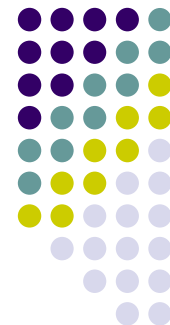**AEMA/OFC Summit**
AFRRCS Update
November 25, 2014

What is AFRRCS?

- It has nothing to do with the duck!

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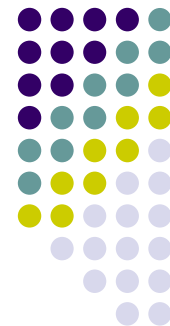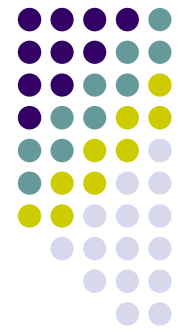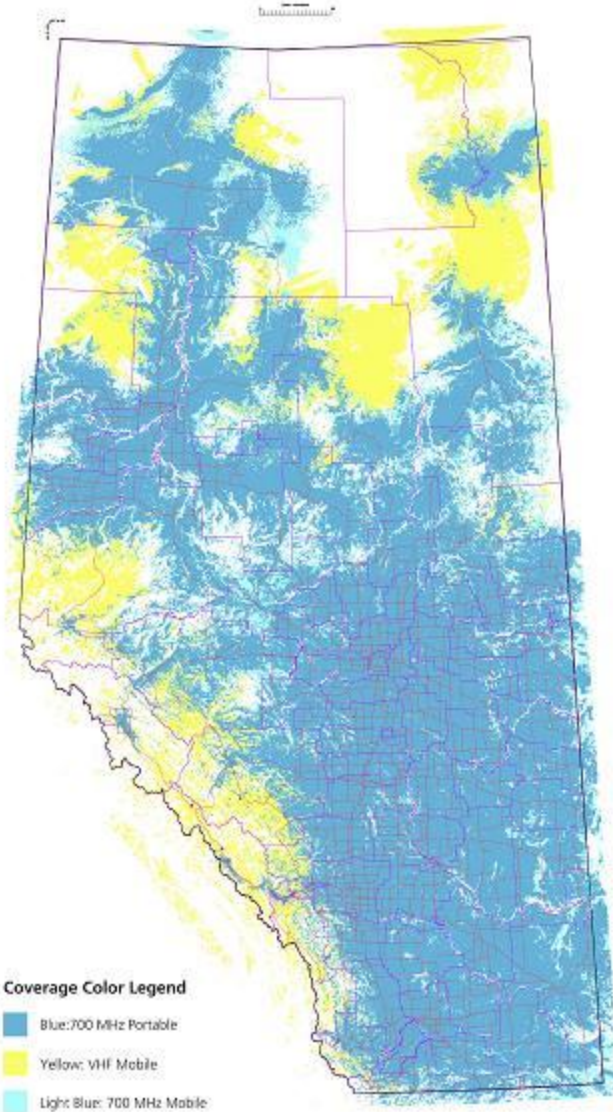
Background

- Alberta First Responders Radio Communications System
- AFRRCS Objectives
  - Provide 2 way voice public safety grade radio solution
  - Improve safety of all Albertans
  - Improve safety of first response officers
  - Available to all first responders
  - Enable interoperability
  - No system fees for municipal first responders

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Composite Coverage Map — HARRIS

Coverage Color Legend
Blue: 700 MHz Portable
Yellow: VHF Mobile
Light Blue: 700 MHz Mobile

Proposed Coverage

- Primarily 700MHz trunked P25 portable coverage

- Provincial and Federal zones to be addressed by VHF conventional P25 systems

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4

Coverage & Costs

- Partly based on 2007/10 user requirements
  - 95% mobile outdoor coverage of all primary and secondary roads
  - 95% portable outdoor coverage in 102 named communities
  - 95% portable outdoor coverage in 7 urban communities; Edmonton, Grand Prairie, Fort McMurray, Red Deer, Calgary, Lethbridge and Medicine Hat
- End-user equipment and in-building coverage extenders are the responsibility of user agencies
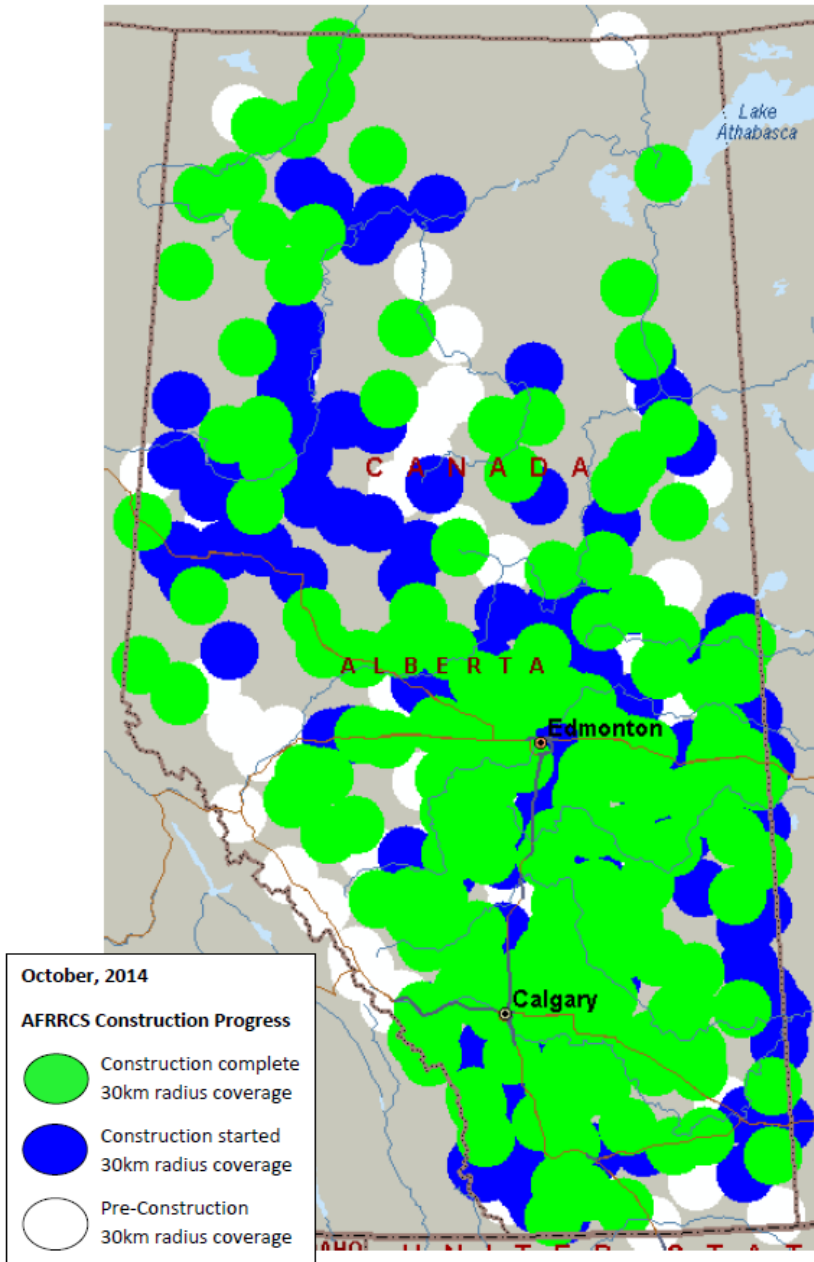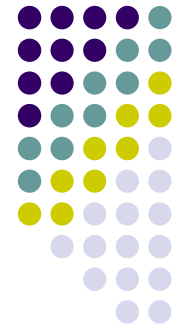
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Current Status (October 31)

- 321 out of 332 sites have been secured
- Construction is ready to start or underway at 105 sites and is completed at 161 sites
- 94 sites are live
- Interim operations & maintenance services commenced April 1
- Worked with Industry Canada to secure Air to Ground 700 MHz frequencies up to 10,000'

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Current Status
(October 31)

October, 2014

AFRRCS Construction Progress

Construction complete
30km radius coverage

Construction started
30km radius coverage

Pre-Construction
30km radius coverage

October, 2014 – Construction complete 161 ; Construction Started 105 ; Pre-Construction 66

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AFRRCS Sites

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Resiliency
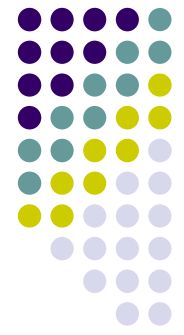
- System designed for 99.999 availability
- Two switching centers (Calgary and Edmonton)
  - Live backup switches
  - Redundant fiber connections via multiple providers
- Excluding disadvantaged sites:
  - Backup power supply plus four hours of batteries
  - Two backhaul methods
- Inventory of system spares
- Long-term, technical support located in multiple areas of Alberta

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# More AFRRCS Sites

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The Plan

- All AFRRCS sites will be live by the end of June 2016

- Interoperability gateways will be used to tie AFRRCS with existing radio systems during an agency migration

- The GoA will be responsible for future system expansion due to:
  - Increasing volume of first responders
  - Increasing population
  - New primary and secondary roads

- Investments will be prioritized by AFRRCS Governance

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AFRRCS Governance
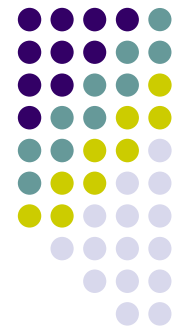
- Governance Council includes representatives from:
    - Calgary and Edmonton Fire
    - Calgary and Edmonton Police
    - RCMP K Division
    - Alberta Health Services
    - Alberta Fire Chiefs Association
    - Alberta Emergency Management Agency
    - GoA (Public Security & Information Management and Technology Services)

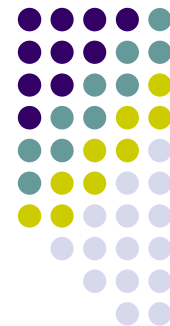**Government of Alberta** ■

AFRRCS Governance

- Interoperability & Standards Council report to the Governance Council
  - Actively working to provide governance with rules regarding use for shared system
  - Three working groups have been established to work on encryption, consoles and voice logging recorders

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What About Broadband Data?

- No funding or plan in place

- Minister has communicated an approximate cost ($250M)

- Doesn't mean AFRRCS isn't thinking about it
  - Current system is designed to be upgradable
  - November 24 to 26 – CAUSE III
    - Alberta/Saskatchewan/US Interoperability
    - Includes integration with broadband data

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System Users

- RCMP K Division
- Government of Alberta
  - Commercial Vehicle Enforcement
  - Conservation Officers
  - Correctional Services
  - Fish & Wildlife Enforcement
  - Sheriffs
- Alberta Health Services
- City of Edmonton
- Calgary Fire Department
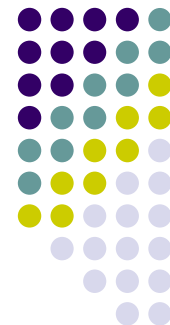
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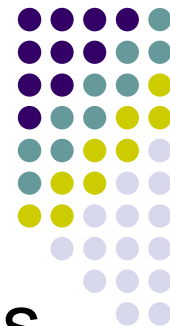
System Users

- Unsolicited approaches from many counties, municipal districts, towns and first responder agencies:
  - Cardston County
  - High River Fire Department
  - Lethbridge County Fire Departments
  - Mackenzie County
  - Okotoks Peace Officers
  - St. Paul Region
 - Spruce Grove

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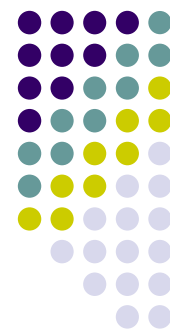
Agency Migrations

- Usage is Voluntary
- Each agency determines pace and timing
- Standard process/templates to follow
- Governance approves all migration plans
- Agency requirements drive selection & price
  - Multi-vendor accessible system
  - Radios as low as $1,200
  - Government contracts in place
 - Edmonton lab available for testing/selection

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Permitted Radios

EF Johnson	5100ES, 5300ES
Harris	XG100, XG75, XM100, P7300 series, M7300 series
Kenwood	TK-5220, TK-5210, TK-5710, TK-5720, TK-5410, TK-5910
Motorola	APX4000, APX6000, APX6500, APX7000, APX7500, XTS Series XTL Series
RELM	KNG P/M 150
TAIT	TP/TM 9100 Series

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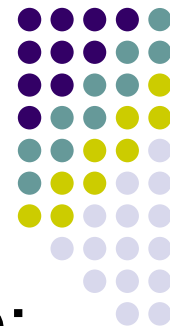
Agency Migration Costs

- Costs Agencies are responsible for include:
  - Staff, training, procurement, in-building coverage
  - Radios and dispatch connections (vehicles, portables, consoles, KMF)
  - Managing equipment and processes
- AFRRCS responsible for infrastructure costs capital and operating
  - Towers and supporting infrastructure
  - No system fee for municipal first responder use of the system

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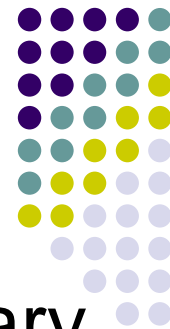
Secondary Responders

- Governance supports migration of secondary responder users
  - But only when the time is right i.e. following first responders as per Industry Canada rules and without adding risk to first responders
  - Needs assessment and business case still required
  - Municipality responsible for all incremental costs
  - Annual charge for each secondary responder radio on the system
  - Opportunity to review who needs a radio

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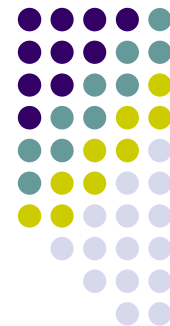
AFRRCS Role in an Emergency
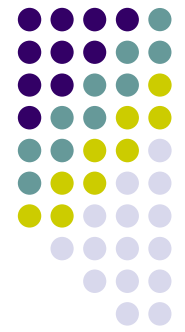
- Public safety grade solution
  - Designed for 99.999% availability
- Enables agency interoperability
- Over 500 portable radios
- Mobile radio sites (Sites On Wheels)

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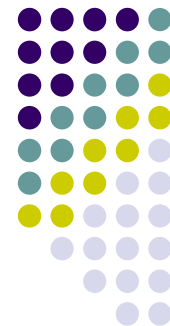
Mobile Radio Sites

- AFRRCS has two mobile radio sites
- They have been successfully deployed at two emergencies and multiple planned events
- Each site has 4 channels
- They can be towed or flown in via helicopter
- 85' telescopic mast can provide 8-9km radius of portable coverage
- Satellite backhaul


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Mobile Radio Sites

- Four different reasons for use:
  - Emergency, directed by AEMA
  - AFRRCS coverage site extended outage
  - Major event e.g. Commonwealth Games
  - Training exercise
- The AFRRCS team currently supports the mobile radio sites, long-term support will be determined as part of long-term support and maintenance planning

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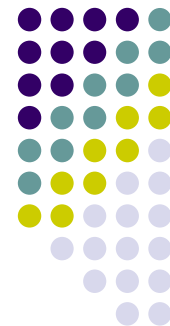
For More Information

- General AFRRCS information, presentations etc. please contact:
  - Stephen Bull – Executive Director
    - Stephen.Bull@gov.ab.ca
- To request the templates that are used to assist with migration planning please contact:
  - Curtis Brochu – Director of Transformation
    - Curtis.Brochu@gov.ab.ca

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Questions

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