CONSPEC

Mine Rescue Team
Communication System
Characteristics

• Medium Frequency
• Inductive Radio Components
• MSHA Approved
• Easy to Deploy
• Battery Powered
Users

• 75% of New South Wales, Australia Mines Rescue Centers – at present
• MSHA - purchased set for Beckley, WV in mid-1990’s
• Several (2?) Mines in U.S.
Typical Deployment

- 3 Handheld Radios on Rescue Team
- 1 Section Radio at Fresh Air Base
Present Status

• 1993 Design Presently Deployed
• 2005 Design in Prototype Testing
• May 2006 Expected Completion for A&CC Intrinsic Safety Submission
Where MSHA Can Help

• Prioritize (Fast-Track) Approval Process
• Minimize Approval Costs at A&CC
  Small Market, Small Companies

• Place Less Emphasis on Trophy Competition. Place More Emphasis on Realistic, Site-Oriented Training
Vehicle and Personnel Tracking System
Characteristics

• Low-Power, Short-Range, Burst Transmitters (Tags)
• Operate at UHF
• Stationary Tracking Receivers
• Part of Atmospheric Monitoring System
Deployment Methods

Transmitter

• Magnetic Mount to Machines
• Can be Modified and Submitted to MSHA as a Smaller Unit. (Stand-Alone or Cap Lamp)
Receiver

• Attached to 4-Conductor, Copper AMS Cable. Power and Data.
• Strategically Placed in Mine
• Typical Range ~ 100 feet
• Logs of Station Activity Available on Surface Computer
Planned Improvements

- Portable Receiver for Use With Search and Rescue Operations.
Important Design Criteria

- System Must be:
  - Intrinsically Safe
  - Reliable
  - Economical
  - Rugged
  - Accurate Within Reason
  - Functionally Simple