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Director – Spectrum Policy  
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202-589-3785

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Verizon Wireless  
1300 I Street, N.W.  
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Washington, D.C. 20005

August 2, 2001

Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
445 Twelfth Street, SW  
Room: TW-A325  
Washington, DC 20554

Re: **Ex Parte Presentation**  
*Allocation of Spectrum to Support Advanced Mobile Services*  
ET Docket No. 00-258

Dear Ms. Salas:

On August 1, 2001, the undersigned met with Bryan Tramont, senior legal advisor to Commissioner Abernathy, to discuss the FCC's Notice of Proposed Rulemaking to allocate additional spectrum for advanced mobile services.

Our discussion focused on the reallocation of the 2110-2165 MHz band and the steps that are necessary to optimize that band for advanced mobile services. Specifically, the MDS systems operating at 2150-2162 MHz should be relocated to alternate spectrum. In addition, we discussed the potential for the NASA Deep Space Network operating at 2110 MHz to prohibit the use of the 2110-2125 MHz band in large portions of California and Nevada, making the band unsuitable for a national service. Continued study of the potential interference from NASA's facility is necessary to ensure that the entire band is usable for 3G. We also discussed alternative band plans in the event that the interference from the NASA facility cannot be mitigated.

We also discussed the importance of the 2 GHz MSS band (1990-2025 MHz and 2165-2200 MHz) in helping to facilitate the deployment of 3G. The reallocation of a substantial amount of MSS spectrum could help resolve the situations described above as well as provide additional spectrum for 3G or accommodation of DoD relocation.

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Ms. Magalie Roman Salas

August 2, 2001

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Please include a copy of this ex parte presentation in the record for the above captioned proceeding. In accordance with § 1.1206 of the Commission's rules, an original and one copy of this ex parte presentation is being filed with the Secretary's office. If you have any questions, you may call me on (202) 589-3785.

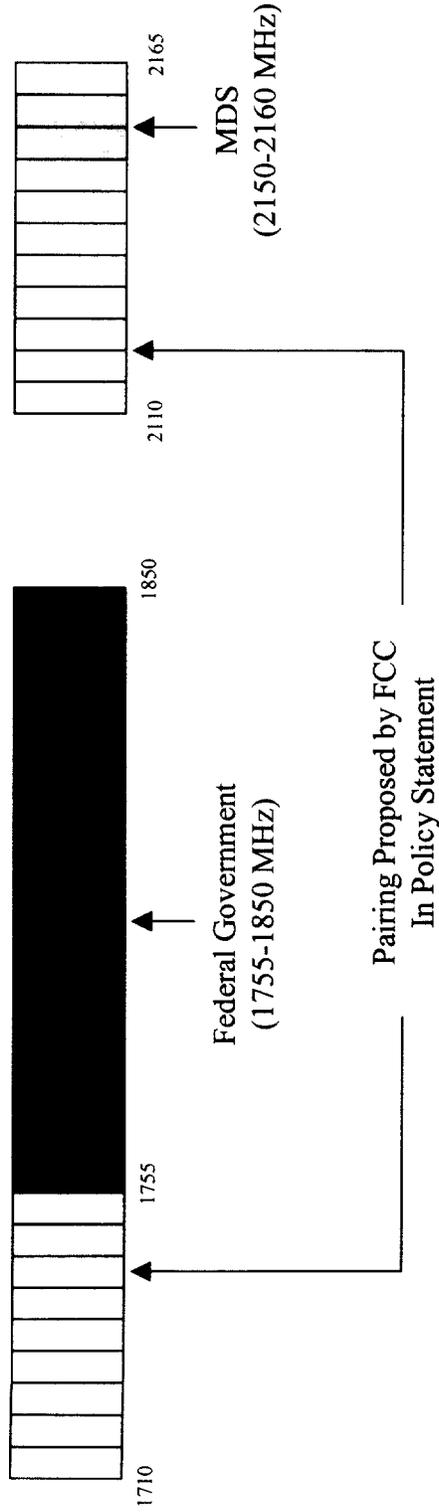
Respectfully submitted,

A handwritten signature in black ink, appearing to read "Donato R. Salas". The signature is written in a cursive style with a large initial "D" and a stylized "S".

cc: B. Tramont

# FREQUENCY BANDS FOR 3G

## Why Do We Need Federal Government Band?



- 200 MHz of spectrum is required in addition to mobile spectrum already allocated (cellular, PCS, SMR). Most of this spectrum must come from 1710-1850 MHz band.
- 1710/2110 pairing is not consistent with global use of 1710-1850 MHz band.
- In-band pairing of 1755-1850 MHz is not possible.

# FREQUENCY BANDS FOR 3G

## Worst Case Scenario



Federal Government band reallocated for commercial use and planned for auction.

Commercial band reallocated and planned for auction.

### Assumptions:

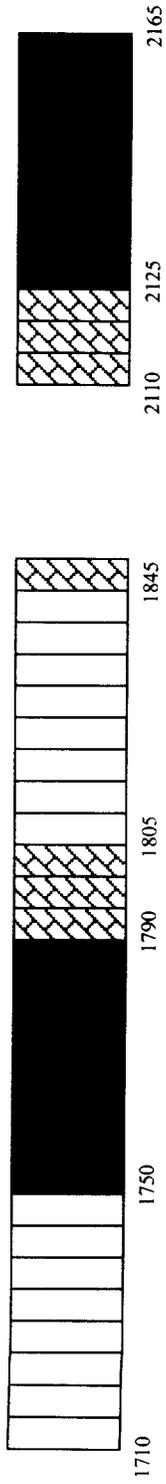
- No additional spectrum is reallocated from 1755-1850 MHz Federal Government band.
- 2110-2125 MHz is not available for nationwide 3G deployment because of NASA Deep Space Network operations in Glodestone, CA.
- Continued use of 2150-2160 MHz for MDS would require minimum of 5 MHz guard bands, which would render all of 2145-2165 MHz unusable for 3G.

### Conclusion:

- **The need for symmetrical pairings of spectrum for 3G means that only 40 MHz of spectrum would be available for 3G (2 x 20 MHz).**

# FREQUENCY BANDS FOR 3G

## Possible Scenario



### Assumptions:

- 75 MHz of the spectrum in the 1755-1850 MHz Federal Government band is reallocated for commercial use under a phased-in approach.
- 20 MHz of the spectrum in the 1755-1850 MHz band would continue to be used by Federal Government.
- In addition, the 2110-2125 MHz band could be reallocated to Federal Government use.
- MDS is relocated to spectrum outside of 2110-2165 MHz band.

### Conclusion:

- **This proposal would make 160 MHz available for 3G use over the long-term, while promoting harmonized spectrum use with 3G allocations made worldwide.**
- **160 MHz falls short of long-term requirement; additional spectrum required from other bands.**

## How Much Spectrum Is Required For 3G?

The International Telecommunications Union (ITU) conducted a study to assess the spectrum requirements for International Mobile Telecommunications – 2000 (IMT-2000) services, commonly referred to as Third Generation (3G) wireless.

- The study forecasts subscriber penetration rates for a variety of services supported by 3G systems, including high-quality voice, simple messaging, switched data, and multimedia services.
- The study makes reasonable assumptions about call duration, usage, and system capacity, and estimates the amount of spectrum that would be required through the year 2010.
- **The study estimates that a total of 390 MHz of spectrum will be required in Region 2, which includes the United States, to accommodate future mobile services including 3G.**
- The 2000 World Radiocommunications Conference confirmed this study, and recommended that these requirements be satisfied with spectrum from within those bands identified globally for 3G use.

Significant amounts of additional spectrum must be allocated to meet the anticipated demand for 3G mobile services in the future.

- There is currently about 190 MHz of spectrum allocated for mobile services in the United States (includes cellular, PCS, and SMR).
- **To meet the requirements of the ITU study, an additional 200 MHz of spectrum must be allocated for mobile services.**
- The ITU study determined that 160 MHz of additional spectrum would be required **in addition** to spectrum already allocated for mobile services and **in addition** to spectrum already identified for 3G at the 1992 World Administrative Radio Conference (WARC-92).
- However, 40 MHz of spectrum identified at WARC-92 (i.e., 2110-2150 MHz) was never allocated and made available for mobile services.
- If the 2110-2150 MHz band is allocated for mobile services, then an additional 160 MHz must be allocated from other bands.
- Importantly, the ITU spectrum estimates were based on market forecasts from 1999. Current forecasts suggest that wireless services are likely to grow at a faster pace. For example: The ITU study assumed that voice penetration would reach 73% by 2010. Analysts are now predicting that we will hit 75% penetration by 2006. **The additional 200 MHz estimated by the ITU should be considered a minimum to meet anticipated demand for advanced mobile services.**