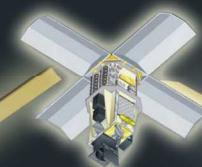


# TRANSPORTATION SAFEGUARDS & SURETY PROGRAM

SAND2008-4069P



## Commercial Communication Satellites



## Escort Vehicle



## Voice & Image

## Data & Voice

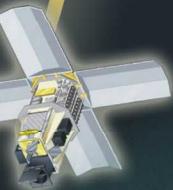


## Five Relay Stations



## Operations Center

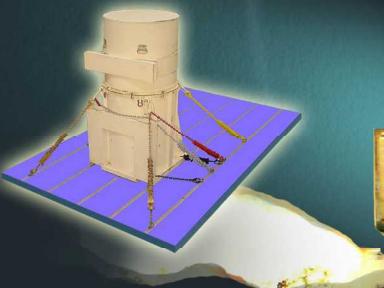
## Armored Tractor & SafeGuards Transporter



## Data & Text



## Safety & Security Assessment



# Office of Secure Transportation

- Mission:
  - Provide safe and secure ground and air transportation of nuclear weapons and components and special nuclear materials, and conduct other missions supporting the national security of the United States of America.
- System Elements:
  - Transportation assets (SGTs, ATs, EVs)
  - Nationwide Communications and Command and Control Center (TECC)
  - Federal Special Agents
  - Nationwide infrastructure

# DOE/OST's Transportation Safeguards System (TSS)

1. Vehicles → **Provide robust structure and systems to enhance security and safety**
2. Federal Agents → **Provide response to hostile attack and neutralization**
3. Communication System → **Link federal agents locally and to central command post**  
→ **Aid in coordinating response and support from law enforcement and other agencies**

# SafeGuards Transporter

- Dual & redundant C<sup>2</sup> and power system
- Enhanced, distributed, and redundant delay systems
- Two person access control



- Enhanced crashworthiness & fire protection

R&D  
Test & Evaluation  
Design

Prototype  
Production  
Support

Operational & Emergency Response  
Life Extension  
Maintenance

Retirement  
Disposal



# Armored Tractor

- Enhanced ballistic protection



- Centrally located communications
- Unicab construction - integral cab & sleeper
- Enhanced ergonomic features

R&D  
Test & Evaluation  
Design

Prototype  
Production  
Support

Operational & Emergency Response  
Life Extension  
Maintenance

Retirement  
Disposal



# Escort Vehicle

- Capable of meeting evolving OST mission
- Improved egress for response



- Enhanced ergonomics
- Flexibility to incorporate planned communication enhancements

R&D  
Test & Evaluation  
Design

Prototype  
Production  
Support

Operational & Emergency Response  
Life Extension  
Maintenance

Retirement  
Disposal



# OST Communication Links

## *Intra-convoy communications*

- VHF Voice
- HF Voice/Data
- UHF command and control
- Mesh



## *Convoy / Command Center*

- HF voice and data
- GPS position location
- Data communication
- Cellular phones
- Secure Cellular phones
- Satellite phones
- Transponders to allow away-from-vehicle use

## *System Characteristics*

- Easy to use with several automatic functions
- Redundant communication paths
- Smart command & control

# Transportation & Emergency Control Center



- 24/7 Operations Center
- Tracking and Monitoring All OST Ground and Air Activities
  - Convoys
  - Training
  - Aviation
- Real-time Operational Security and Emergency Management Response
  - OST Convoys
  - WIPP Convoys
  - Special Customers
- Special Missions Support