

**TESTIMONY OF  
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**BEFORE THE  
SUBCOMMITTEE ON COMMUNICATIONS  
COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION  
UNITED STATES SENATE**

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**Summary**

Mr. Chairman and Members of the Committee, thank you for inviting me to appear before you today. The allocation of adequate spectrum to support the continued growth of the wireless industry and the development of Third Generation – or 3G – services is one of the most important and timely issues facing my company and my industry. We are grateful to this committee for its interest and support. Together we must find a way to quickly address the critical spectrum needs of this industry.

The deployment of 3G wireless services and technologies will enable U.S. industry to maintain its global competitive and technological leadership in both wireless and Internet markets. In a report published last year, the President’s Council of Economic Advisers (“CEA”) estimated that the benefits from 3G would likely approach \$100 billion annually. It concluded that an adequate supply of additional spectrum was needed for 3G services and

urged government action making adequate spectrum available. If spectrum is not available on a timely basis, we risk squandering our global position and a panoply of associated economic and societal benefits.

Adequate spectrum was identified at the World Radiocommunications Conference (“WRC-2000”) held in Istanbul, Turkey last year. The decisions reached at WRC-2000 were supported by the United States and more than 150 other world governments. While efforts by many government and private sector interests have led to some progress in achieving the necessary spectrum allocations in the United States, spectrum identified at WRC-2000 has not yet been reallocated nor is such action imminent. For that reason, I come before you today with a simple but urgent message: the wireless communications industry must have additional radio spectrum to provide innovative new services and other critical benefits to the American public and to foster continued economic growth. We are facing the prospect of our industry’s equivalent of a “fuel crisis” – with access to the spectrum “fuel” restricted by government policy and lack of action.

The following actions are urgently needed:

1. Reallocation of adequate globally harmonized spectrum for mobile services. As reflected in decisions made at WRC-2000, the U.S. wireless industry needs at least 200 MHz of additional spectrum, aligned with spectrum to be used in other regions of the world, to meet its long-term growth requirements.
2. Development of an implementation plan for how this spectrum will be cleared and when it will be auctioned. Equally important to the reallocation of needed spectrum is the

plan setting out the timeframes when that spectrum will be auctioned and when it will be available for use by the industry. While all of the spectrum will not need to be available at once, operators need some certainty and predictability about what spectrum will be available and when.

3. Establishment of a “workable” process for reimbursing Federal Government users. Legislation is needed to allow the Department of Defense and other Federal users to be compensated directly through auction proceeds thereby guaranteeing that compensation funds are available. The availability of funds for relocation as well as modernization of Federal communications systems creates a “win – win” approach that is an important step forward in the process of making spectrum available for 3G.
4. Elimination of the “spectrum cap”. This outdated rule limits the amount of spectrum a single company can own. In the intensely competitive wireless industry, this rule only impedes companies from competing for the spectrum needed to meet the future demand for wireless voice, data and other new services.
5. Settlement of the NextWave case. The loss to the American public and to American taxpayers will be enormous if this matter is not resolved quickly.

***The continued growth of the wireless industry depends on the availability of adequate spectrum.***

3G services will be the next important chapter in a continuing wireless success story.

However, the ability of wireless operators to meet the demand for 3G services depends on three key factors. First, the wireless industry continues to grow at a rapid pace. Today, more than 110 million people in the United States subscribe to mobile services and that number continues to grow at an annual rate of more than 20 percent. Only two years ago, analysts predicted a healthy 60 percent of the public would subscribe to mobile services by 2008. But

having reached 40 percent penetration this year, analysts now expect wireless penetration to hit 70 percent in 2004.

Second, wireless customers are using mobile voice services much more frequently than they ever have before. Between 1992 and 2000, the industry experienced a 20-fold increase in total wireless minutes of use. The 2000 total of 280 billion minutes of use reflects a compound annual growth rate of 50 percent. During this time, we have seen a tremendous surge in individual subscriber usage. Between 1997 and 2000, monthly usage per subscriber doubled, and it is projected to double again between 2000 and 2004.

Third, the growth of mobile data services is placing increasing demand on the network. Today, we offer data services at rates up to 14.4 kilobits per second. These narrowband data services support a variety of applications including instant messaging, e-mail and web browsing. However, the development of 3G and other innovative wireless technologies will support a wide range of high-speed data and multimedia applications, including wireless Internet access. While mobile data services currently represent less than two percent of total network usage, analysts predict that future data applications supported by 3G technology will account for more than 50 percent of network usage by 2004 and ultimately those applications will dominate the use of the network.

***Technology improvements alone will not meet the anticipated demand for 3G services.***

Digital technology has been a primary driver of the amazing growth of wireless services. Since introducing digital technology into our network in 1997, we have substantially increased the capacity and efficiency of our network and provided consumers with enhanced services and choices, including many new pricing plans. Digital handsets feature longer battery time and reduced equipment size and cost. Wireless services are more accessible and affordable. They have become a part of our customers' daily routines, and many use wireless as an alternative to a wireline telephone.

Verizon Wireless has one of the most sophisticated mobile networks in the industry, and we make every effort possible to use our spectrum efficiently to meet the needs of our customers. However, despite our deployment of the most spectrally-efficient technologies available, the enormous growth in customers and usage is placing increasing strain on network capacity. To address these capacity problems, Verizon Wireless will begin to deploy 3G technology later this year. This technology – called cdma2000 1XRTT – will not only increase the efficiency of our existing network, but will allow us to provide customers with mobile data services at rates up to 144 kilobits per second – ten times what is currently available.

Our deployment of 1XRTT is just the next step in the continuous evolution of our network and our efforts to deploy the most advanced technologies possible for the benefit of our customers. Unfortunately, technology alone cannot meet our capacity and new service

needs. The new high-speed services that can be provided on 3G networks are much more spectrum-intensive than today's voice and data services. For example, while 1XRTT is nearly twice as efficient as current CDMA technology in delivering voice services, for data services it will take three to four times as much spectrum to serve the same number of simultaneous customers at the higher data rates (i.e., 144 vs. 14.4 kilobits per second). As even higher speed data services are developed (e.g., up to 2 Mbits per second), the demand for spectrum will increase substantially.

As I have indicated, we can initiate some new high-speed services, and Verizon Wireless will be among the first companies to do so, but we will be bandwidth limited in the nature and scope of these services. The industry needs additional spectrum before the services can reach their potential anticipated by analysts. I can think of no better evidence of the industry's urgent need for new spectrum than the \$17 billion bid for C and F block PCS licenses that were recently reauctioned.

***This Committee is in a key position to ensure that the needed spectrum is made available.***

Congress has an important role in ensuring that spectrum resources are managed for the benefit of the American public – it is the public, after all, not carriers, that use these scarce resources to meet their communications needs. Given the significant benefits that 3G and other

advanced wireless services will provide to American consumers, businesses, and the economy, Congress has every reason to ensure that adequate spectrum is available to support the full potential of such services. Other nations have already allocated and licensed sufficient amounts of spectrum to meet the needs of their wireless industries. The United States must do the same.

There are specific, concrete steps that Congress should take now:

**1. Allocate the additional spectrum needed for mobile services.**

WRC-2000 identified two spectrum bands to accommodate 3G development around the world. This action to identify spectrum on a global basis will provide the global “harmonization” that is so important to future services. By implementing the WRC-2000 actions and allocating harmonized spectrum, U.S. carriers will be able to compete globally in offering international roaming while achieving the economies of scale that reduce network and customer equipment and service costs.

The 1710-1850 MHz band, as identified at WRC-2000, provides the best, initial opportunity to harmonize U.S. spectrum allocations with those being made around the world and thereby to meet the 3G growth needs of the industry. The band is already used for second generation mobile services in Europe and parts of Asia, where it is expected to evolve to 3G. In Canada, Mexico, Brazil, and other parts of North and South America, this band is the first choice for initial 3G deployment. Even though the United States, at WRC-2000, supported the potential use of this band for global 3G services, most of the band is currently occupied by the U.S. Department of Defense (“DOD”) and other Federal agencies. These systems will have to be relocated if the band is to be used for commercial wireless applications.

In cooperation with the wireless industry, the U.S. Government has worked diligently to

assess the potential for making this band available for commercial use. My company and others from the wireless industry have been working closely with the FCC, the Department of Commerce, DOD, and various other Federal agencies to develop a workable reallocation plan. We have made progress, but a final decision on this band has not been made; nor is one imminent. Beginning with this hearing, this Committee can provide the impetus for the quick allocation action we need.

Obviously since allocating the 1710-1850 MHz band alone will not satisfy the 200 MHz requirement, additional spectrum must be identified. To that end, the 2110-2165 MHz band, for example, is an appropriate and workable supplement. This band, most of which has already been proposed for reallocation, is encumbered with commercial fixed operators, and we are working with the FCC on relocation options.

Recent events suggest that the 1990-2025 MHz and 2165-2200 MHz bands, currently allocated as additional spectrum for Mobile Satellite Service (“MSS”), may better serve the public interest by being reallocated at least in part to more viable purposes. Reported business difficulties among the applicants for MSS licenses raise questions as to the viability of MSS. For these reasons, we and other carriers requested the Commission to evaluate how this band could be used to facilitate the development of advanced mobile services, e.g., by accommodating the relocation of commercial and/or government systems from bands used for

3G.

**2. Establish an implementation plan for auctioning and clearing spectrum.**

Equally important to the reallocation of needed spectrum is the implementation plan setting out the timeframes when portions of that spectrum will be auctioned and when it will be available for use by the industry. The entire band will not be able to be auctioned at once, nor will it all be available at the same time, given the variety of incumbent uses. The industry can and will work with these logistical realities, but operators need certainty and predictability about what spectrum will be available and when so that we can develop our plans.

This implementation plan must reflect the need for allocation decisions that promote harmonization. For example, the Commission is considering whether to pair the 1710-1755 MHz band (for mobile transmit) with the 2110-2150 MHz band (for base transmit) largely, it would appear, because these bands were designated by statute to be auctioned by 2002. However, this statutory action was taken prior to WRC-2000. Today, such a pairing would be inconsistent with existing and anticipated future uses of this spectrum around the world. Were such a pairing to occur, mobile base stations and portable devices developed for U.S. markets would be incompatible with and more expensive than equipment developed for markets where spectrum is harmonized. Making the additional spectrum in the 1755-1850 MHz band available would permit the Commission to establish pairing arrangements that are harmonized worldwide. I urge you to quickly resolve the broader 3G spectrum allocation decisions so that

the Commission can consider all viable candidate bands before taking action on a few. In doing so, the Commission can establish a spectrum allocation and auction plan that promotes harmonized use of spectrum, reduces the costs of 3G equipment and services, and increases the overall value of spectrum.

**3. Establish a “workable” process for reimbursing Federal users.**

In establishing a workable process for clearing the 1710-1850 MHz Federal Government band, the method for reimbursing displaced Federal users can be improved and in so doing it may actually facilitate the clearing process. Current law requires that wireless operators negotiate with Federal agencies on relocation costs and timing after they have acquired their licenses at auction. Based on past experience, this “after-the-auction” approach means that operators have considerable uncertainty regarding the costs of relocation and the availability of spectrum, affecting their bidding strategy and the value they attribute to the license. It also imposes unnecessary transaction costs on operators when they proceed to the negotiation, and it may result in DOD and other Federal agencies being expected to disclose information about their systems that they contend is classified or proprietary.

The law can be improved by providing for the identification of relocation costs and timing in advance of the auctions and collection of relocation costs directly from the auction proceeds. In this way, operators would know the timeframe for spectrum clearing and the costs

attributable to that clearing. For its part, the government users would know that their relocation costs would be fully compensated without the need for any negotiations with industry.

Legislation should be adopted that would make these changes to the relocation and reimbursement process.

#### **4. Eliminate the “spectrum cap”.**

The spectrum aggregation limit (“spectrum cap”) prohibits any company from holding more than 45 MHz of cellular, PCS and Specialized Mobile Radio (“SMR”) spectrum in the same geographic area, with a higher limit of 55 MHz in rural areas. At the time it was implemented, it was designed to promote new market entry by limiting access to the newly available PCS licenses. The actual impact of this rule can be even more limiting because of the non-uniform nature of the size of license areas and licensed bands. This lack of uniformity may prevent carriers from reaching even the cap limit in their full footprint.

The “spectrum cap” rule was adopted when there were only two carriers operating in each market, and when services were limited and prices were high. It was implemented to promote new entry in the marketplace, and that goal has been accomplished. Today, the Commission’s own studies show that 75 percent of the population lives in areas with five or more mobile telephone providers. Nearly 50 percent of the population has at least six carriers from which to choose. In Washington, D.C., for example, Verizon Wireless competes against

Cingular, AT&T, Sprint, VoiceStream and Nextel.

New entrants continue to gain considerable ground. Price competition is steep, but perhaps even more important, carriers are competing on the basis of new and enhanced product features. The consumer is winning.

Because of the dramatic changes in the market, the rule has outlived its intended purpose and now is working to the detriment of the very competitive and robust market the rule sought to foster. The cap is not the way to perpetuate today's competitive market when the primary challenge is access to the additional spectrum we need to meet surging demand. The cap constrains our ability to meet customer demand for improved quality and reliability and for new services by obtaining additional spectrum. Lifting the cap will favor innovation and competition, facilitate the deployment of advanced mobile services and promote global competitiveness.

**5. Encourage settlement of the NextWave case.**

I cannot overstate the importance of spectrum to my company and the wireless industry. Earlier this year, my company bid nearly \$9 Billion for spectrum in an auction that raised \$17 Billion for the U.S. Treasury. This spectrum is necessary to meet the continued demand for mobile voice and to begin the deployment of advanced 3G services. Unfortunately, this spectrum is stuck in legal limbo with the likelihood of protracted legal battles. Last week,

Verizon Wireless joined four other high bidders in Auction No. 35 – Alaska Native Wireless, Dobson Communications, Salmon PCS, and VoiceStream Wireless – in a letter urging the Commission, the Department of Justice, and the Office of Management and Budget to achieve an immediate settlement of the NextWave case that would preserve the results of the auction. Congress should do all it can to encourage the parties to settle. This is the best way to ensure that the valuable mobile licenses purchased at auction are put into the hands of carriers to deploy immediately to serve customers.

### **Conclusion**

Congress must act now to ensure the timely allocation of additional spectrum and the adoption of policies that will promote the development of 3G wireless technologies and services. This includes: (1) allocating a minimum of 200 MHz of additional, harmonized spectrum for mobile services, (2) establishing a plan for clearing and auctioning spectrum, while ensuring that all bands are dealt with as part of a comprehensive allocation plan that is harmonized worldwide, (3) revising the reimbursement process so displaced Federal users are reimbursed from auction proceeds, (4) eliminating artificial restrictions on access to the spectrum we need, and (5) settling the NextWave case so that service can be provided to the public and Federal auction revenues can be maximized.