



November 4, 2009

**REDACTED – FOR PUBLIC INSPECTION**

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
455 12<sup>th</sup> Street, SW  
Washington, DC 20554

**Re: Notification of Ex Parte Presentation of SkyTerra Subsidiary LLC, *A National Broadband Plan for Our Future*, GN Docket No. 09-51**

Dear Ms. Dortch:

On November 3, 2009, Drew Caplan, Christian Gates, and Jeff Carlisle of SkyTerra Subsidiary LLC met with John Leibovitz, Tom Peters, Stagg Newman, Arnab Das, and Rohit Dixit of the Broadband Task Force, Ronald Repasi of the Office of Engineering and Technology, and Bob Nelson of the International Bureau to discuss the attached presentation regarding SkyTerra's Mobile Satellite Services (MSS) and Ancillary Terrestrial Component (ATC) technology. This is a redacted version of the presentation, and SkyTerra will separately file a highly confidential copy.

Thank you for the opportunity to discuss these issues and contribute to this important proceeding. Please contact the undersigned with any questions regarding this submission.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey Carlisle", written over a light blue horizontal line.

Jeffrey Carlisle  
Vice President, Regulatory Affairs

cc: John Leibovitz  
Bob Nelson  
Ronald Repasi  
Tom Peters  
Stagg Newman  
Arnab Das  
Rohit Dixit



# MSS/ATC & Broadband Presentation to the Broadband Task Force

November 3, 2009

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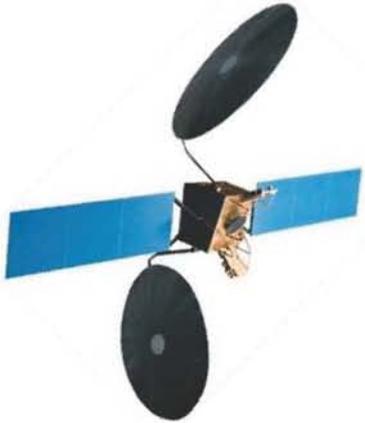
# SkyTerra Today



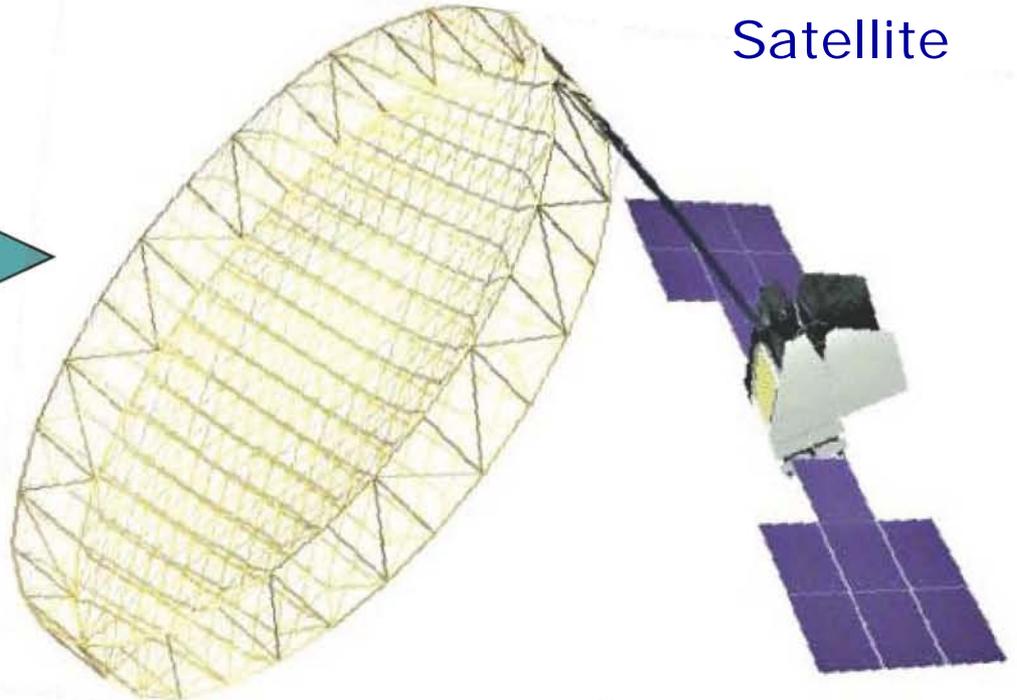
- Founded, 1988
- Headquartered in Reston, VA
- Two geostationary satellites providing mobile satellite service (MSS)
- Authorized to operate in L-band (*DL: 1525-1559 MHz; UL: 1626.5 – 1660.5 MHz*)
- Provides voice, data, fax, two-way radio and push-to-talk
- 300,000 commercial and government customers
- Focused on providing service to public safety/homeland security at Federal, tribal, state and local levels

# Current vs. Next-Gen Satellites

Current Generation  
Satellite



Next-Generation  
Satellite



Current Generation  
Terminals



Next-Generation  
Handsets



# SkyTerra's Next Generation Integrated MSS Network

- **Satellite power/size enables service to cell-phones**
- **Ancillary Terrestrial Component (ATC) allows ubiquitous wireless coverage**
- **First ATC licensee**
- **Earliest and larger holder of ATC patents**

SkyTerra ATC/CGC



Dense Urban

Urban / Suburban

Rural

Maritime

# ATC Development

- ▶ SkyTerra worked with the FCC to create the ATC regulatory framework in 2003, with improved rules authorized in 2005 for L-band, S-band and Big LEO band
  - Drives efficient use of spectrum for satellite and terrestrial services in same band
  - Worked with Industry Canada to establish an ATC regime in Canada in 2004
  - Europe authorized ATC for S-band in 2008
- ▶ The FCC established strict gating criteria to ensure the integrity of satellite services in the context of ATC
  - “Integrated service,” effectively mandating the availability of satellite service to every ATC device
  - Substantial satellite service in place at time of launch of ATC services
  - Secondary status, required to accept interference from other services
- ▶ Multiple MSS operators have followed SkyTerra’s lead in establishing ATC-oriented business plans
  - Globalstar (Open Range)
  - TerreStar
  - DBSD (formerly ICO North America)

# SkyTerra's Investment

- ▶ SkyTerra has invested over \$1 billion in the creation of new technologies
  - 2 next generation satellites from Boeing, with revolutionary antenna design and power, capable of closing the link with cell phone form factors
    - Nearing completion – launches scheduled in 2010 and 2011
  - Extensive ground segment with advanced technologies
    - Ground based beam forming (GBBF)
    - Ground stations in Virginia, Texas, California
  - Agreements with Qualcomm and Infineon to integrate satellite communications protocols and frequencies into selected mainstream wireless chipsets
- ▶ SkyTerra has also undertaken a substantial coordination effort with other L-Band operators and end-users to prepare the spectrum for wireless broadband
  - Coordination agreements with operators licensed by UK, Canada, Russia and Japan
  - Ongoing negotiations with Mexico
  - Cooperation Agreement with Inmarsat and coordination of clearing efforts with Inmarsat customer base (commercial and government)
- ▶ Significant intellectual property portfolio around key technologies

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# The ATC Broadband Opportunity

- ▶ Through its coordination efforts with Inmarsat and Mexico, SkyTerra has created an L-Band ATC opportunity for 40 MHz of terrestrial broadband spectrum
  - Nationwide spectrum equivalent to the recent 700 MHz auction in aggregate scale
  - 10 MHz FDD channelization plan to support advanced 4G air interfaces
  - A huge platform for a new entrant or capacity augmentation for a stressed incumbent
- ▶ The S-Band operators, TerreStar and DBSD (ICO NA), operate on 20 x 20 MHz of 2 GHz spectrum, similar in scale to L-Band
  - Next generation satellites are in-service today
  - Both are party to Qualcomm agreement
  - TerreStar is working with SkyTerra and Infineon
- ▶ Globalstar has launched, through its partner Open Range, a rural ATC network with 19.275 MHz
- ▶ **In aggregate, ATC represents 80 – 100 MHz of mobile spectrum suitable for 4G broadband deployments**

# Available Spectrum in Comparison

- ▶ Securing spectrum from broadcasters, the DoD or other existing users will be a challenging, multi-year process
- ▶ Existing inventory is limited:

**Available Spectrum Inventory**

