

licensees would be based upon a six-month average of the number of revenue producing mobiles each operator has in actual operation within that MTA. A mobile should be counted once for the entire MTA and may only be counted in one MTA. The Commission should require that a company officer or official certify the number of actual revenue producing mobiles in operation. Once the correct number of revenue producing mobiles is determined for each ESMR licensee in the MTA, the Commission should assign the 200 ESMR block channels to each provider on a pro rata basis according to the number of revenue producing mobiles each has in actual operation.

For example, if there are two ESMR licensees in MTA 1, and Licensee A has 5,000 mobiles and Licensee B has 10,000 mobiles, the Commission should assign 67 channels to Licensee A (1/3 of the 200 channels) and 133 channels to Licensee B (2/3's of the 200 channels). The licensee with the most mobiles would have its spectrum block commence with channel 401, thus Licensee B would be authorized to use channels 401-533.

As noted previously, nothing in Nextel's ESMR block proposal prevents an ESMR licensee from retaining channels outside the ESMR block that are not used for retuning traditional SMR stations in the MTA. Thus, if the Commission is required to make a pro rata assignment of ESMR block channels to multiple licensees within an MTA, these licensees -- like any SMR licensee -- can retain their other 800 MHz licenses and acquire additional non-ESMR block

frequencies to the extent they are not used for retuning purposes.<sup>22/</sup>

4. Retuning of Incumbent SMR Systems

Once the Commission has allocated the ESMR block channels to the appropriate ESMR in the MTA, the ESMR licensee or licensees would initiate retuning of the existing traditional SMR providers in the MTA. The stations of these traditional SMRs would have to be retuned off of the ESMR block (channels 401-600) and onto the remaining non-public safety channels (i.e., those below channel 401). The ESMR licensee would bear all the retuning costs, including the identification of replacement channels, any equipment changes or replacements, and any retuning required by the change of frequency. The licensees should be given a relatively short period of time -- no longer than six months -- to negotiate an agreement. If the parties fail to reach an agreement, the Commission should impose a mandatory retuning process on the parties. All retuning must be completed within at least one year from the issuance of the block ESMR license but no later than August 10, 1996. This is because clearing of the ESMR block channels, and the associated retuning of traditional SMRs, moves ESMR licensing closer to cellular licensing practices and is therefore part of the overall transition into CMRS for reclassified private carriers. Thus, the

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<sup>22/</sup> Nevertheless, in the event that the Commission has to compel a division of the ESMR block among multiple licensees, the resulting ESMR grants will be sub-optimal from a competitiveness perspective and further spectrum consolidation will likely have to occur.

retuning must be completed by the time these licensees are required to comply with CMRS regulation -- August 10, 1996.

5. Operating Under an ESMR Block License

The Commission must permit ESMR licensees to operate their systems in a manner similar to -- if not identical to -- cellular systems. With a geographic block license, the need for prior approval of each and every system change and for the licensing of each and every base station within the service area must be eliminated to achieve parity.<sup>23/</sup> Instead, the Commission should issue a single blanket license for each ESMR system as it currently does for cellular and has proposed for PCS.

Thus, establishing an ESMR block license would permit the Commission to eliminate the 40-mile rule and loading requirements for ESMR systems. This ensures ESMRs comparable regulation with cellular. In a blocked channel, geographic service environment, spectrum warehousing would no longer be an issue thus eliminating the need for the 40-mile rule. However, the 40-mile rule and loading requirements are still necessary and should remain in place for traditional 800 MHz Private Land Mobile systems.

Likewise, ESMR station identification requirements can be eliminated as they are for cellular operations.<sup>24/</sup> ESMR stations would operate on exclusive channel blocks in defined

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<sup>23/</sup> Section 22.902(d) of the Commission's Rules requires cellular licensees to coordinate frequency use with adjacent cellular systems. Coordination of frequency use among ESMR systems in adjacent MTAs can be accomplished in the same manner.

<sup>24/</sup> See Sections 22.910 and 90.647 of the Commission's Rules.

geographic areas. As the Commission found with cellular and 220 MHz nationwide systems, station identification is not necessary because these operations are readily identifiable through Commission records or other publicly available information. Elimination of this requirement will eliminate any unnecessary burden on ESMR operators and ensure treatment comparable to cellular systems.

Thus, regulatory parity among CMRS licensees demands that the Commission establish ESMR block licensing based upon MTA-defined service areas. Under the current licensing rules, ESMRs are saddled with unnecessary regulations originally intended for high-power, single-station SMR systems employing no channel reuse. As wide-area service providers offering services competitive with cellular, and prospectively with PCS, ESMRs also require geographically-defined contiguous, exclusive frequency assignments. Adoption of ESMR block licensing, with the continued ability to utilize channels 1 - 400, and the associated rule revisions discussed herein would fulfill the Commission's Congressional mandate to create regulatory symmetry in the licensing of ESMRs and competing CMRS services.

#### **IV. CMRS SPECTRUM AGGREGATION LIMIT**

In the FNPRM, the Commission suggests that licensees with the ability to aggregate large amounts of CMRS spectrum in a given area could acquire excessive market power, thereby reducing the numbers of competing providers not only within specific CMRS service categories, but also in CMRS generally. Accordingly, the

Commission seeks comment on whether there is a need for a cap on the amount of CMRS spectrum that can be licensed to any one entity in a defined area.

The FNPRM proposes a 40 MHz general CMRS cap -- the same limitation placed on cellular licensee interests in broadband PCS in a given licensing area and on the total aggregation of broadband PCS spectrum by a licensee in any licensing area.<sup>25/</sup> It asks whether there will be competition among all CMRS services, thus requiring a cap on all CMRS spectrum; i.e., "a general cap on the amount of spectrum that an entity may use to provide CMRS."<sup>26/</sup> On the other hand, if CMRS services can be divided into discrete, non-competing services, there may be no danger that a party's accumulation of spectrum for the provision of one service would affect the development of competition for other CMRS services.<sup>27/</sup> If this is the case, the Commission also requests comments on whether specific CMRS services should not be included in those counted toward a CMRS spectrum cap.

A. A General CMRS Spectrum Cap Will Exacerbate the Dominant Market Power of the Cellular Carriers

In the PCS rule making, the Commission limited broadband licensees to 40 MHz of PCS spectrum in any licensing area.<sup>28/</sup> Cellular licenses are subject to the 40 MHz limit on cellular and

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<sup>25/</sup> FNPRM at para. 93.

<sup>26/</sup> Id. at para. 90.

<sup>27/</sup> Id.

<sup>28/</sup> See Second Report and Order, GEN Docket No. 90-314, 8 FCC Rcd 7700 (1993) ("Broadband PCS Order").

PCS spectrum in areas where they provide substantial service. This limitation is "based on our determination that cellular licensees could otherwise be in a position to exercise undue market power in PCS geographic markets."<sup>29/</sup> The cap on cellular eligibility for PCS spectrum recognizes that cellular carriers have market power in their existing service areas,<sup>30/</sup> and that permitting them unrestricted eligibility for PCS licenses could undercut the development of competitive PCS services in those areas.

The 40 MHz overall cap on PCS spectrum aggregation is intended to promote competition by assuring that there will be at least four initial PCS licensees in most licensing areas. Given the fact that no single mobile services licensee has ever previously received an initial assignment of more than 20 MHz of contiguous spectrum, this limitation is a reasonable means of assuring the licensing of diverse, multiple PCS and cellular providers for these unprecedented large PCS assignments.<sup>31/</sup>

The FNPRM, and the regulatory parity concepts it seeks to implement, represent a welcomed movement toward the wireless marketplace of the future. They seek to promote the development of diverse wireless telecommunications services that will empower

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<sup>29/</sup> FNPRM at para. 88, citing Broadband PCS Order at para. 61.

<sup>30/</sup> The Commission has previously classified the duopoly cellular carriers as dominant carriers and has found that the cellular market is not competitive at this time. See Second Report and Order at paras. 138, 139 and 145.

<sup>31/</sup> Contrast even the 10 MHz PCS assignments with five channel at a time (0.25 MHz) 800 MHz SMR assignments.

innovators to increase the service options and functionality available to consumers. In the context of such a proceeding, it would be counterproductive for the Commission to become straitjacketed into a narrow view of relevant product markets. Such a view, if embodied in the regulatory structure, would only serve to impede market integration and the migration of spectrum to its highest and most economic uses. An improperly conceptualized and improperly applied CMRS spectrum cap for ESMR licensees would create these adverse consequences.

Nextel's experience has been that consumers are interested in services and functions; they are indifferent to regulatory categories. Even in the context of traditional SMR operations, consumers select between the full array of presently existing wireless services and, on a month-to-month basis, constantly migrate from one service to another. We see former cellular and paging subscribers switching to SMR services, and SMR customers moving onto cellular and paging networks. This no doubt reflects a seamless continuum of consumer preferences based on individual evaluations of price, service and functionality.

As the Commission is aware, Nextel and other ESMR operators are pioneering an integrated package of services that will include interconnected mobile telephony, private network dispatch, paging and a host of data and information services. Cellular and PCS are expected to move in a similar direction. The emergence of such integrated services points to the supply-side conclusion that radio spectrum, within certain technical parameters, is a relatively

fungible resource that can be used in many ways, although historic licensing and regulatory disabilities impede that fungibility today. On the demand-side, it points to the existence of present and emerging inter-category competition spawned by consumer desire for service integration and enhanced functionality.<sup>32/</sup> By integrating functions, providers are attempting to compete for the whole wireless consumer, recognizing the price/function trade-offs inherent in the existing system of distinct services. These factors, among others, point to a broad wireless telecommunications market.

A major reformation of the wireless telecommunications industry in the United States is occurring today. The shape of future competition will be determined by the innovative use of new technologies to produce new services and introduce new functions. Digitalization, for example, has accelerated the pace of change, making it possible for ESMR providers to offer viable competition in mobile telephone services.

In recognizing the broader product market, however, the Commission need not blindly ignore existing distinctions between providers. Cellular providers, for example, enter the new CMRS environment with a number of distinct advantages stemming from

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<sup>32/</sup> In traditional antitrust terms, relevant markets are determined based on a combination of demand- and supply-side factors. Under the 1992 DOJ/FTC Horizontal Merger Guidelines, demand-side analysis determines the extent to which particular products or services are viewed as substitutes for servicing particular consumer needs, while supply-side analysis determines the extent to which particular suppliers are viewed as actual or potential participants in the particular market.

prior regulatory approaches. They possess a significant headstart over PCS and ESMR providers in terms of clear spectrum and historical subscribership. Notwithstanding the broad market definition, the Commission should take cognizance of significant competitive distinctions as it moves through the regulatory transition currently underway, the ultimate goal being a vigorous competitive environment based on regulatory parity.

Since PCS and cellular are already subject to the PCS spectrum cap, the real target of the CMRS spectrum cap proposal is the nascent 800 MHz ESMR industry. The cap proposal is not a response to any actual excessive spectrum aggregation by non-dominant ESMR carriers; it is proposed to prevent ESMR licensees from obtaining "excessive" PCS spectrum in the forthcoming PCS auctions on the pure possibility that such aggregation might threaten the development of diverse CMRS services.

Seen in this light, imposition of a CMRS spectrum cap is premature and unwarranted at this early stage in the development of the CMRS industry. The Commission should allow the mobile services marketplace to "evolve" in the new world of spectrum auctions before imposing this pervasive and restrictive regulatory limitation. The Commission has designed a flexible regulatory structure for CMRS services, including PCS, in which entrepreneurs are free to develop a cornucopia of diverse, market-driven mobile communications services. The number of prospective providers alone -- cellular, PCS and ESMR -- each with different marketing, technological and service orientations and advantages, assures that

licensees will serve all possible markets and market niches. Moreover, as the Commission correctly observes, the mobile communications marketplace is evolving in response to technological advancements, new spectrum availability, and increasing customer demand. At this time, no existing or prospective provider of broadband CMRS services has any market power whatsoever -- except for the cellular carriers -- and the Commission has already limited dominant cellular carrier aggregation of PCS and cellular spectrum.

Under these circumstances, a general CMRS spectrum aggregation cap for other than cellular CMRS carriers is not warranted. The state of the CMRS industry is one of disparate market power between the cellular licensees, on the one hand, and new entrant ESMR and prospective PCS providers on the other. While the incumbent cellular carriers enjoy an industry of over 16 million subscribers, ESMR carriers are in the earliest stages of development.<sup>33/</sup> Imposing a CMRS spectrum cap for ESMR licensees to control potential market power is not justifiable on any empirically-demonstrable economic or antitrust basis.

Even were an ESMR licensee to aggregate through auction the total 40 MHz of PCS spectrum in a given geographic area permissible under the PCS spectrum cap, it would have to build both its ESMR and PCS systems and market them against the competing cellular carriers, other ESMR providers and PCS companies. It is pure speculation that the development of diverse, competitive CMRS

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<sup>33/</sup> As noted previously, the entire ESMR industry at present is serving less than 5,000 customers.

service would be hindered or impaired. The proposed general CMRS cap is an unwarranted sledgehammer approach to constrain nonexistent market power.

The Budget Act specifically recognizes and authorizes the Commission to promulgate differential regulation of CMRS carriers. Neither the Act nor the CMRS rules require the Commission to regulate different CMRS providers in exactly the same manner. Regulatory parity only requires that providers of like services be regulated similarly; it does not mandate identical regulation, particularly where providers of competitive services are at very different points in the business cycle and differential regulation is necessary to ensure long-term robust competition. The proposed CMRS spectrum cap has more to do with superficial "parity" with the cap on cellular aggregation of PCS spectrum than with sound economic analysis of the regulatory environment necessary to assure that nascent CMRS services develop into long-term marketplace competitors. The Commission should resist simplistic concepts of parity that obscure the market power strength of the cellular industry vis a vis its potential CMRS competitors.

B. ESMR Spectrum and Cellular Spectrum are not Equivalent For Spectrum Cap Purposes

The Commission has historically used widely varying approaches for assigning licenses in different mobile radio services.<sup>34/</sup> For cellular and broadband PCS, the Commission has allocated large blocks of contiguous spectrum to a limited number of licensees

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<sup>34/</sup> FNPRM at para. 26.

within Commission-defined service areas. Each of the two cellular licensees in every one of the 306 Metropolitan Statistical Areas ("MSA") and 428 Rural Service Areas ("RSA") has 25 MHz of spectrum divisible into 416 30 kHz paired channels for use within its CGSA. Broadband PCS licensees will receive, through the PCS auctions, licenses of 30 or 10 MHz on a Basic Trading Area ("BTA"), an MTA and, through combinatorial bidding, potentially a nationwide basis.<sup>35/</sup>

In sharp contrast, 800 MHz SMR licensees are assigned either one or five 25 kHz channels at a time. Licensees accumulate additional channels by demonstrating adequate loading of their systems; *i.e.*, that they are serving at least 70 mobile units on every authorized channel.<sup>36/</sup> As discussed in the previous section, SMR licensee service areas are station-based -- they are defined by the location, antenna height and transmitter power of each individual base station. For a wide-area SMR or ESMR system, this means that an entrepreneur must license each individual base station and link them through contiguous overlapping coverage to approximate the geographic area in which a cellular licensee obtains an exclusive spectrum assignment. Within the service area in which an ESMR licensee competes with cellular service, there are always numerous other SMR co-channel licensees, each entitled to

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<sup>35/</sup> The Commission has defined 51 MTAs and 493 BTAs for PCS licensing based on the MTA and BTA definitions in the Rand-McNally Commercial Atlas and Marketing Guide (123rd ed., 1992).

<sup>36/</sup> See Section 90.631 of the Commission's Rules.

Commission-specified co-channel interference protection.<sup>37/</sup>  
This precludes the ESMR licensee from using all of its channels in  
a portion of the market.<sup>38/</sup>

The historic differences in SMR and cellular licensing under  
the existing regulatory scheme makes it difficult to calculate  
absolute spectrum allocation, assignment and licensing parity  
between cellular and ESMR services.<sup>39/</sup> Given the station-by-  
station assignment of SMR frequencies, ESMR has been possible only  
because the Commission has allowed ESMR providers access to the  
entire private land mobile spectrum (except for public safety) so  
that a licensee can "piece together" a package of assignments that  
enables it to configure a multiple base station frequency reuse  
digital architecture while protecting existing co-channel  
facilities. This "pieced together" spectrum is not contiguous and  
the frequencies available vary from site to site.<sup>40/</sup> Thus, it

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<sup>37/</sup> As to competing PCS services, the SMR licensing scheme is  
completely different than the recently-adopted allocation and  
licensing scheme for PCS, with its Commission-mandated relocation  
of co-channel incumbent fixed microwave licensees. PCS licensees  
will have full use of their assignments when relocation is  
completed; an ESMR does not have the full use of its channels  
throughout its service area under the current regulatory scheme.

<sup>38/</sup> For example, in San Francisco, where Nextel has the most  
spectrum, there are 397 other licensees and applicants holding or  
requesting a total of 651 licenses on Nextel's channels.

<sup>39/</sup> Even under the ESMR block licensing plan discussed  
herein, ESMR licensees would still have at least 15 MHz less  
contiguous, exclusive spectrum in their service area than a  
competing cellular system.

<sup>40/</sup> For example, Nextel has the right to use a total of  
approximately 300 discrete channels in its site-by-site self-  
defined Los Angeles ESMR service area. However, at any given site,  
(continued...)

is patently clear that ESMR licenses are not broadband licenses and cannot be so counted for purposes of a CMRS spectrum aggregation limit.

Thus, Nextel opposes imposition of a spectrum cap on ESMR licensees. If, however, a cap is implemented, the Commission should discount SMR assignments such that no ESMR licensee is charged with more than 5 MHz of ESMR spectrum for spectrum cap purposes, as discussed below.

C. The Equivalent Yield of Encumbered ESMR Spectrum Must be Evaluated Against the Non-Encumbered Spectrum of CMRS Competitors in Counting ESMR Spectrum Toward A CMRS Spectrum Cap

The important differences in SMR, cellular and PCS licensing have unavoidable implications for the fairness of imposing a CMRS spectrum cap as a constraint on potentially excessive market power. As the FNPRM suggests, the manner in which CMRS spectrum is assigned to licensees is relevant to determining whether such spectrum should be included in a cap, and if so, how it should be counted for cap purposes.<sup>41/</sup> For all of the reasons discussed above, the cap cannot be applied to any SMR frequencies on a one-for-one basis with other CMRS spectrum.

If there is to be a CMRS cap for ESMR licenses, non-exclusive non-contiguous SMR spectrum must be analyzed for cap purposes as

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<sup>40/</sup>(...continued)  
Nextel is limited by the SMR co-channel separation rules to substantially fewer channels. Those that are available are not contiguous and the specific frequencies are not the same from site to site.

<sup>41/</sup> FNPRM at para. 96.

against contiguous, exclusive geographic area-wide cellular licensing assignments. Without an analysis of the equivalent yield of encumbered SMR spectrum, any decision on a cap would be arbitrary and capricious. Equating a channel available in only part of an ESMR service area with an exclusive use, contiguous cellular channel available throughout an MSA or multiple contiguous MSAs and RSAs does not achieve regulatory parity.

Accordingly, in the event the Commission inappropriately imposes a 40 MHz CMRS spectrum cap on ESMR licensees, such licensees should never be charged with greater than 5 MHz of ESMR spectrum in a given service area -- even if it has the right to use a total number of channels at some sites within its service area that calculate to greater than 5 MHz -- so long as SMR spectrum is licensed on a station-by-station non-contiguous basis.<sup>42/</sup> This provides a reasonable allowance for the encumbrances of SMR spectrum. Of course, an ESMR licensee would be free to demonstrate that it has an even lower equivalent spectrum yield based on its actual assignments.

An illustration is useful here. Nextel is currently completing construction of its San Francisco area ESMR network. As noted previously, San Francisco represents Nextel's maximum ESMR spectrum aggregation. Nextel has applied for or received licenses for 154 ESMR sites in the San Francisco MTA. At these sites, Nextel has applied for or been granted a total of 24,023 channels

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<sup>42/</sup> Two hundred 25 kHz SMR channels are the equivalent of 10 MHz if available on an exclusive, contiguous basis.

of 25 kHz each, an average of 156 channels per site.<sup>43/</sup> In contrast, a competing cellular system is authorized to use 416 channels of 30 kHz each at every one of its sites. Thus, in the San Francisco MTA, Nextel has the right to use an average of 37.5 per percent of the channels available to a cellular system covering the same area. Further adjusting this comparison to account for the smaller channel bandwidth of SMR frequencies, Nextel has an unweighted per site average equivalent spectrum yield of 7.8 MHz -- approximately 31 percent of the 25 MHz cellular spectrum assignment for each cellular licensee.<sup>44/</sup>

Similarly, in the Houston MTA, Nextel's ESMR grant includes 23 sites with a total of 2610 channels or an average of 113 channels per site. In the Houston MTA, Nextel is licensed to use an average of 27 percent of the channels available to a competing cellular system. Again, adjusting for the greater bandwidth of cellular channels, Nextel has an unweighted per site average equivalent

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<sup>43/</sup> At each San Francisco site, Nextel applied for every channel in the pool of frequencies available to Nextel under the Commission's SMR co-channel separation requirements. See Section 90.621 of the Rules. Nextel does not expect to be licensed for all of the channels sought in its remaining pending applications. This is because (1) some applications previously filed with the Commission by other operators could not be evaluated and may preclude the grant of certain channels; and (2) applications in parts of Northern California are evaluated on a case-by-case basis by Commission staff to protect existing stations on high elevation sites.

<sup>44/</sup> The channel bandwidth adjustment is calculated as follows:  $25 \text{ MHz} \times (25 \text{ kHz}/30 \text{ kHz}) \times 37.5\% = 7.8 \text{ MHz}$ .

spectrum yield of 5.7 MHz -- approximately 23 percent of the cellular license assignment.<sup>45/</sup>

Moreover, because the non-contiguous spectrum available to SMR is not equivalent to the contiguous, exclusive use spectrum available to cellular, these comparisons overstate the equivalent yield of SMR spectrum. This impacts ESMR system design, efficiencies and functionalities. In addition, the Commission has not assigned control channels in the SMR bands as it has in cellular. Since an ESMR licensee may not control any channel throughout its entire system -- and different pools of channels are available in each licensee's system -- ESMR operators use proportionately more channels for control purposes to provide additional advanced communications services.<sup>46/</sup>

These comparisons highlight the pioneering genius of Nextel's ESMR technology. Despite the encumbrances on SMR spectrum created by the Commission's traditional SMR assignment rules, Nextel has aggregated sufficient spectrum and developed unprecedented efficient technologies to create the customer capacity and advanced services needed to compete with existing cellular communications systems.

Nextel and other ESMR entrepreneurs should not be penalized for their pioneering achievements by an unwarranted and ill-conceived CMRS spectrum cap -- particularly one that treats all

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<sup>45/</sup> The bandwidth adjustment for the Houston MTA is calculated as follows: 25 MHz X (25 kHz/30 kHz) X 27% = 5.7 MHz.

<sup>46/</sup> Nextel offers alternative solutions to the control channel problem, infra.

CMRS spectrum as fungible when it simply is not. The Commission's objective in proposing the CMRS cap is to prevent a concentration of market power through apparently excessive CMRS spectrum aggregation. As the above analysis indicates, under the different licensing schemes of different CMRS services, it is not possible to directly compare SMR spectrum with cellular or PCS spectrum for spectrum cap purposes.

If, however, the Commission imposes a CMRS spectrum cap on ESMR licensees, SMR spectrum must be counted appropriately in light of SMR licensing realities. The Commission should count SMR assignments such that no ESMR licensee is charged with more than 5 MHz of ESMR spectrum for spectrum cap purposes.

D. Application of a CMRS Spectrum Cap

If, notwithstanding the arguments set forth above, ESMR licensees are included in a general 40 MHz CMRS cap, two conditions are essential: (1) 900 MHz SMR spectrum must be excluded for cap purposes; and (2) the Commission must adopt Nextel's "retuning" proposal for clearing a contiguous, exclusive use block of 10 MHz of SMR channels for ESMR systems, as discussed in Section III, above.

The Commission seeks comment on a number of issues concerning how a CMRS cap would be applied. Although Nextel maintains that a spectrum cap on ESMR is not justified, Nextel provides its views on these matters as follows.

1. Geographic Areas. The FNPRM seeks comments on whether to impose the CMRS spectrum aggregation cap within MTAs,

BTAs or some other standardized geographic area, so that a licensee in that region would be limited in the amount of additional CMRS spectrum it could obtain therein.<sup>47/</sup> If a CMRS cap is imposed, Nextel favors its application on an MTA basis.

A number of factors support this approach. Because ESMR carriers serve self-defined areas delineated on a station-by-station basis, there is no standardized geographic area that will precisely fit existing service or coverage boundaries. The ESMR industry has been developing wide-area regional service areas in response to market demand, commuting patterns and economic communities of interest. The Commission has already proposed licensing wide-area SMR systems on an MTA basis in its Expanded Mobile Service Provider proposal,<sup>48/</sup> and will auction two MTA 30 MHz PCS licensees. In addition, many cellular providers have combined adjacent MSAs and RSAs under common ownership or operation to create wide area cellular service areas. An MTA-based spectrum cap will be easier to administer than smaller geographic alternatives and provides a realistic referent for assessing spectrum aggregation.

2. Attribution Standards. The FNPRM also seeks comment on the percentage ownership interest that an individual or entity should be allowed to hold in a CMRS offering before it is attributed to that entity for spectrum cap purposes.<sup>49/</sup> It

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<sup>47/</sup> FNPRM at para. 99.

<sup>48/</sup> EMSP Order, supra Note 20, at para. 15.

<sup>49/</sup> FNPRM at para. 101.

proposes that all CMRS ownership interests of five percent or more be attributed to the holder and seeks comment on whether different attribution levels should apply to specific CMRS offerings, e.g., a five percent interest in a cellular entity would be counted, but anything less than 20 percent interest in a narrowband paging license would not be considered.

Nextel believes that the attribution standard for interests in CMRS licensees should balance preventing excessive market concentration of CMRS offerings in a single entity with not unduly restricting investment in CMRS services. Unduly restrictive attribution rules could deny to CMRS entities the capital needed to construct and place into operation advanced technology mobile communications systems.

The solution, Nextel believes, is to attribute CMRS ownership interests of 40 percent or more to the holder of ESMR interests for spectrum cap purposes. Interests of less than 40 percent would not be attributable. This is consistent with Nextel's block license retuning proposal herein that would result in ESMRs having 40 percent of the spectrum that a cellular licensee has.50/

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50/ In addition, this is not inconsistent with applying the 40 MHz cap on PCS spectrum aggregation by non-cellular entities to any entity with a five percent interest in a PCS license. See FNPRM at para. 101. Moreover, on reconsideration in the PCS proceeding, the Commission has established a 40 percent standard for attributing cellular equity ownership interests for designated entities in PCS spectrum. A 40 percent attribution standard on ESMR interests for a CMRS spectrum cap takes into account the non-dominant nature of these licensees and the need for relatively flexible restrictions on sources of investment.

3. Exclusion of Certain CMRS Spectrum. The Commission seeks comments on whether all CMRS spectrum held by an individual licensee should be counted toward the proposed cap or, alternatively, whether some CMRS services are not part of the same product market and should not be included in the cap.<sup>51/</sup> It suggests that if a particular CMRS service is not competitive, i.e., is not substantially similar to other CMRS services, then acquisition of such spectrum by a single licensee would not be of competitive concern.

Nextel submits that 900 MHz SMR spectrum should not be counted in a general CMRS spectrum cap. Nextel is a licensee of a number of 900 MHz SMR systems in various cities. These systems are primarily used for standard dispatch communications using traditional analog technology. This spectrum has 12.5 kHz channel bandwidth vs. 30 kHz for cellular and 25 kHz for 800 MHz SMR. To the extent they are not interconnected, they are classified as a PMRS and not subject to the CMRS cap. Although some of Nextel's 900 MHz systems are interconnected, and therefore classified as CMRS, they offer only incidental mobile telephone service and are neither technically nor operationally substantially similar to cellular CMRS service. So long as these 900 MHz systems are not "functionally equivalent" to a competing CMRS service, this spectrum should be excluded from the cap.<sup>52/</sup>

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<sup>51/</sup> FNPRM at para. 94.

<sup>52/</sup> It is possible that a 900 MHz SMR spectrum cap exclusion could vary on a provider-by-provider basis. Although Nextel is not  
(continued...)

4. Reclassified Part 90 licensees. The FNPRM also solicits comment on application of the statutory transition period to a CMRS cap.<sup>53/</sup> It asks whether "grandfathered" Part 90 licensees who will be treated as PMRS until August 10, 1996 should be subject to a CMRS spectrum cap prior to that time, and if so, required to divest any excessive spectrum after the transition period.

Reclassified Part 90 carriers subject to the statutory transition period should have a grace period of six months after August 10, 1996 to divest any CMRS interests necessary for cap compliance. Moreover, all CMRS licensees should be able to participate in competitive bidding for CMRS spectrum without first divesting themselves of spectrum that would be excessive should they win an auction. The mere possibility of obtaining additional spectrum does not create excessive market power and should not require anticipatory divestiture.

#### **V. TECHNICAL AND OPERATIONAL RULES**

##### **A. Modulation and Emission Mask**

The Commission seeks comment on whether its existing emission masks rules are consistent in their application to substantially similar services. The Commission recognizes that different CMRS

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<sup>52/</sup>(...continued)  
implementing ESMR service at 900 MHz, other licensees may implement low power, multi-site technologies and advanced services at 900 MHz competitive with other CMRS. In such cases, 900 MHz spectrum holdings could be counted toward the spectrum aggregation limits of such licensees.

<sup>53/</sup> FNPRM at para. 104.

services have different bandwidths -- e.g., cellular 30 kHz and SMR 25 kHz -- and changes to the emission mask may not be practical. Nextel agrees that neither decreasing the cellular emission mask nor increasing the SMR emission mask is practical where adjacent channel SMR stations are assigned to other operators.

However, Nextel's ESMR systems in an exclusive block license environment, coupled with additional use of channels 1 - 400 as described above, could and should be allowed a wider emission mask. The Commission's rules presently permit 800 MHz Private Land Mobile licensees to acquire up to five contiguous channels and, upon a showing of need, use a wider than normal bandwidth.<sup>54/</sup> When the Commission accepts Nextel's proposal to assign 200 contiguous channels to ESMR licensees for exclusive use within an MTA, the Commission can permit the use of any bandwidth which can be contained within the assignment and not cause interference to frequencies outside the 200 channel block or to co-channel licensees in adjacent MTAs.

The Commission also seeks comment on whether emission restrictions should continue to be imposed on services where frequencies are licensed on an exclusive basis. The current 800 MHz SMR Rules permit the use of digital or analog transmission.<sup>55/</sup> There is no public interest basis for limiting the flexibility currently available to SMR operators. It permits individual licensees to use the most appropriate modulation and

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<sup>54/</sup> Section 90.645(g) of the Commission's Rules.

<sup>55/</sup> Section 90.645(f) of the Commission's Rules.

emission schemes available to meet their customers' requirements. Nextel believes maximum flexibility in both emission masks and emission schemes allows licensees to take advantage of technological advancements and thereby promote innovation and a more competitive CMRS industry.

B. Antenna Height and Transmitter Power Limits

The FNPRM seeks comment on whether the cellular and SMR rules on base station height and power should be conformed. Cellular base stations are presently limited to 500 watts effective radiated power ("ERP") at 500 feet height above average terrain ("HAAT"). Trunked SMR repeaters are limited to 1000 watts ERP and 1000 feet HAAT. Cellular mobile transmitters are limited to 7 watts ERP while SMR mobile transmitters are limited to 100 watts transmitter output power.

Nextel proposes that the Commission maintain the power and height flexibility presently provided by the SMR rules. Nextel is currently constructing its ESMR systems using a combination of high-power stations, low-power stations, and micro-cell stations. In areas of low population density and low subscriber demand, high power stations are the most efficient and economic way to cover wide areas, speed deployment and reduce base station and infrastructure costs. Where subscriber demand is greater, multiple low-power stations and micro-cell stations in areas of peak demand offer the most advantageous system architecture.

At its June 9, 1994 Open Meeting, the Commission increased the height and power limits for PCS systems to enable operators to

build higher power stations where appropriate, thereby reducing capital costs and reducing excessive infrastructure.<sup>56/</sup> The Commission provided PCS operators this flexibility to promote more efficient and economic design and implementation of PCS services and potentially lower costs to the public. By the same logic, the flexible rules that have enabled SMR entrepreneurs to develop traditional high power single site systems, as well as multiple base station low power ESMR configurations, should be maintained.

C. ESMR System Control Channels

As discussed above, a primary purpose of the FNPRM is to achieve regulatory consistency and parity in the technical and operational rules of ESMR systems, cellular, PCS and other CMRS services. A key aspect of achieving this goal is to identify and assign a specific group of control channels for ESMR systems comparable to the control channels set aside in the cellular licensing assignments.

A group of 21 control channels are presently assigned to cellular services. These control channels are allotted to ensure equipment compatibility and seamless roaming from system to system. The existing technology for ESMR systems also employs control channels; however, a set of control channels has not been assigned for ESMR operations. At the present time, therefore, ESMR control channels must be selected from an ESMR system's pool of available channels.

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<sup>56/</sup> Amendment to the Commission's Rules to Establish New Personal Communications Services, Memorandum Opinion and Order, GEN Docket No. 90-314, released June 13, 1994, at para. 172.