheet			
Mission:	**Shelter Manager to PinCo EOC - Data**		
	Method	**Dependencies**	**Trigger Event**
Primary	Internet via Cellular network (FirstNet MiFi)	**1. Cellular Network** • FirstNet • Commercial **2. Commercial Power** • Cell Tower Site • Shelter Site (MiFi, Computer Charging) **3. Back-up generator Power (Cell Tower Site)** • Generator Fuel Supply /Battery **4. Backhaul to Mobile Switching Center**	**Shelter:** Loss of Cellular Service **EOC:** N/A
Alternate	Wired Internet (Email, apps, etc.)	**1. Internet** • Commercial Wired **2. Commercial Power** • Shelter Site (Modems, Routers, etc.) • Internet Distribution network **3. Back-up generator Power (Internet Substation)** • Generator Fuel Supply /Battery	**Shelter:** Loss of Wired Internet Service **EOC:** Notified By Shelter Manager that Internet is down
Contingency	VHF/UHF Radio Winlink	**1. External Antenna System** **2. Commercial Power** **3. Backup Power (Battery, Solar, etc.)**	Loss of RF Connectivity between Shelter / EOC
Emergency	Runner	**1. Vehicle Available** **2. Roads safe to travel**	

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Determine Points of Failure and Trigger Events

PACE Worksheet			
Mission:	PinCo EOC to State of Florida EOC - Data		
	Method	**Dependencies**	**Trigger Event**
Primary			
Alternate			
Contingency			
Emergency			

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Secondary PACE Communications Plans

- A Secondary PACE Plan can be created for the following PinCo communication capabilities
  - PinCo EOC Satellite Systems
  - VHF/UHF Voice Communications
  - VHF Data Communications

Both PACE plans should be created and included in the overarching communications plan

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Conclusion

- A PACE Plan establishes a well-defined process for selecting and implementing a backup communications channel.
- A Redundant means of communications should always be available to support user missions.

Reliable and timely communications are needed to ensure mission success, protection of property, and safety of first responders and residents within the disaster area

Back-up