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# **Alaska Land Mobile Radio (ALMR)**

## **The Mystery Revealed**

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# Agenda

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- **System Design**
  - **Coverage 101**
  - **Incident Command Zones**
  - **Dispatch**
  - **Executive Council**
  - **User Council**
  - **User Agencies**
  - **OMO**
  - **SMO**
  - **Funding ALMR**
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# System Design

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- All sites south of the Denali Highway are in Zone 1
- All sites north of the Denali Highway are in Zone 2
- All 700 MHz sites in the Municipality are in Zone 4
- Each zone has a Master Site and a number of radio frequency (RF) sites
  - The Master Site for Zone 1 is located in Anchorage at Tudor Road (Master Controller for ALMR System)
  - The Master Site for Zone 2 is located in Fairbanks at Birch Hill on Fort Wainwright

NOTE: Zone 3 is reserved for the Southeast

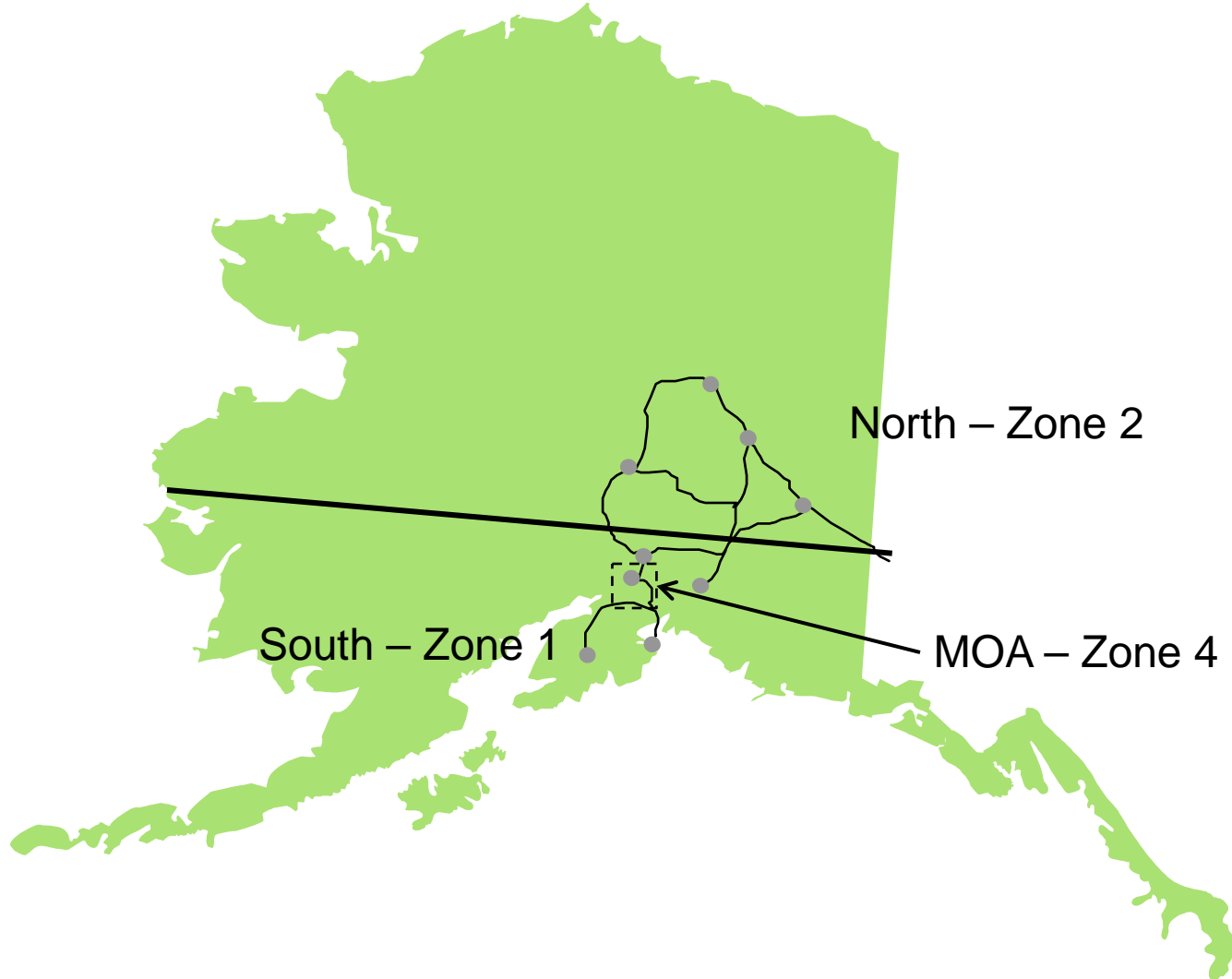
# System Design (cont)

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- 160 Microwave SATS Sites (not all SATS sites support ALMR)
- 90 of the 160 are ALMR Sites
  - State sites (40)
  - DOD sites (50)
- 80 of the 90 are operational ALMR Sites
  - Zone 1 (56 sites)
  - Zone 2 (24 sites)
- 15 Municipality of Alaska sites
  - Currently testing Phase 1 sites (6)

# System Design (cont)

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# System Design (cont) - Zone 1 Sites

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- Alcantra
- Anchor River
- Atwood 800 MHz
- Atwood
- Auke Lake
- Bailey Hill
- Blueberry Hill
- Byers Creek
- Chulitna
- Cooper Landing
- Cottonwood Creek
- Diamond Ridge
- Dimond Courthouse
- Divide
- Ernestine Mountain
- Fire Station 12
- Glennallen
- Girdwood
- Heney Ridge
- Honolulu
- Hope
- Hurricane
- Kasilof
- Kenai
- Lena Point
- Lions Head
- Moose Pass
- Nikiski

# System Design - Zone 1 Sites (cont)

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- Ninilchik
- Pillar Mountain
- Pipeline
- Portage
- R1 North
- Rabbit Creek
- Saddle Mountain
- Sawmill
- Seldovia
- Seward
- Silvertip
- Site Summit
- Skagway
- Ski Hill
- Sourdough
- Sterling
- Summit Lake
- Tahneta Pass
- Ted Stevens 800 MHz
- Ted Stevens AIA
- Tolsona
- Tsina
- Valdez
- Whittier
- Willow Creek
- Willow Mountain
- Wolcott Mountain
- Womens Bay

# System Design (cont) - Zone 2 Sites

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- Beaver Creek
- Birch Hill
- Black Rapids
- Canyon Creek
- Cathedral Rapids
- Clear AFS
- Donnelly Dome
- Dot Lake
- Ester Dome
- Fort Greely
- Garner
- Harding Lake
- Hill 3265
- Independent Ridge
- Money Knob
- Nenana
- Paxson
- Peger Road
- Pole Hill
- Quarry Hill
- Reindeer Hills
- Tok
- Trims
- Yanert

# System Design (cont) - Zone 4 Sites

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## Phase 1

- Atwood Building
- Elmore Road & 48<sup>th</sup>
- Fire Station 12
- ML&P Plant Two
- Kincaid Park
- Rabbit Creek

# System Design (cont) – Build Out

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Remaining site build out (SOA):

Summer 2009

Haines

High Mountain

Unknown

Curry

Gilmore Creek

Grandview

Houston

Hunter

Petersburg

Mt Sunny Hay (Craig)

Sitka

Wrangell

# System Design – Build Out (cont)

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Remaining site build out (MOA):

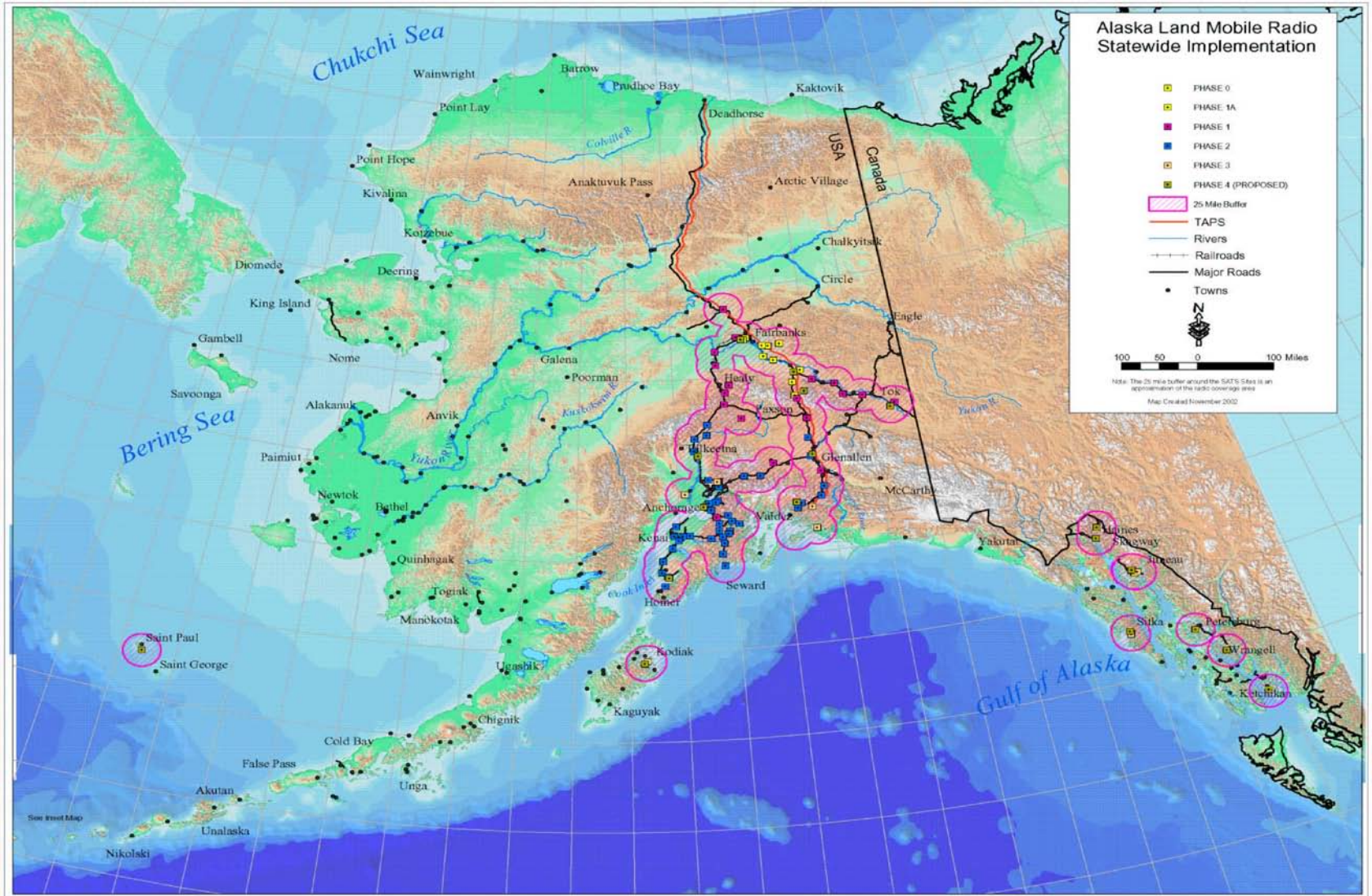
## Phase 2 (Underway)

- Anchorage Regional Landfill
- Blueberry Hill
- Chugiak VFD
- Girdwood
- Hope
- MatSu Borough Fire Station 62

## Unknown

- Ted Stevens AIA
- Asplund Wastewater Treatment Plant
- Portage

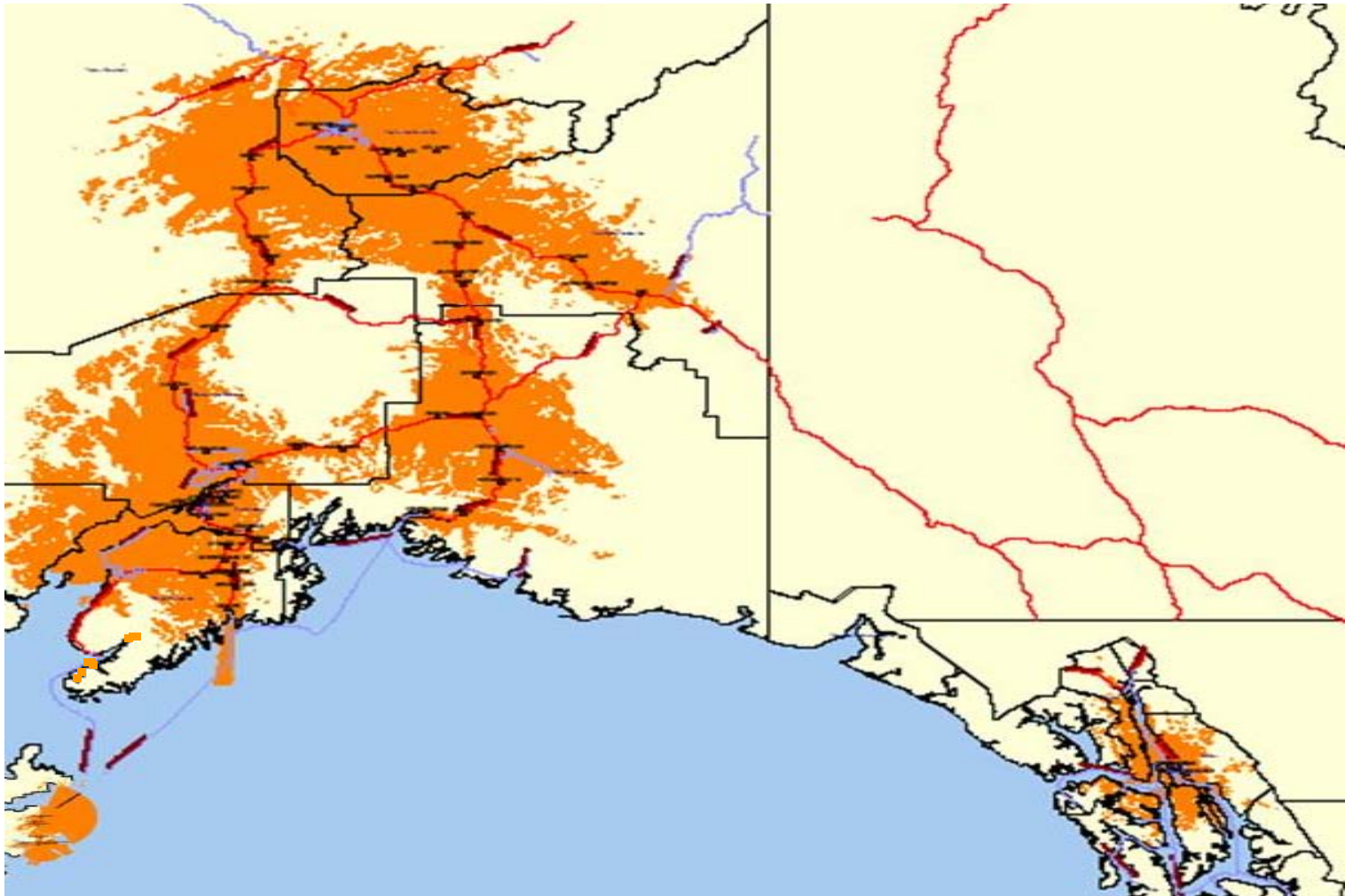
# System Design (cont)



**NOTE: Approximate coverage areas – circles represent a 25-mile buffer zone around each site**

# System Design (cont)

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# System Design (cont)

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## Currently Authorized to Operate on ALMR:

- **EF Johnson**
  - 5100 Portable
  - 5300 Mobile
- **Kenwood**
  - TK5210 Portable
  - TK5710 Mobile
  - TK 5810 Mobile
- **Motorola**
  - XTS2500 Portable
  - XTS5000 Portable
  - XTL5000 Mobile

**NOTE: Any manufacture of P25-compliant radios can provide a subscriber unit to the System Management Office for the performance of an Acceptance Test Procedure (ATP).**

# System Design (cont)

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The ALMR System DOES NOT Support:

- Text Messaging
- Paging
- GPS (Vehicle or Personnel Location)
- Fire Station Alerting
- POP25 (Programming Over Air)\*\*

Features such as these require the user to purchase additional hardware/software to support the function – it is NOT integrated into the current system.

**ASK BEFORE YOU BUY!**

\*\*Elmendorf AFB has purchased software to support their POP25.

# Coverage 101

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- **Microwave towers operate on ‘line of sight’**
- **Poor two-way reception can be caused by coverage issues or interference:**
  - **Outside current ALMR coverage area (denial of service tone)**
  - **Mountains and buildings (coverage)**
  - **Smoke (interference – microwave only)**
  - **Volcanic Ash (interference – microwave only)**
  - **Digitalization (can be caused by:)**
    - **Dense foliage (coverage)**
    - **Edge of coverage area (coverage)**

# Coverage 101 (cont)

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- **Digitalization (continued:)**
    - High level of background noise (fire ground noise and vehicle windows down [air noise]; radio cannot distinguish which sound to focus on so digitalization/garble occurs)
    - No external antenna (coverage)
    - Possible RF interference from outside sources (interference)
  - **In-Building Coverage**
    - ALMR VHF is designed to perform best over distances - not within buildings
    - Equipment must be installed within critical infrastructure for subscriber units to have the best performance
      - DOD requested areas requiring in-building coverage be identified
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# Coverage 101 (cont)

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- **In-Building Coverage (cont)**
  - **Types**
    - Active – bi-directional amplifiers
    - Passive – splitters or couplers
    - Hybrid – combination of active and passive components
  - **Current ALMR areas with in-building coverage (bi-directional amplifiers)**
    - Whittier Tunnel
    - Ted Stevens AIA
    - Eielson Air Force Base
      - Amber Hall
      - Joint Military Complex

# Coverage 101 (cont)

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- **Areas with In-Building coverage (cont)**
  - **Elmendorf Air Force Base**
    - **Hospital**
    - **Alternate Command Post**
    - **Air Mobility Complex**
    - **Joint Military Mall/Commissary**
    - **People Center**
  - **US Army Alaska**
    - **Fort Richardson**
      - **USARAK HQ (Building 1)**
      - **Garrison Staff Building**
      - **4-25 HQ/Barracks**

# Coverage 101 (cont)

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- **US Army Alaska (cont)**
  - **Fort Richardson (cont)**
    - **59<sup>th</sup> Signal Battalion**
    - **National Guard Armory Areas A – F**
  - **Fort Wainwright**
    - **HQ Building**
    - **Fire Department**
    - **Military Police Building**
    - **Battle Command Training Center**

# Incident Command Zones

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- **Incident Command (IC) Zones**
  - **Statewide IC Zone**
    - Hail Channels
    - Tactical Channels
    - Command Channels
  - **Admin Zone**
  - **OP Zone**
    - VCALL/VTAC
    - State channels
    - Trunked channels
    - Marine channels (only to be used for transmitting in EMERGENCY situations)

# Incident Command Use

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## Scenario – Bomb Threat (Region B)

**Responding Agencies: Federal, Fire, Law Enforcement, EMS**

**Region B Dispatcher assigns command channels until the COML is on scene**

- IC2 assigned as the CMD Channel for the Incident Commander; Fire Captain, LE Captain, Federal Lead, and EMS Lead are assigned on IC2 with the Incident Commander – they switch to their specific area-assigned command channel to talk to responding agencies
- IC3 assigned to Fire  
(Fire Captain goes to IC3 to talk to Fire agencies)
  - FS1 (talk internally on FS1 talkgroups)
  - FS12 (talk internally on FS12 talkgroups)
- IC4 assigned to Law Enforcement  
(LE Captain goes to IC4 to talk to LE agencies)
  - APD (talk internally on APD talkgroups)
  - AST (talk internally on AST talkgroups)
  - EAFB Security Forces (talk internally on SF talkgroups)
- IC5 assigned to Federal Agencies  
(Fed lead goes to IC5 to talk to Federal agencies)
  - FBI (talks internally on FBI talkgroups)
  - EAFB (talk internally on EAFB talkgroups)
- IC6 assigned to EMS  
(EMS lead goes to IC6 to talk to medical agencies)

**NOTE: Agencies joining the incident who do not know their IC Channel contacts the Dispatch/COML via B HAIL for proper channel assignment.**

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- **Roles & Responsibilities**
  - **Single point of contact for users**
  - **Perform COML functions**
- **Dispatch multiple agencies/disciplines**
- **MotoBridge<sup>®</sup> operators**
  - **Dispatch centric**
  - **Set up/knock down bridges for disparate systems**

# Executive Council

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- **State of Alaska - Member**  
DOA Commissioner Annette Kreitzer
- **Federal Non-DOD - Member**  
Mr. Harry Kieling, U.S. DOI
- **Department of Defense (DOD) - Member**  
Colonel George Hays, ALCOM J6
- **Alaska Municipal League - Associate Member**  
Chief Jeff Tucker, North Star Fire Department
- **Municipality of Anchorage - Associate Member**  
Mr. Kevin Spillers,  
Communications, Grants  
& Policy Manager



# Executive Council (cont)

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- **Acts as the State's Interoperability Executive Committee (SIEC)**
- **Provides the administrative oversight and management of radio spectrum assets**
- **Administers and manages a statewide interoperability plan for all public safety spectrum**
- **Fosters and ensures interoperability among federal, state, and local public safety agencies engaged in day-to-day, mutual aid, and task force interoperability**

# User Council

## State of Alaska



- Department of Public Safety  
Major Matt Leveque, AST (Chair)
- Department of Transportation & Public Facilities  
Mr. Ocie Adams, M&O ITS Coordinator
- All Other State Agencies  
Mr. Doug Schoenwald,  
Telecommunications Planner,  
Division of Homeland Security &  
Emergency Management

## Federal Non-DOD



- Federal Bureau of Investigation  
Mr. Peter Murphy, Telecom Manager
- United States Department of the Interior  
Ms. Bev Fronterhouse, Branch Chief of  
Technical Systems, Alaska Fire Service
- Transportation Safety Administration  
Mr. Jim Caldwell, Inspector

## Municipalities



- Northern Region  
Brad Johnson, Deputy Chief, Fairbanks  
Police Department (Vice Chair)
- South Central Region  
Chief Mark Beals, Bear Creek Fire  
Service Area
- South East Region  
Chief Sheldon Schmidt, Sitka Police  
Department

## Department of Defense



- Air Force – Elmendorf AFB  
MSgt Marlon Taylor, NCOIC - Personal  
Wireless Communications Systems
- Air Force – Eielson AFB  
Mr. William Mitchell, Wireless  
Communications Manager
- Army – US Army Alaska  
Ms. Natalie Newman, 59<sup>th</sup> Signal Battalion,  
Chief of Operations

# User Council (cont)

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- **Responsible for making all operating and maintenance decisions affecting the ALMR Communications System**
  - **Oversees the development of System operations plans, procedures, and policies, per the Cooperative Agreement**
  - **Provides recommendations to the Executive Council regarding approval of the System design and approval of all proposed modifications to the System design**
  - **Provides recommendations to the Executive Council regarding approval of the terms and conditions of access of users of the System**
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# User Agencies

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## State of Alaska Agencies

49<sup>th</sup> Civil Affairs Brigade  
176<sup>th</sup> Wing Kulis ANGB  
Alaska Army National Guard  
Alaska Railroad Corporation  
Civil Air Patrol-Alaska Wing  
Department of Corrections  
Department of Environmental  
Conservation  
Department of Health & Human  
Services – Juvenile Justice  
Department of Natural Resources -  
Forestry  
Department of Natural Resources –  
Parks & Outdoor Recreation  
Department of Public Safety  
Department of Transportation & Public  
Facilities

Division of Homeland Security &  
Emergency Services  
Division of Juvenile  
Enterprise Technology Service  
University of Alaska-Fairbanks FD  
University of Alaska-Fairbanks PD

## **UC Representatives:**

Primary SOA DPS: Major Matt Leveque/  
Alternate DPS: Lt Barry Wilson  
Primary SOA DOT: Mr. Ocie Adams  
Alternate DOT: Mr. Greg Patz  
Primary SOA All Others:  
Mr. Doug Schoenwald  
Alternate All Others: Ms. Kathryn Pyne

# User Agencies (cont)

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## Federal Non-DOD Agencies

Bureau of Alcohol, Tobacco, Firearms, & Explosives

Bureau of Land Management

Drug Enforcement Agency

Federal Aviation Administration

Federal Bureau of Investigation

Federal Protective Services ICE

Internal Revenue Service –  
Criminal Investigations

National Park Service

NOAA - Fisheries Enforcement

Transportation Security Administration

US Fish & Wildlife Service

US Forest Service – Law Enforcement

US Marshals Service

## **UC Representatives:**

Primary BLM: Ms. Bev Fronterhouse

Alternate USF&WS: Mr. Mike Lewis

Primary FBI: Mr. Pete Murphy

Alternate: Ms. Susan Borrego

Alternate: Mr. Paul Arasz

Alternate TSA: Mr. Jim Caldwell

# User Agencies (cont)

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## DOD Agencies

Clear Air Force Station

Eielson Air Force Base

Elmendorf Air Force Base

US Army Alaska

Fort Greely

Fort Richardson

Fort Wainwright

US Army Corps of Engineers

US Marine Corps Anti Terrorism  
Battalion

## **UC Representatives:**

Primary Elmendorf: MSgt Marlon Taylor

Alternate EAFB: MSgt Karl Rudolf

Alternate EAFB: TSgt Marcus Garriot

Eielson/Clear Primary:

Mr. William Mitchell

Alternate Eielson: Mr. Ron Royal

Alternate Clear: Mr. Freddie Ashley

USARAK Alternate: Ms. Natalie Newman

# User Agencies (cont)

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## Local Agencies - Central Region

Alaska Professional Volunteers  
Amateur Radio Emergency Services  
Bear Creek Fire Service Area  
Chitina Fire & Rescue  
Cooper Landing Emergency Services  
Copper River EMS  
Gakona VFD  
Homer PD  
Homer VFD  
Hope/Sunrise EMS & FD  
Houston FD  
Houston PD  
Kachemak Emergency Services  
Kenai Peninsula Borough  
Kenai PD  
LifeMed

## **UC Representatives:**

Primary: Fire Chief Mark Beals (Bear Creek EMS)  
Alternate: Fire Captain Dave Lawson (Valdez FD)  
Alternate: Chief George Keeney (Valdez FD)

# User Agencies (cont)

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## Local Agencies - Central Region (cont)

MatSu Borough  
MatSu Regional Medical Center  
Moose Pass Fire EMS  
Nelchina/Mendeltna VFD  
Nikiski FD  
North Star VFD  
Palmer, City of  
Providence Seward Medical & Care  
Seward, City of  
Seward Volunteer Ambulance Corps  
Soldotna PD  
Valdez City Schools  
Valdez FD  
Valdez PD  
Wasilla PD  
Whittier PD

## **UC Representatives:**

Primary: Fire Chief Mark Beals (Bear Creek EMS)  
Alternate: Fire Captain Dave Lawson (Valdez FD)  
Alternate: Chief George Keeney (Valdez FD)

# User Agencies (cont)

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## Local Agencies - North Region

Anderson VFD & EMS  
Cantwell VFD  
Chena Goldstream FD  
Delta Rescue Squad  
Delta Junction VFD  
Ester VFD  
Fairbanks, City of  
McKinley VFD  
North Pole PD  
Rural Deltana VFD  
Salcha Rescue  
Steese VF  
Tok Area EMS  
TriValley VFD

## **UC Representatives:**

Primary: Deputy Chief Brad Johnson  
(Fairbanks PD)  
Alternate: Mr. David Gibbs (FBNSB)

# User Agencies (cont)

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## Local Agencies - Southeast Region

Juneau PD

Skagway, Municipality of

### **UC Representatives:**

Primary: Chief Sheldon Schmidt (Sitka PD)

Alternate: Chief Ray Leggett (Skagway PD)

# OMO Responsibilities

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- Provides oversight of the duties and responsibilities of the SMO to ensure the availability of the System 24/7
- Acts as the single point of contact between the User Council and the SMO
- Monitors, audits, and reports on SMO compliance with Service Level Agreement ensuring appropriate quality assurance and quality control
- Develops all System policies, plans, procedures, and protocols
- Coordinates requests for Transportable System deployments

# OMO Responsibilities (cont)

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- **Provides administrative support for both the Executive and User Councils for monthly meetings**
- **Establishes Membership Agreements with agencies requesting to operate on ALMR on behalf of the Executive Council**
- **Provides outreach and training to member and prospective member organizations**
- **Liaisons with Canada for cross-border interoperability and liaisons with other states to remain current on latest LMR technology solutions and trends**

# SMO Responsibilities

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- **Provides System Infrastructure Maintenance**
  - Perform periodic maintenance inspections
- **Help Desk Support**
  - 24/7/365 coverage
- **Asset Management**
  - Management of ALCOM and USARAK assets
  - Annual asset inventory for all agencies on ALMR
- **System Network Management and Technical Support**
  - Maintains visibility of the Master Controller Network Management Terminal; schedule/unscheduled outage reporting to users

# SMO Responsibilities (cont)

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- **Reporting Metrics**
  - Tracks system usage – data and voice calls/busies
- **Transportable Services**
  - Deployment/redeployment by task order
- **System Security**
  - Monitors agency logon IDs
  - Annual DIACAP recertification
- **Programs subscriber units onto the system and develops talkgroups, as requested**

# Funding ALMR

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- **Owners of infrastructure pay for the maintenance of their equipment**
  - **SOA pays to maintain their SATS sites**
  - **DOD pays for maintenance of their equipment housed in the sites no matter who owns the shelter**
- **FY2010 (July 1, 2009 to June 30, 2010) – DOD and SOA share costs**
  - **Cost share decision by the Executive Council (not the OMO)**
- **SMO current contract in place until June 2010**

# Funding ALMR (cont)

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- **OMO – new contract (at a not to exceed cost) split between DOD and SOA to be awarded and begins Oct 1, 2009**
  - **OMO has no available budget/funds to draw upon**
- **Statewide Communication Interoperability Plan (SCIP) – if requirements are not identified in here, they probably won't be funded**
  - **Agencies need to communicate with legislators, AML, AKICC, EC/SIEC, SWIC, etc. and express their requirements/needs**

# Questions?

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**Del Smith**

**Operations Manager**

**delsmith@5starteam.net/907-334-2636**

**Casey Borg**

**System Manager**

**cborg@inuitservices.com/907-269-5062**

**ALMR Help Desk**

**334-2567 Within Anchorage Bowl**

**888-334-2567 Outside Anchorage/Within Alaska**

**almr-helpdesk@inuitservices.com**

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