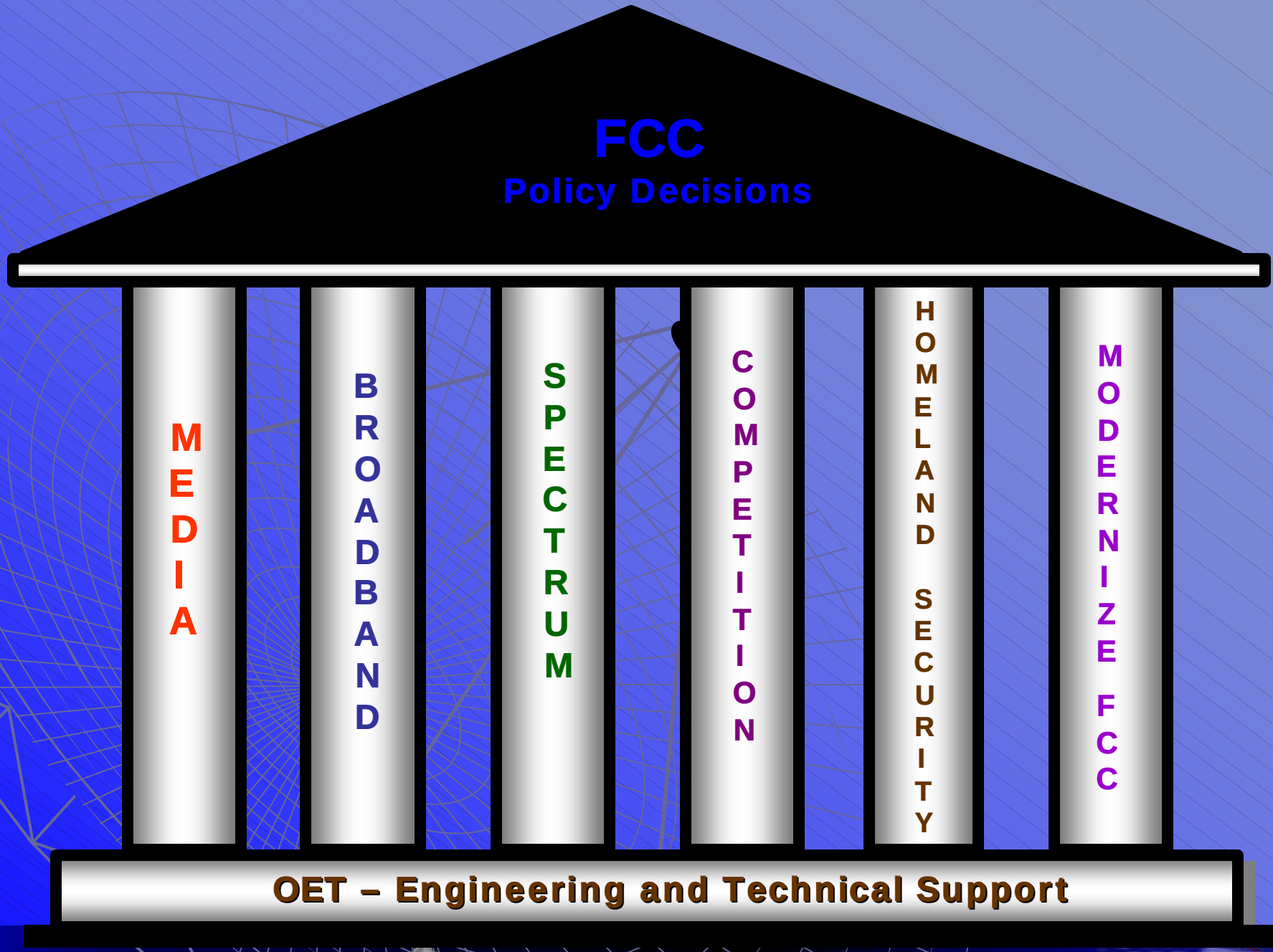
Office of Engineering and Technology

Agenda Meeting

January 13, 2005


FCC
Policy Decisions
MEDIA
BROADBAND
SPECTRUM
COMPETITION
HOMELAND SECURITY
MODERNIZE FCC
OET – Engineering and Technical Support

OET's Mission

Manage the spectrum and provide technical leadership to create new opportunities for innovation, economic growth, and provide consumers new choices; and to facilitate the Commission homeland security initiatives.

OET Accomplishments for 2004

- Broadband over Power Line
- Ultra-Wide Band
- U-NII (5 GHz Wi-Fi) - 255 MHz new unlicensed spectrum
- Unlicensed Spectrum - 3650-3700 MHz
- White Spaces - Unused TV Channels
- 70/80/90 GHz
- Network Outage Reporting

OET Accomplishments for 2004

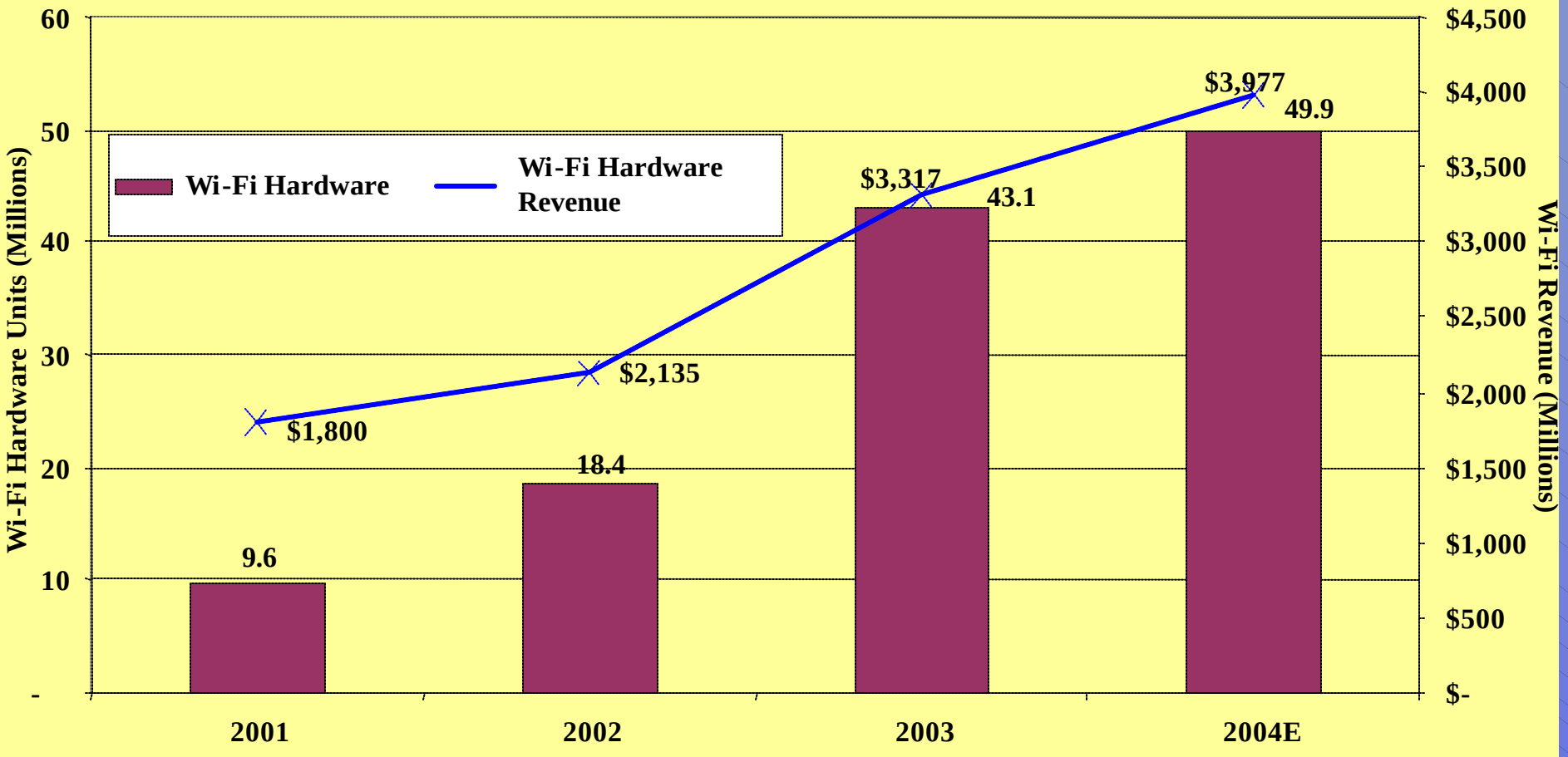
- SPTF Implementation
  - Cognitive Radio
  - Interference Temperature
- Advanced Wireless Services
  - Allocations for G-Block
  - Allocations for H-Block
  - Government Relocation
- Part 15
  - Radio Frequency Identification (RFID)
  - Smart Antennas
- WRC Implementation

Consumer Choices for Broadband Services

- BPL will provide the “Third” broadband pipe into the home
- 5 GHz will provide additional spectrum in both rural and urban areas for unlicensed broadband services like WiFi
- AWS (3G) will provide competitive mobile broadband services

Unlicensed Policies Facilitate Economic Growth

Worldwide Wi-Fi Revenue and Sales

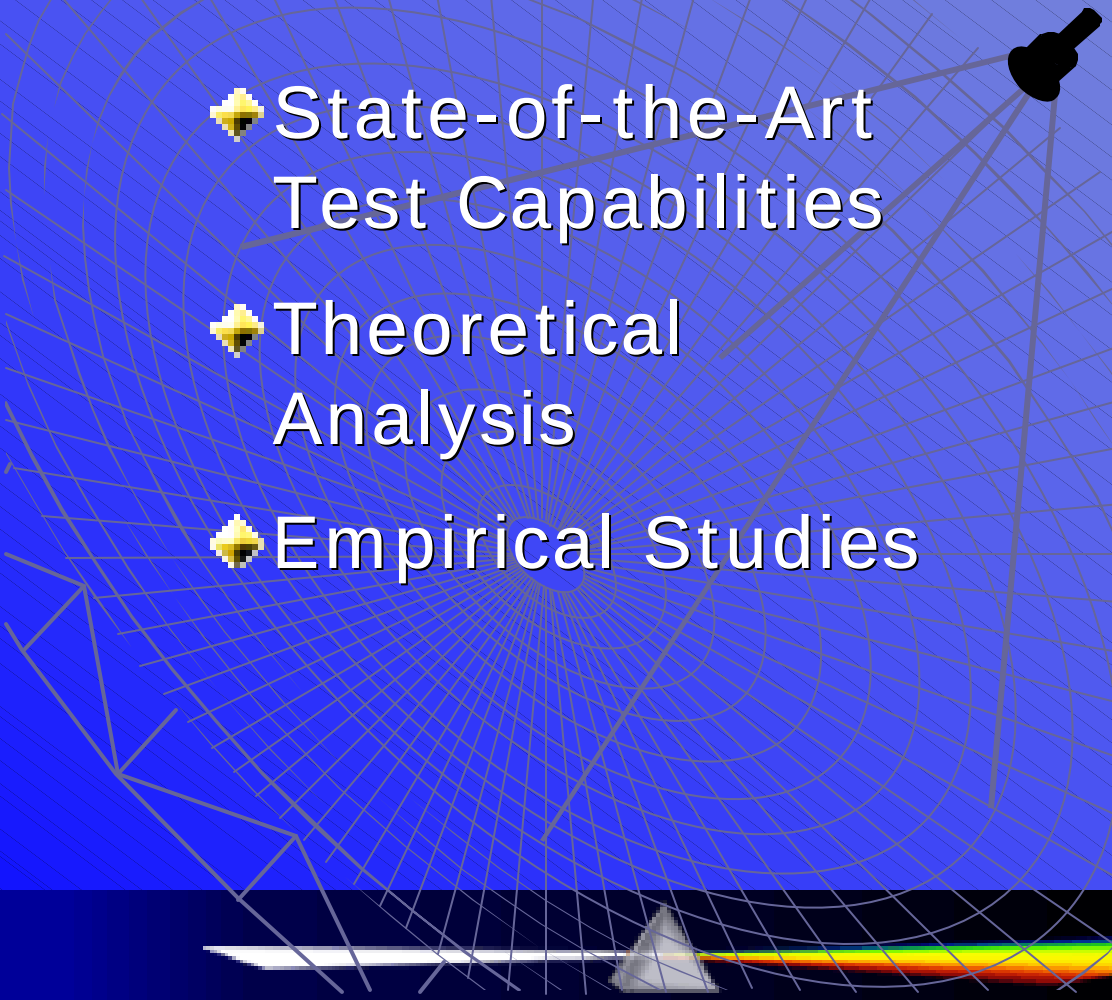


Sources: In-Stat/MDR & OSP, December 2004

Homeland Security Initiatives

- CALEA
  - Coordinate Agency CALEA Activities
- UWB
  - Ground Penetrating Radar
  - Through Wall Imaging
- Network Outage Reporting
- NRIC
  - Commission's post 9/11 Initiative
  - Network Reliability Concerns
  - Best Practices
- 800 MHz Public Safety Interference
  - Interference Analysis

Modernize the FCC and OET Technical Capabilities



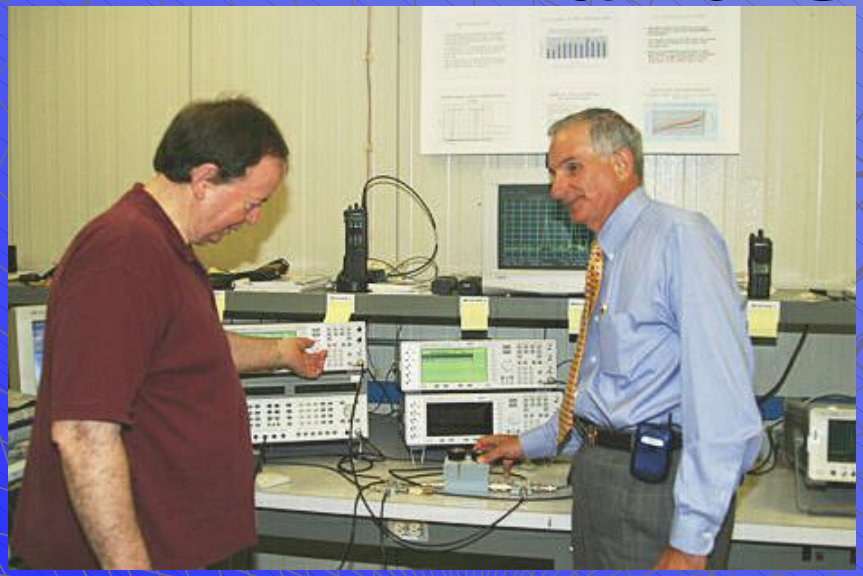
- State-of-the-Art Test Capabilities
- Theoretical Analysis
- Empirical Studies

Modernizing FCC Technical Capabilities

Anechoic Chamber

State-of-the-Art Test Facility

Test Capability Support the Growth of Cellular Technology and Services

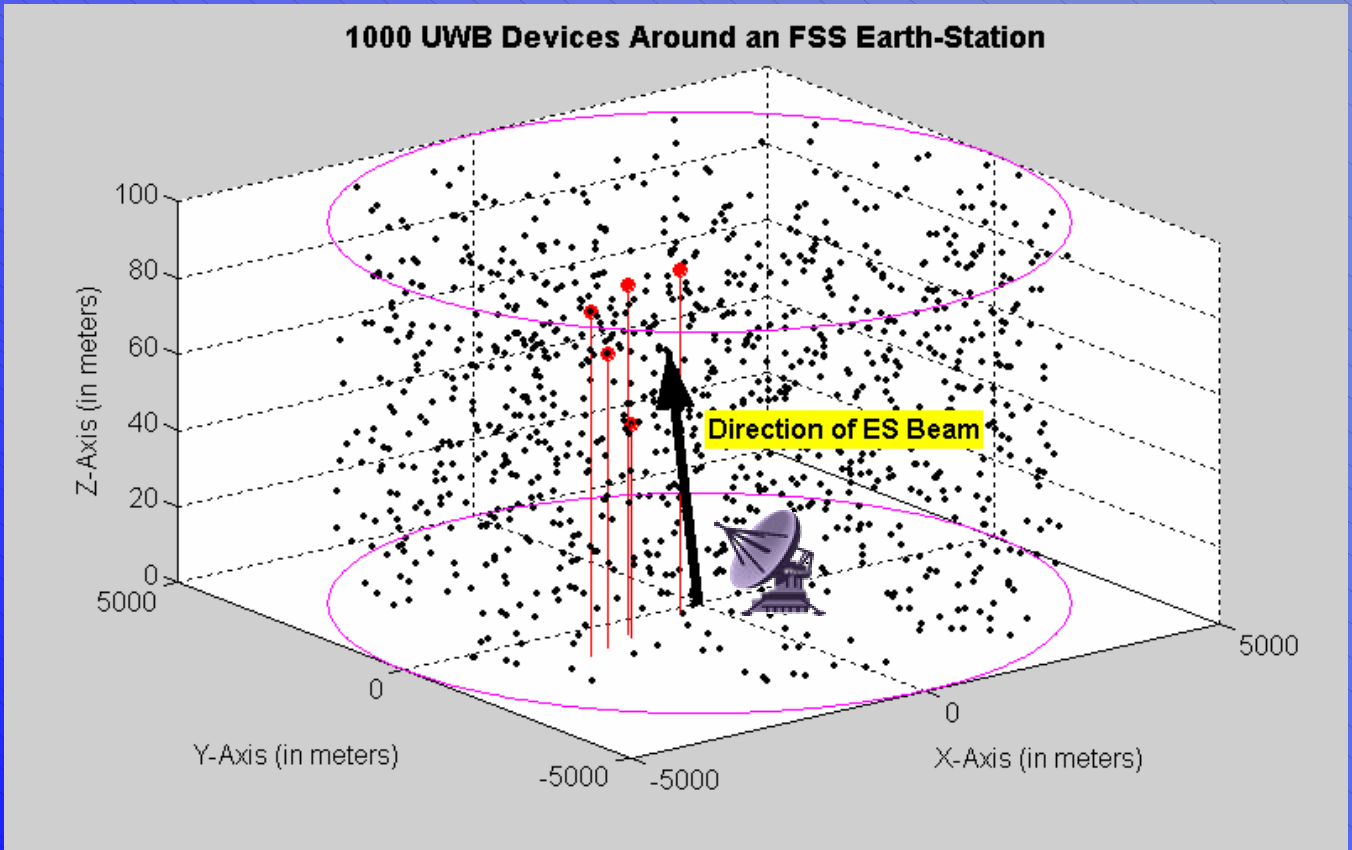


Cellular Lab

SAR RF Safety Lab

OET Computer Modeling Supporting Development of New Technologies

MATLAB Model for Interference to a Fixed Satellite Service Earth-Station from UWB Devices



OET Excellence in Engineering Accomplishments

- In-house Tutorials:
  - Spectrum 101
  - Basic Wireless/Wireline Engineering for Attorneys
- Contracted professional engineering courses:
  - Digital RF, Wi-Fi, OFDM, CDMA, ATSC Digital VSB
- Introduction to communications technology for non-engineers
- Industry tutorials on a variety of technical topics
- Graduate Degree Program

OET Backlog Reduction

OET Goals for 2005

- Facilitate the Growth and Development of Broadband Services and Technologies
  - Identify and understand emerging technologies
  - Review and modify as appropriate rules for unlicensed broadband services (UWB, WiFi, WiMax, BPL, etc.)
  - Provide rule making items in the 3650-3700 MHz proceeding and the TV “White-spaces” proceeding
- Facilitate Competition Services
  - Recognize and reduce technical regulatory barriers
  - Provide rule makings items in the cognitive radio proceeding and any necessary steps to complete the AWS (3G) allocation proceeding

OET Goals for 2005

- Homeland Security Policies
  - Facilitate Improvements to Network Security, Reliability and Integrity
  - Work with NRIC to develop “Best Practices”
  - Provide rulemaking items in the CALEA proceeding and in the Network Outage Reporting proceeding
- Modernizing the FCC
  - Continue to upgrade our facilities
  - Improve the speed of disposal