

The Emergency Communications Network

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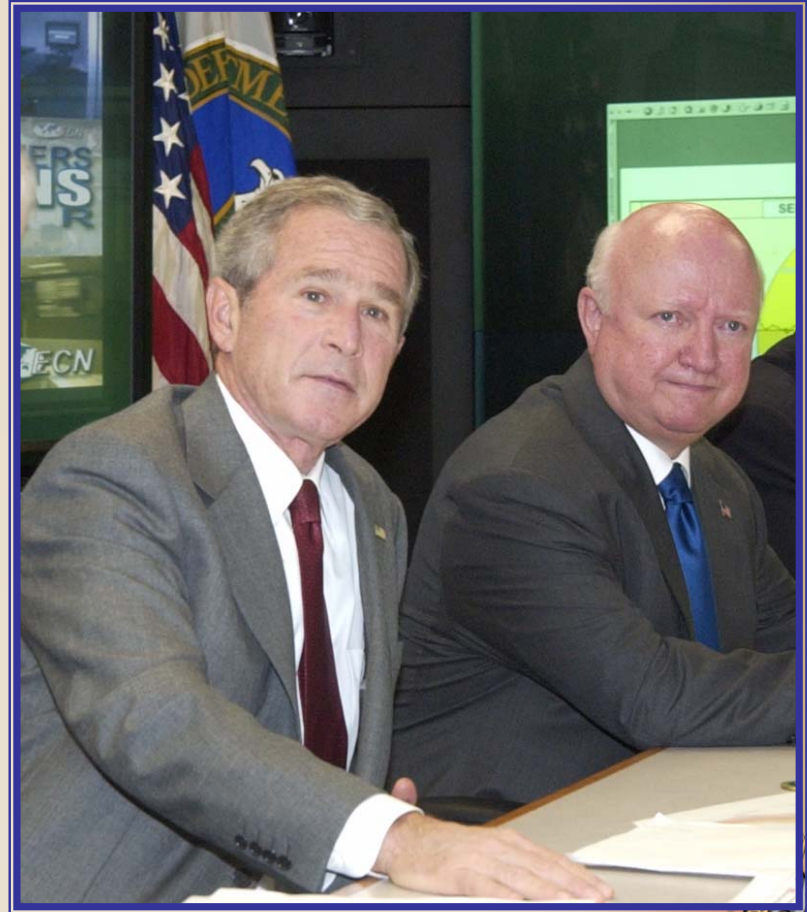


ECN Mission

Provide DOE/NNSA leaders with capabilities for real-time communication of

- voice,
- data, and
- video

to manage emergencies that involve DOE/NNSA assets and interests.

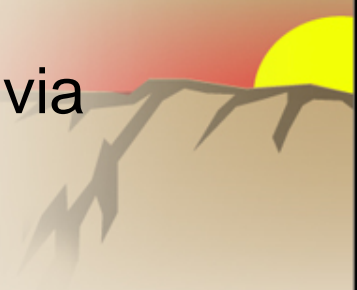
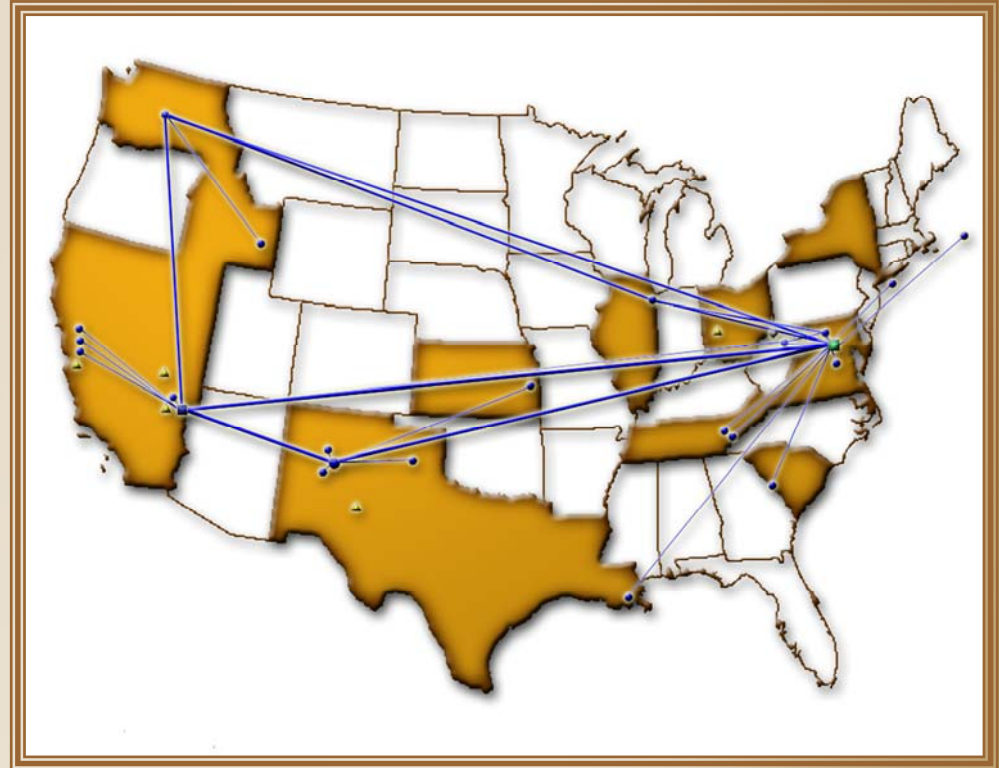


Description

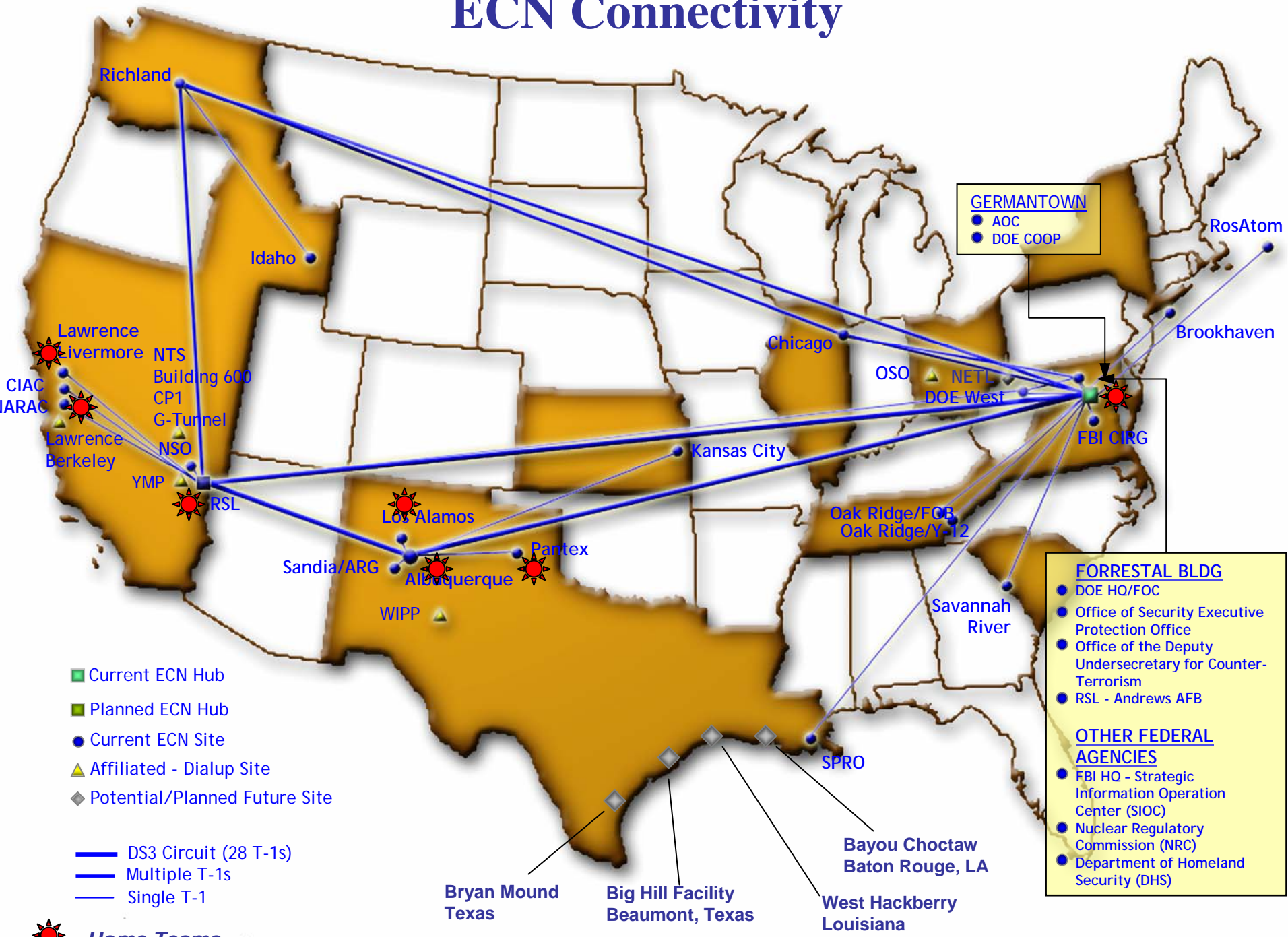
The ECN is a tool that provides a multi-faceted communications network for both **classified and unclassified**

- **voice**,
- **video**, and
- **data**

communications between DOE/NNSA Headquarters and 40 field sites and mobile units via dedicated leased lines and satellite transmission.



ECN Connectivity



GERMANTOWN

- AOC
- DOE COOP

FORRESTAL BLDG

- DOE HQ/FOC
- Office of Security Executive Protection Office
- Office of the Deputy Undersecretary for Counter-Terrorism
- RSL - Andrews AFB

OTHER FEDERAL AGENCIES

- FBI HQ - Strategic Information Operation Center (SIOC)
- Nuclear Regulatory Commission (NRC)
- Department of Homeland Security (DHS)

- Current ECN Hub
- Planned ECN Hub
- Current ECN Site
- ▲ Affiliated - Dialup Site
- ◆ Potential/Planned Future Site

- DS3 Circuit (28 T-1s)
- Multiple T-1s
- Single T-1

 **Home Teams**

Bryan Mound Texas
 Big Hill Facility Beaumont, Texas
 West Hackberry Louisiana
 Bayou Choctaw Baton Rouge, LA
 SPRO

CIA/CSS
 ARAC

Lawrence Livermore NTS
 Building 600
 CP1
 G-Tunnel
 Lawrence Berkeley NSO
 YMP
 RSL

Los Alamos
 Sandia/ARG
 Albuquerque
 Pantex
 WIPP

Chicago
 Kansas City

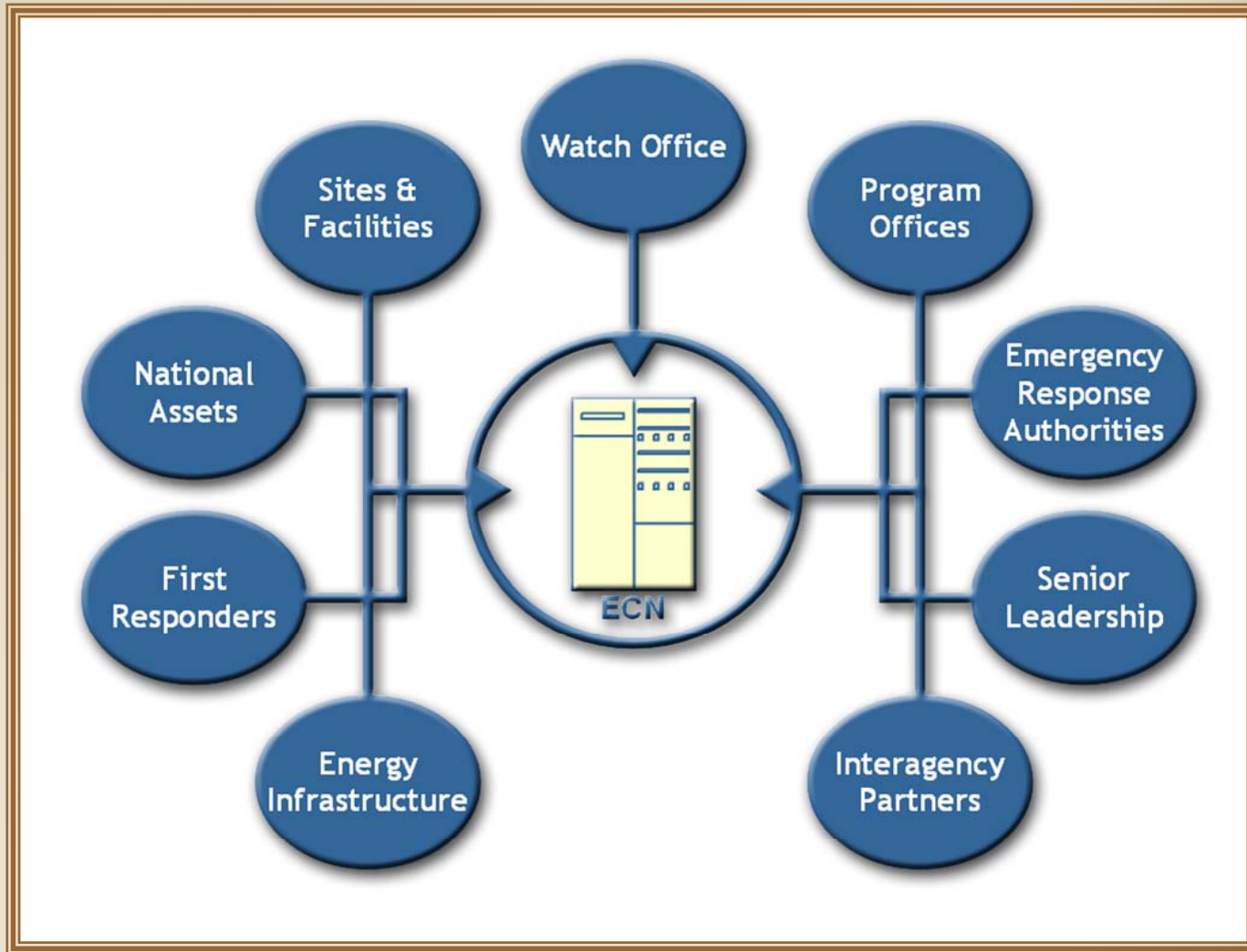
OSO
 NETL
 DOE West
 Oak Ridge/FOB
 Oak Ridge/Y-12

Savannah River

RosAtom
 Brookhaven

FBI CIRG

ECN Users



System Reliability (as of 2/28/2007)

ECN Unclassified Data Reliability Rate 100.00%

ECN Classified Data Reliability Rate 98.85%

ECN Unclassified Video Reliability Rate 100.00%

ECN Classified Video Reliability Rate 100.00%

Total ECN Reliability Rate 99.74%

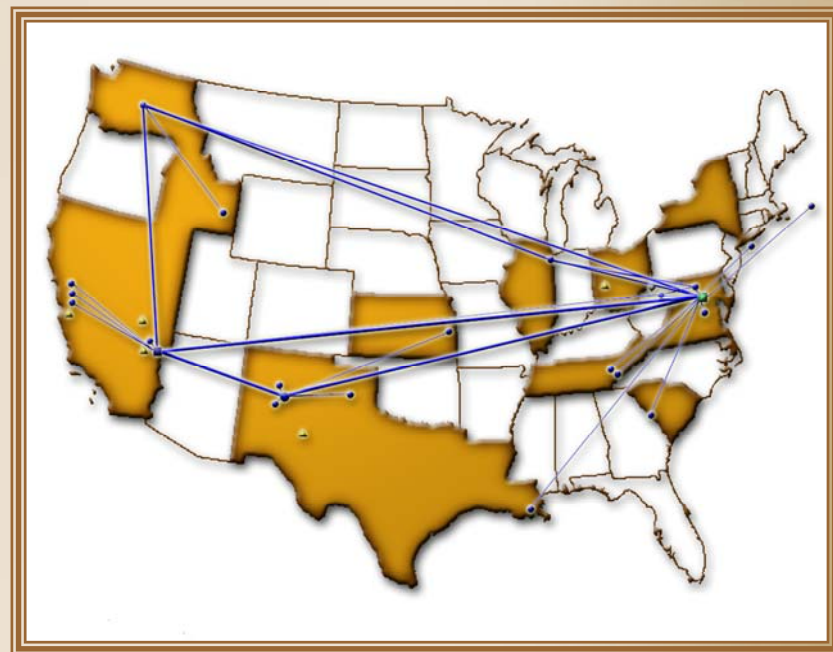
Current Capabilities

- Classified (S/RD) and unclassified voice, data, video, and videoconferencing
- Connectivity w/ deployed NNSA ER Assets (Dial-up/INMARSAT/Mobile ECN Kits)
- Mixture of multi-point/point-to-point encryption of data and video circuits
- Back-up voice communications (INMARSAT and Voice over IP)
- Multi-session multi-point videoconferencing capability
- High-resolution photo, video, and graphics capability (import, export, and display)



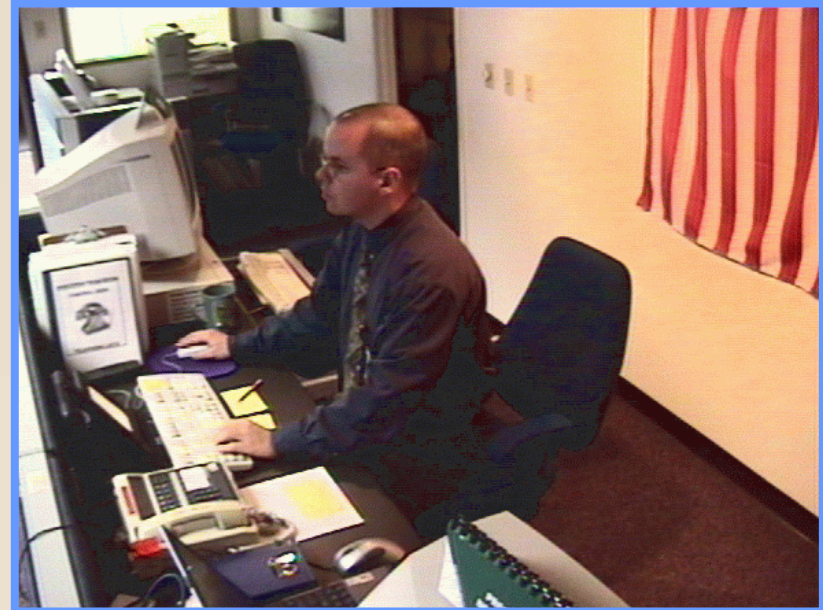
ECN Upgrades Underway

- Full IP Implementation
- Reaccreditation of the Classified Network
- Accreditation of the Unclassified Network
- Voice over IP (Clear and Secure Enclaves)
 - DOE HQ and AOC
 - 30 + Field Nodes
 - Mobile ECN



Current Capabilities

- Wide Area and Local Area Network connectivity
- Support for MS Windows OS on the Desktop
- Support for Desktop Applications:
 - Outlook (Email)
 - Calendar
 - MS Office (Word, Excel, PowerPoint)
- Access to Specialized Databases:
 - WebEOC for Event Log and Status Boards
 - GIS and Mapping
 - NARAC



Kevin Moore

- Firewall-protected access to the Internet

ECN Upgrades Underway

- Multi-point encryption (TACLANE)
- Multi-point IP Videoconferencing
- Replacement of Sun Workstations with PCs
- Automatic alternate routing and fail-over
- Satellite Backup for remote sites

The screenshot shows the Emergency Communications Network Portal website. The header includes the NNSA logo and the title "Emergency Communications Network Portal". Below the header is a navigation bar with links for HOME, NEWS, FORUM, DOWNLOAD, LINK, and FAQ. The main content area is divided into several sections:

- Recent News:** Contains an announcement titled "ANNOUNCEMENT: 2006 ECN Users' Group Face-to-Face Meeting (2005/11/30)".
- Emergency Communications Network Mission:** Features a video player with four thumbnails showing various scenes related to emergency communications.
- MISSION STATEMENT:** Describes the network's purpose: "The Emergency Communications Network provides interactive secure voice, video, and data transmission between DOE/NNSA Sites and selected locations, empowering key leadership with critical decision-making tools." It also mentions that the network is managed by the National Nuclear Security Administration's Office of Emergency Operations Support and maintained by the Bechtel-Nevada Corporation at the Remote Sensing Laboratory/Nellis Air Force Base.
- How Does the ECN Work?:** Explains the fail-safe design, including a dual-hub configuration and T-1 and DS-3 lines connecting all sites.
- Recent Forum Topics:** A table with columns for Forum, Topic, Replies, Views, and Last Post.

The left sidebar includes sections for "Homeland Security", "Main Menu" (Home, Forums, News, Downloads, Links, World Time, Operational Resources), "Who's Online" (12 user(s) are online, 0 Members, 12 Guests), and "Contact". The right sidebar includes a search box, login fields (Username, Password, User Login, Lost Password?), a "Register now!" link, and a calendar for February 2006.

ECN Portal

ECN IP Installations in FY07

- NNSA/NSO (Las Vegas)
- Brookhaven
- SPRO (New Orleans)
- Idaho
- Chicago
- SRS
- Richland
- FBI SIOC
- Kansas City Plant
- Oak Ridge FOB
- Oak Ridge Y-12
- RSL-Andrews



Watch Office

ECN IP Installations in FY 08

- DOE West
- Nuclear Regulatory Commission
- DHS Watch Office
- NETL



Executive Briefing Room

Emergency Response Home Team Installations

FY 06 Home Team Upgrades:

- Sandia National Lab
- Los Alamos National Lab
- Lawrence Livermore National Lab (2)
- RSL – Nellis AFB (TSB)
- Albuquerque Program Office
- Forrestal Operations Center Team Room 9
- Germantown Alternate Operations Center NIT Ops Room
- Pantex

FY 07 Home Team Upgrades:

- 21st EOD Compound
- DOE Albuquerque Building 384
- G-Tunnel (NTS)
- CP-1 (NTS)
- LLNL – Building 140
- Ft. Belvoir



Nuclear Incident Team Room

**Mobile ECN
System
and
Satellite Gateway**



Core Requirement

- Primary:
 - Provide a portable dynamic reach-back communications capability for NNSA emergency response assets, with full connectivity to the ECN and possibly other networks (SCAT, SIPRNET, etc)
- Secondary:
 - Provide satellite backup capability for the ECN and Home Team terrestrial circuits



Beneficiaries

The Mobile ECN System and Satellite Gateway for:

- All of the NNSA Emergency Response Assets
- The ECN's COOP and service restoration requirements

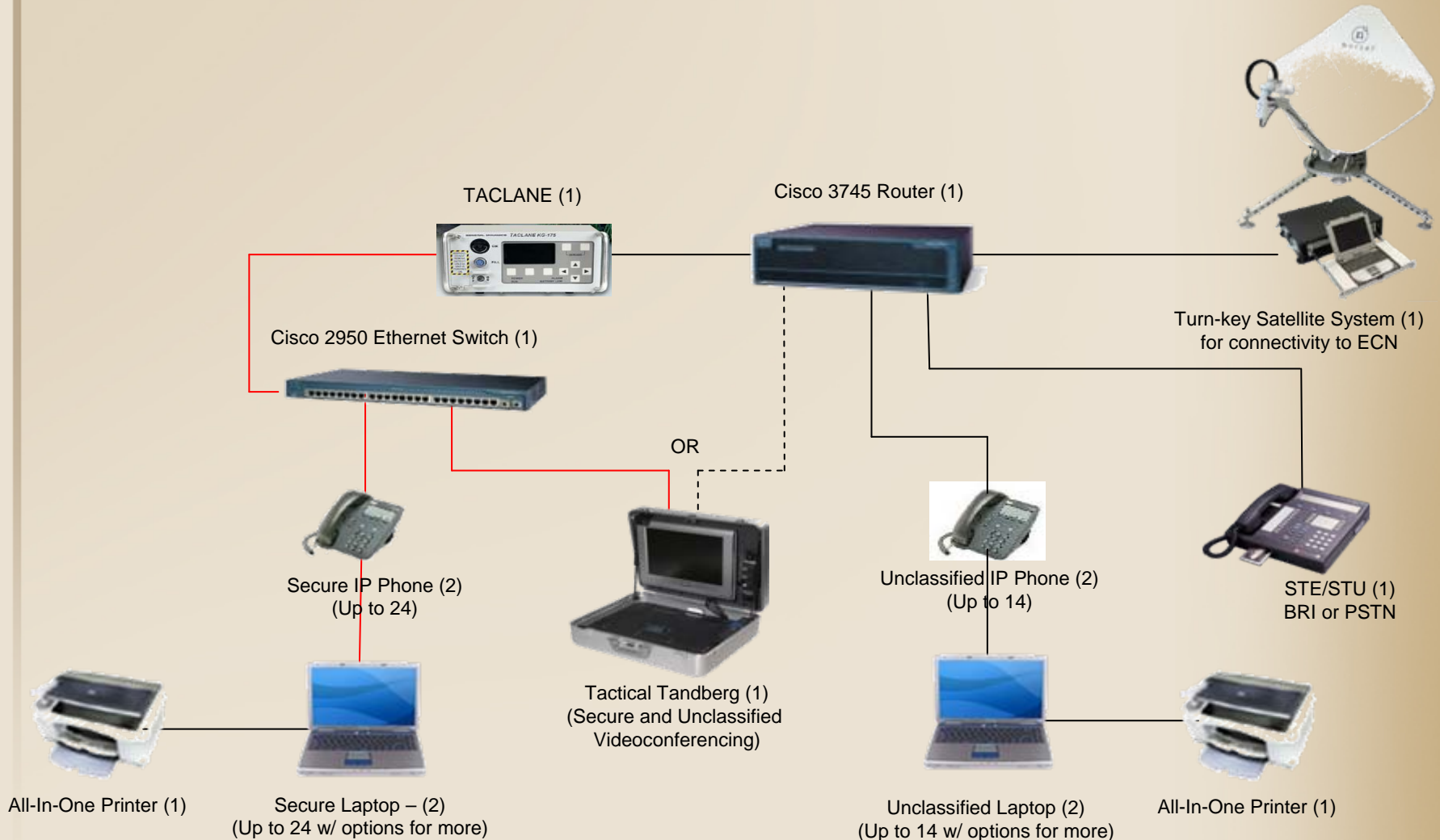


Initial Required Capabilities

- Classified and unclassified data, voice, and video
- Wide-band satellite connectivity between DOE/NNSA emergency response assets and Home Teams
- Simultaneous support of multiple deployed systems



Mobile ECN System Design Overview



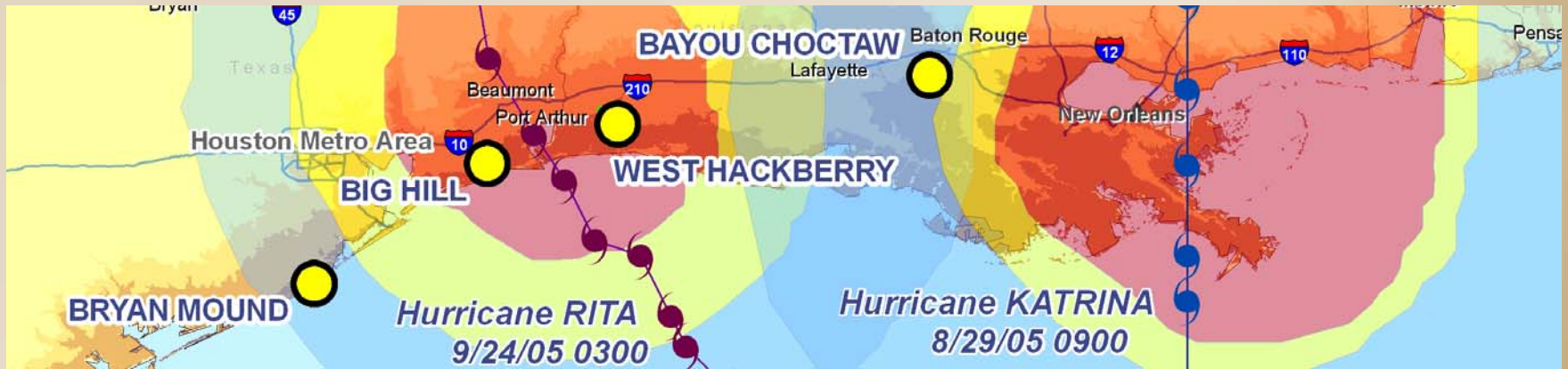


Voice Over Internet Protocol & ECN Connectivity

- Redundancy, Availability, & Reliability
 - Los Alamos – contractor excavation cuts phone lines
 - COOPEX 05 – HQ & NNSA LAN Systems down
 - NNSA LAN down for maintenance during NIT OPS
 - Forrestal Building power outages for maintenance
 - SPR Support post Katrina

The ECN supports all DOE/NNSA

Strategic Petroleum Reserve post-Katrina support



NASA

Support for
Pluto Launch

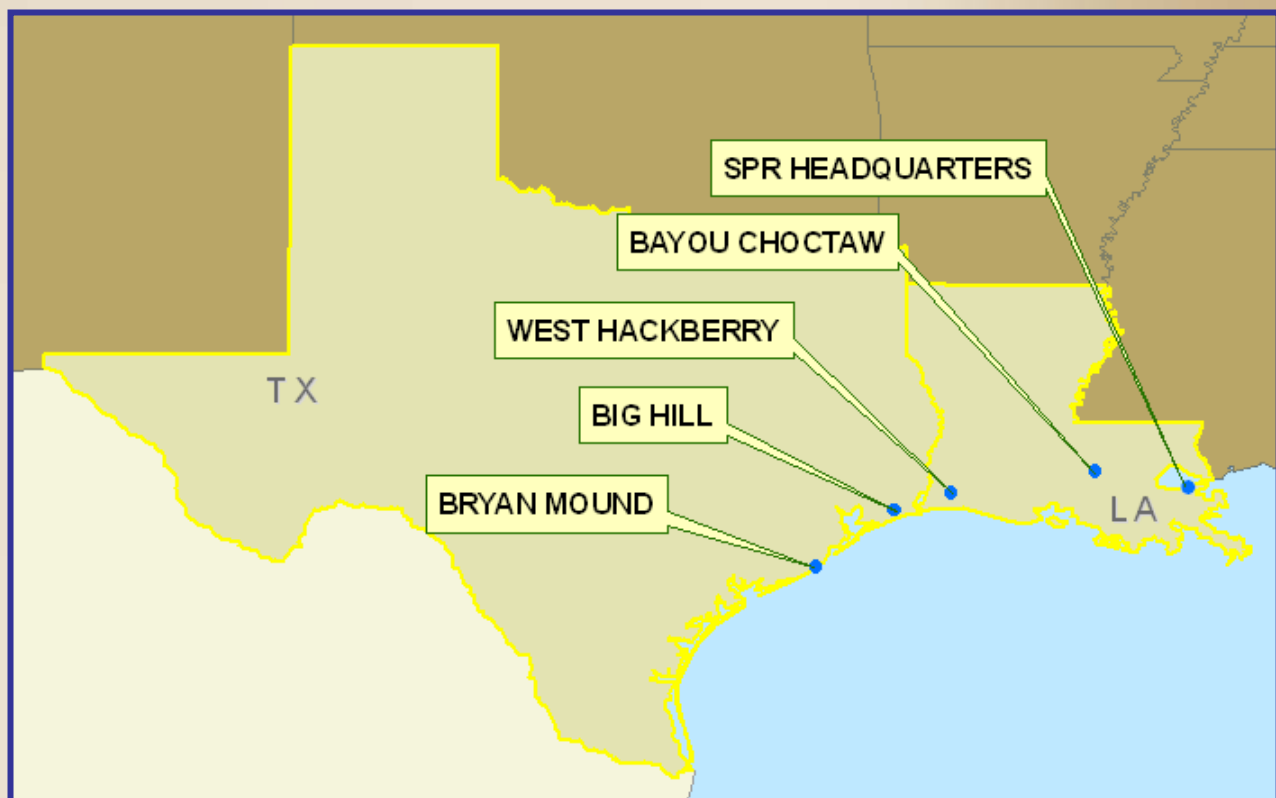


Mobile ECN System

Background:

The concept of a tactical Emergency Communications Network capability was realized during a systems requirements meeting with Strategic Petroleum Reserve (SPR) node members in support of post-Hurricane Katrina operations.

The SPR Emergency Response Team is concerned about a multi-state region where SPR operations take place.



Additional Capabilities

- ▼ Improved field video (greater bandwidth)
- ▼ Potentially viewable from any authorized ECN terminal
- ▼ Radio net monitoring (listen-in capability)
- ▼ Easily expandable with current and evolving network technology
- ▼ Web-based messages on IP phone displays
- ▼ Voice-mail on IP phones
- ▼ Laptop soft phone capability



Pluto Launch

Cape Canaveral Air Force Station
Coco Beach, Florida
January 17 – 19, 2006



- National Guard Armory, Cocoa Beach
- RADCC, Kennedy Space Center
- Cape Canaveral Air Force Station



Pluto Launch

Cape Canaveral Air Force Station
Coco Beach, Florida
January 17 – 19, 2006



Emergency Communications Network Support Contacts Lists

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ECN Help Desk

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ECN VTC Scheduling

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