

of the rules -- to prevent potential interference problems between fixed service and paging providers and mobile users of the band. Finally, INTEK supports the petitions of the American Mobile Telecommunications Association, Inc. ("AMTA"), SMR Advisory Group L.C. ("SMR Advisory Group") and the Personal Communications Industry Association ("PCIA") which request modification of the co-channel protection afforded between Phase I and Phase II licensees.

I. THE SPECTRUM EFFICIENCY STANDARD REFLECTS A CAREFUL BALANCING OF EQUITIES WHICH SHOULD NOT BE DISTURBED

The Commission originally reallocated the 220-222 MHz band from the amateur radio service to private land mobile radio to encourage the development of spectrally-efficient narrowband technologies. This reallocation resulted in the development and deployment of highly spectrally-efficient narrowband 5 kHz equipment in the 220 MHz band by INTEK's subsidiary Securicor Radiocoms ("Radiocoms"), among others. The development and deployment of narrowband 5 kHz technology was in direct response to the challenge and opportunity defined by the FCC in allocating the 220 MHz band in 5 kHz channels. Notably, prior to adoption of the *Third Report and Order*, only narrowband equipment operating on 5 kHz channels was permitted in the 220 MHz band. These were the Rules that were applicable to all Phase I 220 MHz applicants, who thus joined with equipment manufacturers in seeking to meet the challenge of implementing systems in the band based on highly-spectrally efficient operation.

In the *Third R&O*, the FCC for the first time opened up operations in the 220 MHz band to non-narrowband equipment by permitting the aggregation of contiguous 5 kHz channels and the introduction of equipment that met the spectrum efficiency standard for voice and data operations

defined by the Commission. For data operations, the FCC selected as the efficiency standard an equivalency of 4800 bits per second per 5 kHz of aggregated bandwidth. Notably, Radiocom is currently providing equipment in the 220 MHz band capable of providing 14.4 kilobits per second, three times that established as the efficiency standard.² The efficiency standard adopted by the FCC thus attempted to balance the need to preserve the essential character of the 220 MHz band as a test bed for the development of highly spectrally-efficient equipment on the one hand with the desire of certain parties to deploy non-narrowband systems, most notably the Phase I nationwide licensees seeking to broaden the flexibility of their licenses, on the other. The FCC, moreover, indicated that it would consider waivers of the efficiency standard, expressly directed its Equipment Authorization Division to consult with manufacturers who desire to develop equipment in the 220 MHz band and provided that the efficiency standard would automatically sunset on December 31, 2001. The *Third Report and Order* more generally expanded the permissible uses of the 220 MHz band by both Phase I and Phase II licensees permitting paging and fixed operations on a primary basis.

Accordingly, the Rules adopted in the *Third Report and Order* reflect a careful balancing of equities which, among other things, allow all licensees to aggregate channels, expand the scope of their operations and deploy non-narrowband equipment that meets a spectrum efficiency standard that, for data operations, is set at one-third the rate already commercially available in the band. In INTEK's view, these Rules reflect a balancing of equities that need not be disturbed on reconsideration.

² Radiocom suggested the adoption of 9600 bits per second per 5 kHz of aggregated bandwidth as the data efficiency standard in the 220 MHz band.

Three parties, however, have petitioned the FCC to reconsider the spectrum efficiency standard adopted for the 220 MHz band. Two of these parties -- ComTech and Rush -- hold nationwide Phase I licenses that they applied for and were awarded by lottery under Rules that specifically restricted the use of the 220 MHz band to narrowband 5 kHz equipment. The third petitioner -- Glenayre-- is a latecomer to this Docket and did not participate in, or contribute to, the FCC's deliberations on the *Third Report and Order*. ComTech, Rush and Glenayre argue (1) that paging operations in the 220 MHz band should be exempt from the efficiency standard or (2) that the standard should mirror the Commission's approach to spectrum efficiency in the refarming docket (PR Docket 92-235). Neither of these reasons merits modification of the spectrum efficiency standard. Moreover, these petitioners fail to present any new evidence that would warrant upsetting the Commission's careful balancing of interests in the *Third R&O* or disregarding the strong support for the preservation of the essential character of the 220 MHz band as a test bed for the development of spectrally-efficient technologies.

ComTech's request (ComTech Petition at 7-10) that paging operations should be exempted from the efficiency standard because it believes that no paging equipment is today available that meets the standard is speculative and misplaced.³ First, because prior to the release of the *Third Report and Order* paging in the 220 MHz band was restricted, no equipment specifically designed

³ ComTech erroneously notes (ComTech Petition, n. 13) that only one way paging is permitted on 220 MHz channels. The *Third Report and Order* (at ¶ 149), however, states clearly that "we will permit both one- way and two-way paging operations." Thus, Commissioner Chong's citation to Inflexion as an example of a paging technology that may enter the 220 MHz band was well taken.

for paging has been type accepted or deployed in the band. This does not mean, however, that no equipment will become available as a result of the rule modifications of the *Third Report and Order*. INTEK is not privy to the plans of all potential manufacturers and vendors of 220 MHz equipment or their design specifications and thus cannot comment on the likely business ventures of other companies. INTEK does not believe, however, that any blanket statement regarding the plans of manufacturers to introduce paging equipment in the 220 MHz band that meets the spectrum efficiency standard can be made by any party, including ComTech, with any degree of certainty, particularly since, as ComTech acknowledges (Petition at n. 10), the current data rate available for one way paging technology is five times faster than that available five years ago. ComTech's views are thus wholly speculative. Moreover, INTEK notes that based upon ComTech's Petition, at least one paging technology exists today (Inflexion) that, if adapted for use in the 220 MHz band, would appear to meet the data efficiency standard.

In any event, the adoption of the spectrum efficiency standard in the *Third Report and Order* was grounded in sound law and policy. As a legal matter, the adoption of the efficiency standard was consonant with the FCC's reallocation of the band to promote the development and deployment of spectrally efficient technologies. This, in turn, is responsive to the dictates of Sections 7, 303 and 332 of the Communications Act, which specifically directs the Commission to promote the development and introduction of spectrally-efficient new technologies and services.

Glenayre's and Rush's request that the spectrum efficiency standard be modified to mirror the standard adopted in the refarming docket should also be denied. The Commission's goals in the 220 MHz band differ significantly from its goals in the VHF and UHF PLMR bands. In the 220

MHz band, the Commission has sought to promote the development and deployment of spectrally efficient technologies. In the refarming docket, the Commission has sought to reduce congestion in the highly-crowded VHF and UHF PLMR bands and to increase the capacity of those bands. In fact, the refarmed bands will be a prime beneficiary of the Commission's policies in promoting spectrum efficiency in the 220 MHz band. Nevertheless, the different goals of these two dockets require different approaches. As a result, all of the technical, operational, and licensing rules vary between the 220 MHz and refarmed bands, not just the spectrum efficiency standards. Conformance of the 220 MHz spectrum efficiency standard with the refarming standard is not necessary or desirable to furthering the goals of this docket.

Finally, none of the three parties challenging the Commission's adoption of a spectrum efficiency standard in the 220-222 MHz band offer any reasons or evidence that the Commission has not already weighed in its deliberations on this subject. Balanced against their meritless arguments are the reams of evidence presented in this docket supporting adoption of the standard. For example, since the Commission reallocated the 220 MHz band from use by amateur radio to promote spectrally-efficient PLMR technologies, the Commission has spurred investment in research and development and in deployment of new technologies. Developers of spectrum-efficient equipment, like Radiocom, are now looking toward introducing narrowband technologies in other markets. Modification of the spectrum efficiency standard for the 220 MHz band at this time would declare the Commission's lack of commitment to efficient use of the spectrum and provide disincentives for equipment manufacturers to invest in needed research and development to continue improvements in state-of-the-art, spectrally-efficient equipment.

In sum, no information presented by Petitioners merits modification or elimination of the spectrum efficiency standard. The Commission's carefully considered decision should not be upset on reconsideration.

II. CLARIFICATION OF SECTION 90.729(b) IS WARRANTED

In SEA's Petition for Reconsideration, it seeks rewording of the rules at 47 C.F.R. § 90.729(b) establishing ERP and antenna height restrictions for fixed and paging base stations that transmit on mobile frequencies. SEA's recommended rewording of the rule would restrict antenna height to 7 meters above average terrain rather than 7 meters above ground. Like SEA, INTEK believes that the current wording of this section is merely an oversight that inadvertently fails to implement the Commission's intention. However, this oversight could cause significant interference problems if not corrected. INTEK, therefore, joins with SEA in urging the Commission to modify section 90.729(b) to more accurately reflect the intent of the rules.

III. THE CO-CHANNEL PROTECTION RULES BETWEEN PHASE I AND PHASE II LICENSEES SHOULD BE MODIFIED

In its Petition for Reconsideration, INTEK established that additional protection was needed to prevent harmful interference between Phase I and Phase II co-channel licensees. AMTA, PCIA, and SMR Advisory Group have also petitioned the Commission for reconsideration of its co-channel protection rules, arguing, like INTEK, that the rules are inadequate to provide either Phase I or Phase II licensees from harmful interference to their systems. Consistent with the industry's request, INTEK urges the Commission to examine closely and revise as necessary its co-channel protection rules.

For these reasons, INTEK urges the Commission to adopt such modifications of its rules as are consistent with the views expressed herein.

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Certificate of Service

I, Katherine S. Poole, an attorney in the law firm of KELLY & POVICH, P.C., certify that on this 4th day of June, 1997, a true and complete copy of the foregoing "Comments of INTEK Diversified Corp. on Petitions for Reconsideration of the *Third Report & Order*" was sent first class mail, postage prepaid, to:

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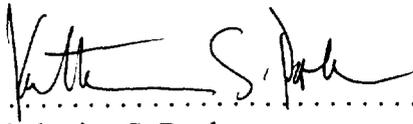
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