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# **A Nationwide Public Safety Mobile Broadband Interoperable Network**

**An Exciting New Project In The United States  
Based Upon A Public/Private Partnership**

IACP 2nd Annual Law Enforcement Information Management  
International Conference

Royal Bahamas Police Force Headquarters

Nassau, Bahamas - November 29, 2007

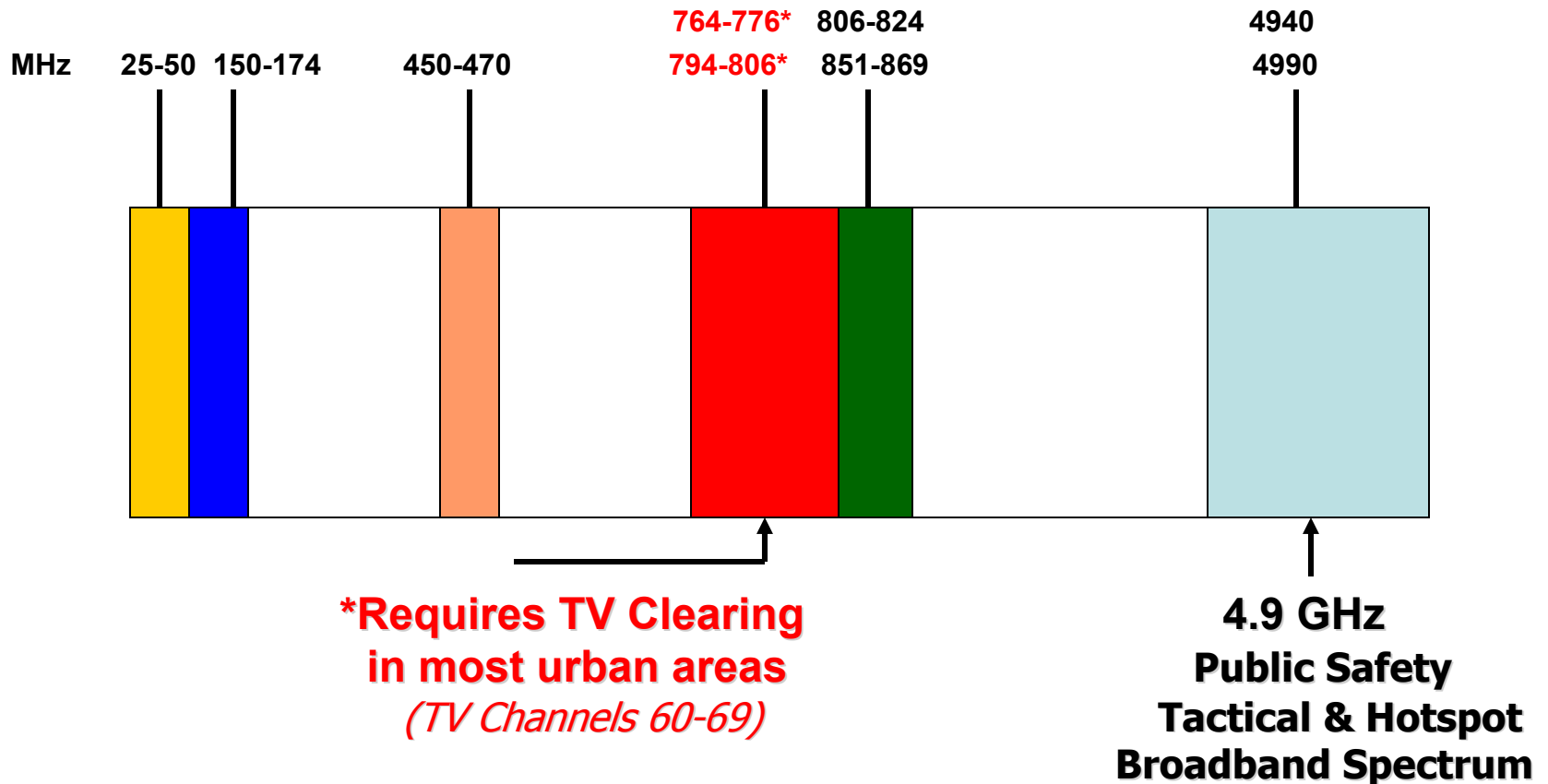
# Public Safety Communications Background

- Where are we and how did we get there?
- We need to continue strong emphasis on the ongoing importance of traditional land mobile narrowband voice communications to meet the mission critical requirements of public safety

## A Giant Step Forward

- A national broadband license for Public Safety
- A nationwide 700 MHz **Broadband Network**

# Public Safety Land Mobile Radio Spectrum Bands

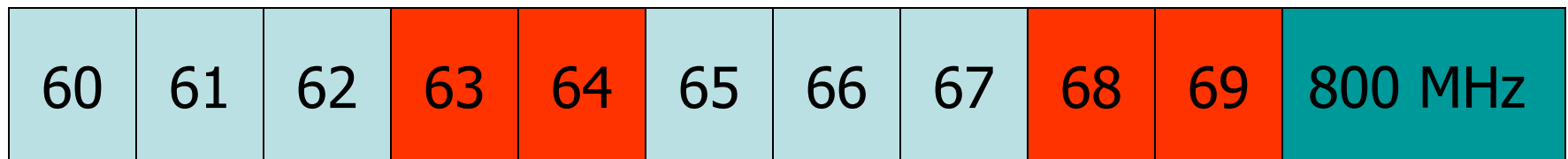


# Background

- In 1995, the Federal Communications Commission (FCC), along with the National Telecommunications and Information Administration (NTIA), established the Public Safety Wireless Advisory Committee (PSWAC) to provide an assessment of the communications needs of public safety agencies through the year 2010
- On **September 11, 1996**, (exactly 5 years before the terrible events of September 11, 2001), PSWAC released a report setting forth the current and future spectrum needs of public safety. Among the findings of the PSWAC report was that 97.5 MHz of new public safety spectrum was needed by 2010, including 25 MHz within five years

- As a result of the PSWAC report, Congress directed the FCC (in the Balanced Budget Act of 1997) to allocate no later than January 1, 1998, 24 MHz of radio spectrum between 746 and 806 MHz (to be recovered from television channels 60-69 as a result of the implementation of digital television) to public safety.
- The FCC then reallocated, for public safety use, television channels 63, 64, 68, and 69. This spectrum is in the upper 700 MHz band

700 MHz (TV Channels 60-69)



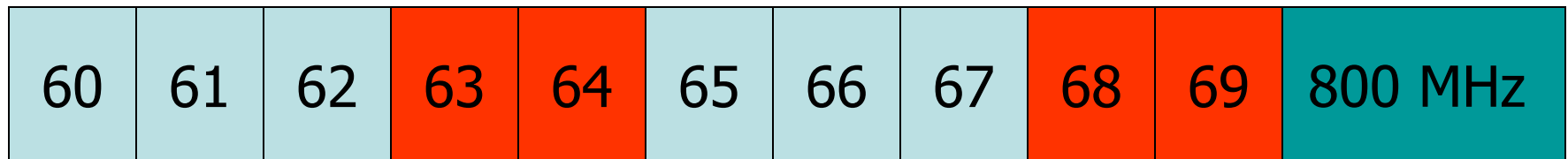
Public Safety-TV Channels 63,64,68,69

- On August 6, 1998, the FCC created the Public Safety National Coordinating Committee (NCC) under the authority of the Federal Advisory Committee Act (FACA). The purpose of the NCC was to recommend rules for the use of the 24 MHz of public safety spectrum in the 700 MHz band
- The NCC, in its final report in July 2003, recommended that **half of the new spectrum (12 MHz)** be designated for urgently needed public safety **narrowband voice channels**, and that **the remaining 12 MHz** be designated for **wideband data channels**. Since then, significant advances in technology have made it desirable to consider broadband data channels

# A Critical Step Forward

On February 8, 2006, the President signed a law that requires TV Broadcasters to vacate these channels no later than **February 17, 2009**.

700 MHz (TV Channels 60-69)



Public Safety-TV Channels 63,64,68,69

- On December 20, 2006, the FCC issued the Ninth Notice of Proposed Rulemaking (NPRM):

*“We believe that the time may have come for a significant departure from the typical public safety allocation model the Commission has used in the past.”*

*“While this system has had significant benefits for public safety users, in terms of permitting them to deploy voice and narrowband facilities for their needs, the system has also resulted in uneven build-out across the country in different bands, balkanization of spectrum between large numbers of incompatible systems, and interoperability difficulties if not inabilities.”*

- On April 25, 2007, the FCC issued a Further Notice of Proposed Rulemaking (FNPRM)
  - ✓ It was a complex proceeding involving both the lower and upper 700 MHz band to be auctioned as well as several proposed band plans
  - ✓ The proposed creation of a single National Public Safety License was carried forward from the Ninth NPRM
  - ✓ The National Public Safety Telecommunications Council (NPSTC) became the central coordinating and filing body for the national public safety organizations



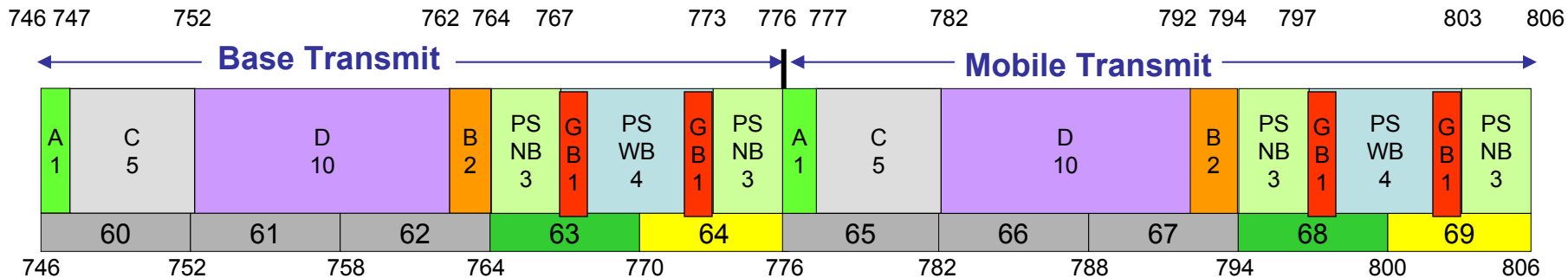
## Public Safety Spectrum Trust

- On June 6, 2007, the Public Safety Spectrum Trust (PSST) was created in the District of Columbia as a not-for-profit Corporation
  - ✓ Formed with goal of becoming the nationwide Public Safety Broadband Licensee
  - ✓ Formed by the Association of Public-Safety Communications Officials-International (APCO), the International Association of Chiefs of Police (IACP), and the International Association of Fire Chiefs (IAFC)

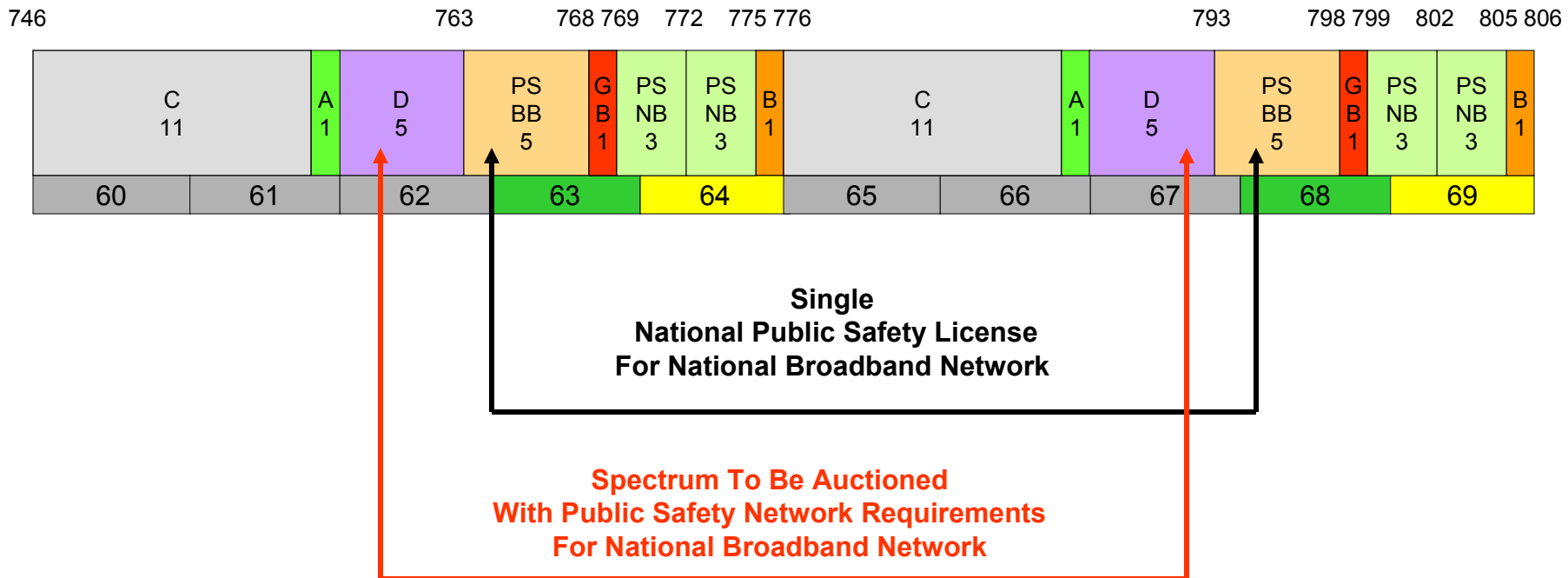
- On June 19, 2007, the PSST held its first meeting
- ✓ Established By Laws and elected initial officers:
  - President – Harlin McEwen, IACP
  - Vice President – Bob Gurss, APCO
  - Secretary-Treasurer – Alan Caldwell, IAFC

- On July 31, 2007, the FCC adopted the Second Report and Order
- On August 10, 2007, the text for the Second R&O was released
- On August 24, 2007, the Second R&O was published in the Federal Register
  - ✓ FCC will issue a single nationwide license to the Public Safety Broadband Licensee (PSBL)
  - ✓ The makeup of the FCC required PSBL Board as set forth in the Second R&O was different from that in the newly incorporated Public Safety Spectrum Trust
- On September 24, 2007, the FCC issued a modification to the Second R&O that changed the required membership for the PSBL

# Previous Band Plan - Upper 700 MHz



# New Band Plan - Adopted by FCC on July 31, 2007



# FCC Second Report & Order:

- Enables a Public/Private Partnership
- Issues a single nationwide license to the Public Safety Broadband Licensee (PSBL)
- Public Safety access to 10 MHz of contiguous commercial spectrum (D Block)
- Execution of a Network Sharing Agreement
- Combined spectrum assets are the basis for the shared network
- The D Block licensee must build the network to public safety specifications

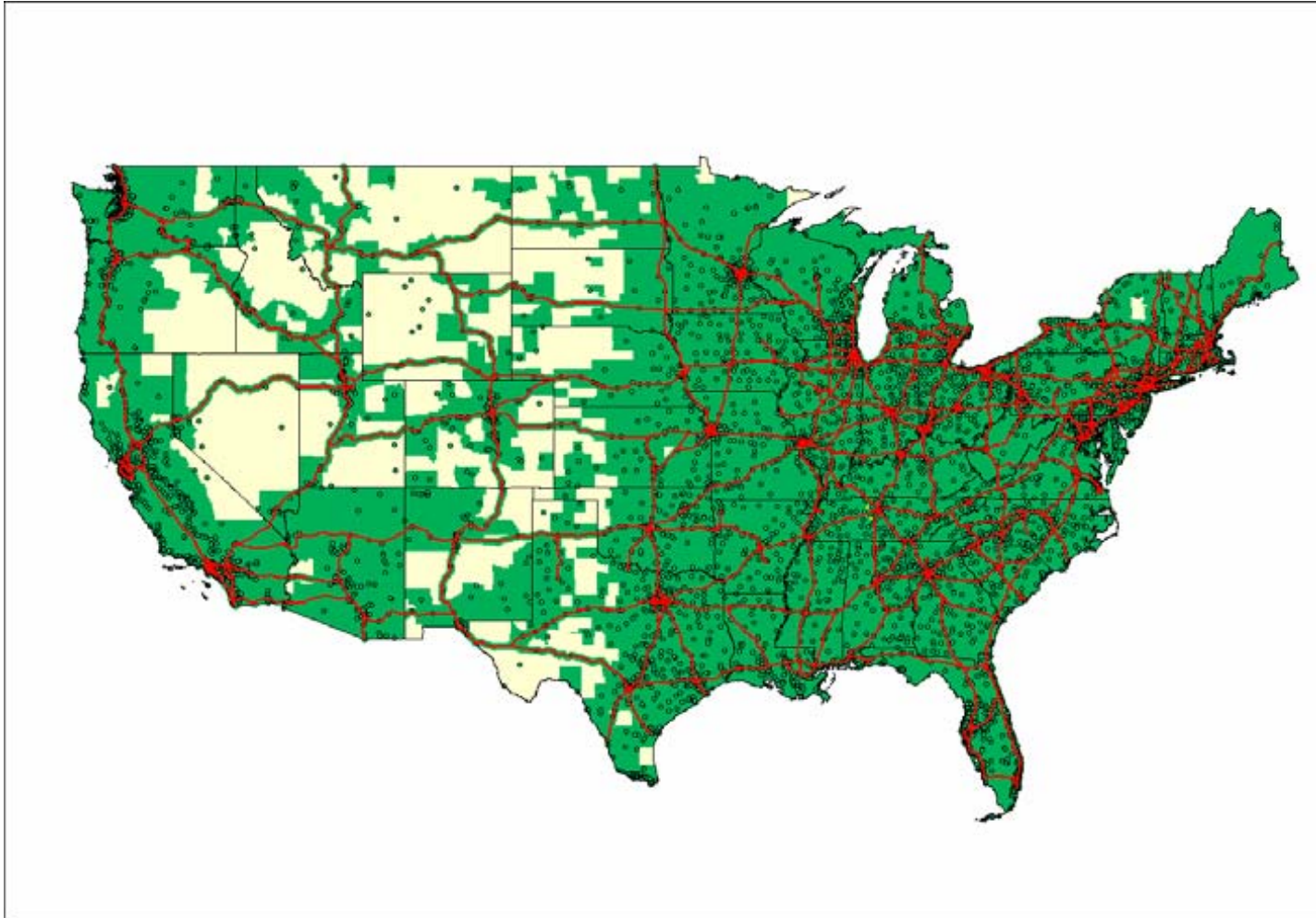
# Public/Private Partnership

- Commercial investment to build out the infrastructure
- Significant cost efficiencies
- Commercial “off-the-shelf” technologies adapted for Public Safety
- Nationwide broadband network
- Access to an additional 10 MHz of broadband spectrum during emergencies creates ability to scale
- Priority Access for Public Safety

# Specific Network Benchmarks

- Effective February 17, 2009, the D Block licensee must begin to construct a broadband network which meets coverage milestones
  - ✓ **75%** of population by the end of year four (2013)
  - ✓ **95%** of the population by the end of year seven (2016)
  - ✓ **99.3%** of the population by the end of year ten (2019)
- Requires coverage of major highways and interstates which traverse through under-populated areas be specifically addressed in the Network Sharing Agreement

# Terrestrial Coverage\* of Public Safety Network in 2019



- 99.3% Population
- 73.5% CONUS Land Mass
- 63% US Land Mass
- All counties with population > 5 per sq. mile
- Satellite coverage in "white spaces"

\* Map coverage is approximate

# Expected PSBL Network Requirements

## Sufficiently robust to meet reliability and performance requirements of Public Safety

- Hardening of transmission facilities
  - ✓ Cell sites and antenna towers built to withstand harsh weather and disaster conditions such as flooding, earthquakes, and hurricane force winds
- Backup power sufficient to maintain operations for extended period of time
  - ✓ Enhanced battery backup with deployable generators
  - ✓ In place emergency generators for primary sites
  - ✓ Comprehensive generator service plan

# Network Requirement – Public Safety Control

- Sufficient capacity to meet requirements of Public Safety
  - ✓ Every day but also during large events, disasters and catastrophic situations
  - ✓ Automatic **Priority Access** with “**Ruthless Pre-emption**”
- Operational capabilities consistent with features typical of Public Safety systems
- PSBL has right of approval of all public safety network devices
- PSBL can purchase subscriber equipment from any manufacturer for use on the network

# Network Requirements – Capabilities

- State-of-the-art Security and Encryption
- At least one “dual mode” handset capable of operating on either 700 MHz or satellite frequencies
- Mobile voice, video, and data capability that is seamlessly interoperable across agencies, jurisdictions, and geographic regions

# Service Fees for Public Safety

- FCC requires “good faith negotiations”
- Public Safety protected in the event serious emergency necessitates their pre-emption of the network for a sustained period of time
- Negotiated rates for Public Safety will be lower than the prevailing commercial rate for similar service

## Related Items

- No Public Safety organization will be required to use the 700 MHz Public Safety broadband network
- Participation is entirely voluntary

However,

- PSBL has the exclusive access to the Public Safety broadband spectrum
- The construction of local broadband networks is subject to the approval of the PSBL
- PSBL will be the only license holder for this spectrum

- On October 2, 2007, the original nine members of the Board of Directors of the Public Safety Spectrum Trust approved changes to their Articles of Incorporation and By Laws to conform to the Second R&O and the subsequent Order on Reconsideration
- On October 5, 2007, the newly constituted Board of Directors of the Public Safety Spectrum met by teleconference and selected Cyren Call Communications as its agent/advisor
- On October 8, 2007, the PSST Executive Committee met with representatives of Cyren Call to lay out future work tasks

- On October 10, 2007, the PSST submitted its application to the FCC requesting it be named the Public Safety Broadband Licensee (PSBL)
- On November 2, 2007, the newly constituted Board of Directors of the Public Safety Spectrum Trust met in Washington, DC.  
The Board elected officers for a two year term:
  - Harlin McEwen, IACP, Chairman
  - Kevin McGinnis, NASEMSO, Vice-Chairman
  - Alan Caldwell, IAFC, Secretary-Treasurer
- On November 9, 2007, the FCC announced its selection of the four At Large members of the PSST Board

The Public Safety Spectrum Trust (PSST) is now governed by a voting board of fifteen members - one representative from each of the following organizations:

1. AASHTO - American Association of State Highway Transportation Officials
2. AHA - American Hospital Association
3. APCO - Association of Public-Safety Communications Officials-International
4. FCCA - Forestry Conservation Communications Association
5. IACP - International Association of Chiefs of Police
6. IAFC - International Association of Fire Chiefs
7. ICMA - International City/County Managers Association
8. IMSA - International Municipal Signal Association
9. NASEMSO - National Assn of State Emergency Medical Services Officials
10. NASNA – National Association of State 9-1-1 Administrators
11. NEMA – National Emergency Management Association
12. NENA - National Emergency Number Association
13. NFOP – National Fraternal Order of Police
14. NGA - National Governors Association
15. NSA - National Sheriffs' Association

- On November 15, 2007, the PSST issued a Bidders Information Document (BID) Version 1.0 for interested D Block bidders and others. Version 2.0 will be posted on November 30, 2007.
  
- Posted on the PSST Web Site [www.psst.org](http://www.psst.org)
  
- On November 19, 2007, the Federal Communications Commission announced that it had issued the Public Safety Broadband License (PSBL) to the Public Safety Spectrum Trust Corporation.

# The Path Ahead

- The PSST is holding additional meetings with potential bidders to
  - ✓ Generate interest of incumbent network operators and new entrants
  - ✓ Air views, opinions, suggestions and concerns
- The PSST understands the importance of making the overall commercial opportunity attractive
- The network must work well for all parties or it won't work for any
- January 24, 2008 - The D Block auction begins