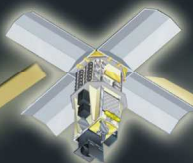


TRANSPORTATION SAFEGUARDS & SURETY PROGRAM

SAND2008-4069P



Commercial Communication Satellites



Escort Vehicle



Voice & Image



Armored Tractor & SafeGuards Transporter



Data & Voice



Five Relay Stations



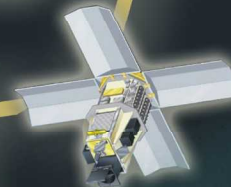
Operations Center



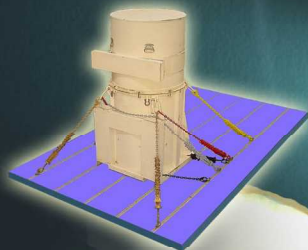
GPS Time & Location



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

R&D
Test & Evaluation
Design

Prototype
Production
Support

Operational & Emergency Response
Life Extension
Maintenance

Retirement
Disposal



SafeGuards Transporter

- Dual & redundant C² 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

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Maintenance

Retirement
Disposal



Armored Tractor

- Enhanced ballistic protection



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

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Escort Vehicle

- Capable of meeting evolving OST mission
- Improved egress for response
- Enhanced ergonomics
- Flexibility to incorporate planned communication enhancements



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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

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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

R&D
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Sandia
National
Laboratories