

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matter of	)	
	)	
Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended	)	WT Docket No. 99-87
	)	
Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies	)	RM-9332
	)	

**REPLY COMMENTS  
OF  
ICOM AMERICA, INC. AND ICOM, INC.**

Icom America, Inc. and Icom, Inc. (“Icom”), through counsel and pursuant to Section 1.415 of the Commission’s Rules, 47 C.F.R. §1.415, hereby respectfully submits its Reply Comments in response Comments filed in the above-referenced proceeding.

For the most part, parties submitting Comments were supportive of the Commission’s elimination of or deferment of the implementation of Section 90.203(j)(5). While it is understandable from a manufacturer’s standpoint why manufacturers do not wish to be forced to conform their equipment, Icom believes that the comments of user groups represent real concerns about users being required to migrate to 6.25 kHz technology, just after being required to move to 12.5 kHz technology.

Icom is sensitive to the needs of users to have certainty in their equipment purchases, and not be required to repeatedly change equipment. At the same time, Icom believes that the Commission needs to continue its original mission, which was to reform the 150 MHz and 450 MHz bands, to achieve at least 6.25 kHz equivalent efficiency.

Icom believes that the Commission’s original rebanding decision to require 6.25 kHz equivalent efficiency was essentially correct. However, the Commission did not go far enough and require users to discontinue use of their wideband equipment. Now that the Commission has reconsidered that initial decision, and required licensees to discontinue use

of non-spectrum efficient 25 kHz equipment, the Commission must ensure that the most efficient equipment possible is available for the conversion. For this reason, the Commission must continue to impose Section 90.203(j)(5), albeit with a later implementation date.

If the Commission waits until standards are adopted, the Commission may miss its only opportunity to ensure that 6.25 kHz equivalent efficiency is achieved at any time in the next thirty years. It has been widely recognized that P25 standards, so many years in the making, mean different things to different to different people.<sup>1</sup> If the Commission does not provide fixed deadlines now for 6.25 kHz equivalent efficiency equipment, the industry will be frozen in place, with technology that is already sixteen years old.<sup>2</sup>

Icom recognizes the comments of the National Public Safety Telecommunications Council (“NPSTC”) that a 6.25 kHz P25 Phase II standard is “far from being defined at this time,”<sup>3</sup> however this should not deter the Commission from imposing a deadline. Rather, the Commission should plant a flag in the ground, and provide the industry with a goal to meet. Further, the deadline for enforcement of Section 90.203(j)(5) should not be five years after adoption of a standard, as suggested by NPSTC.<sup>4</sup> The Commission should instead make Section 90.203(j)(5) the lead deadline, which will keep recalcitrant manufacturers from revisiting the endless debate over P25 Phase I standards and further delaying implementation. NPSTC opines that it expects the P25 Steering Committee to finalize a 6.25

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<sup>1</sup> See, for example, *P25 Compliance Might Require Regulation Of A Kind*, Mobile Radio Technology, September 2, 2005.

<sup>2</sup> Although the Enterprise Wireless Alliance (“EWA”) requests that the Commission wait until equipment with 12.5 kHz voice capacity “... has been routinely available for a number of years,” the fact is that such equipment has been readily available in this band since at least 1997. In the 900 MHz band, reliable 12.5 kHz voice capacity equipment has been available since at least 1989, a lifetime in communications technology. EWA Comments at 3.

<sup>3</sup> Comments of National Public Safety Telecommunications Council (“NPSTC”) at 7.

<sup>4</sup> Comments of NPSTC at 8.

kHz interoperability standards suite in 2006.<sup>5</sup> Thus, there is no reason why the FCC cannot establish a Section 90.203(j)(5) implementation deadline now.

The Commission must recognize that radio system turn-over in the land mobile industry is very slow. Since land mobile radio systems have a significant implementation cost, radios typically remain in service for many years, often more than a decade. This is in stark contrast to the cellular telephone industry, where handsets are cheap and usually replaced within two years. Thus, a 12.5 kHz radio system implemented in 2012, just prior to the Commission's narrowbanding deadline, will most likely not need replacing until 2022, at a minimum.

It is Icom's position that when users make an equipment decision in 2012, they should have as many options available as possible, including a decision as to whether to buy twenty-three (23) year old 12.5 kHz technology, or 6.25 kHz equivalent efficiency equipment, regardless of whether that equipment is single channel, 6.25 kHz bandwidth equipment, or wideband equipment with the same (or even greater) efficiency. That decision on the part of users need not be part of a mandatory narrowbanding requirement by users. Rather, users should be given a choice, and most importantly, an incentive to purchase the most efficient equipment available. However, this cannot happen without retention of Section 90.203(j)(5), with an implementation date in advance of the mandatory narrowbanding deadline, as well as retention of the current 6.25 kHz channelization in the 450 MHz band.

Icom agrees with user groups that are concerned with mandatory 6.25 kHz mandatory narrowbanding by users in the near future.<sup>6</sup> However, the Commission, and the industry, must separate mandatory equipment standards from mandatory implementation by users. The Commission did this in the original refarming docket, but without any benefit for users

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<sup>5</sup> Comments of NPSTC at 8.

<sup>6</sup> See, for example, the Comments of NPSTC at 4.

to encourage early adoption and implementation of narrowband equipment. Thus, equipment turnover was understanding slow. Now, with mandatory narrowbanding on the part of users by 2013, the Commission must take steps to ensure that choices made by licensees between now and 2013 continue to be effective and appropriate solutions far into the future.

By retaining Section 90.203(j)(5), which requires manufacturers to develop 6.25 kHz efficiency equipment, but declining to implement a mandatory 6.25 kHz narrowbanding by users, the Commission would maintain the “permissive, flexible approach to further efficiency improvements that will encourage users of this spectrum to implement advanced technologies...”<sup>7</sup> Failure to do so would only serve to limit user choices.

The Comments submitted by Icom<sup>8</sup> make clear that there will not be any “undue burden” on manufacturers from implementation of Section 90.203(j)(5), albeit with a slightly later deadline. Implementation of Section 90.203(j)(5) has the possibility of helping to promote improved efficiencies that create capacity enhancements for users, a stated goal of users.<sup>9</sup> Section 90.203(j)(5), with no mandatory 6.25 kHz narrowbanding for users, is a rule that would “... allow users to select whatever advanced techniques will best suit their individual requirements.”<sup>10</sup> Elimination of Section 90.203(j)(5) will only limit user choice.

Although Icom agrees with Motorola that 6.25 kHz or equivalent efficiency equipment is not “sufficiently mature” to mandate its use, Icom is not requesting that the Commission mandate its use.<sup>11</sup> Rather, Icom is requesting that the Commission mandate that

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<sup>7</sup> Comments of EWA at 1.

<sup>8</sup> See also, the Comments of Kenwood USA Communications Division (“Kenwood”). Kenwood, which was one of the companies that jointly sought deferment of Section 90.203(j)(5), effected a technology alliance with Icom to develop 6.25 kHz equipment.

<sup>9</sup> Comments of EWA at 4.

<sup>10</sup> Comments of EWA at 5.

<sup>11</sup> Comments of Motorola, Inc. at 2.

manufacturers not be able to continue to receive type acceptance for 12.5 kHz efficiency equipment forever. Although manufacturers will be able to continue to sell what is truly “old” equipment, they will also be required to create more efficient designs for new models of equipment. This will truly provide users with a choice.

Icom disagrees with Motorola’s assessment that another rationale for elimination of Section 90.203(j)(5) is the lack of “unencumbered spectrum.”<sup>12</sup> Rather, 6.25 kHz equipment presents a unique opportunity in both the 150 MHz and 450 MHz bands. As discussed in Icom’s Comments, 6.25 kHz equipment presents the opportunity for elimination of adjacent channel spacing requirements in the 150 MHz band. In the 450 MHz band, 6.25 kHz equipment presents the opportunity for users to significantly increase their spectrum efficiency within their presently authorized 25 kHz channels. In this manner, users will have incentives to “go narrowband,” a situation which does not exist today. By using their existing authorizations, users in many areas do indeed have spectrum that benefits from the implementation of 6.25 kHz equipment. However, this opportunity will be lost for decades should the Commission eliminate Section 90.203(j)(5).

Icom agrees with Motorola that the Commission should permit the standards-setting work on TIA in the United States and ETSI in Europe to continue.<sup>13</sup> However, such work should not be permitted to continue ad infinitum, without a deadline goal set to ensure that delays do not occur. Further, while companies such as Icom are not prohibited from selling 6.25 kHz equipment in the 150 MHz and 450 MHz bands today, and will continue to be able to do so even if Section 90.203(j)(5) is eliminated, the fact is that the only way to ensure that such equipment is widely available and standards developed in advance of 2013 is to set deadlines now.

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<sup>12</sup> Comments of Motorola at 2.

<sup>13</sup> Comments of Motorola at 3.

It may seem counter-intuitive that Icom would ask that other manufacturers be required to produce 6.25 kHz similar to Icom. Icom would appear to enjoy a significant advantage by being able to sell equipment with advanced features for users. However, the marketplace reality is that the true efficiencies of scale will best occur when the equipment is widely available from a variety of manufacturers. The requirement will ensure that equipment is affordable, that standards are set to encourage interoperability where necessary, and that users truly have a choice.

Like M/A-Com, Inc. (“M/A-Com”), Icom seeks only a deferment of the implementation of Section 90.203(j)(5), not its elimination.<sup>14</sup> However, while M/A-Com believes a 6.25 kHz FDMA solution has yet to be developed, the fact is that Icom has done so. Thus, while deferment is appropriate, elimination of Section 90.203(j)(5) is not necessary.

Icom respectfully disagrees with M/A-Com’s belief that mandatory migration to 6.25 kHz equipment would divert resources from the Commission’s 12.5 kHz efficiency mandate.<sup>15</sup> At this time, 12.5 kHz transmission technology is mature.<sup>16</sup> Thus, there should not be any need for diversion of manufacturer resources. Icom has conquered the hardware, operational and cost concerns with 6.25 kHz technology as expressed by M/A-Com,<sup>17</sup> and a short deferment in implementation of Section 90.203(j)(5) can lead to wide availability of both 6.25 kHz and 12.5 kHz efficiency equipment well in advance of the 2013 mandatory narrowbanding deadline.

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<sup>14</sup> Comments of M/A-Com at 3.

<sup>15</sup> Comments of M/A-Com at 6.

<sup>16</sup> Certainly, advancements continue to be made on enhancements to the technology, but the reality is that the essential 12.5 kHz air interface is a mature technology, and the time is ripe to move to the next frontier.

<sup>17</sup> Comments of M/A-Com at 6-7.

Icom appreciates the concerns expressed by M/A-Com that the current band structure and licensing regimes may prevent 6.25 kHz equipment from being used.<sup>18</sup> In its initial Comments, Icom pointed out how channels currently allocated, 3.125 kHz adjacent to the original 25 kHz channel centers, can be used to implement Icom's technology. Certainly, there are additional flexibility rules that can be implemented by the Commission to further encourage narrowband usage. For example, M/A-Com's alternate "channel center" plan should be reviewed. In addition, the Commission should review whether it is appropriate to permit channel exclusivity on a single, 25 kHz-wide channel. Presently, Section 90.187 permits channel exclusivity for 150 MHz and 450 MHz trunked systems only. This results in an inability to implement highly efficient equipment that requires only a single, exclusive channel. While Icom recognizes that this review is beyond the scope of the Commission's current inquiry, there is little question that the time is appropriate for a more comprehensive review of this issue.

The Commission must not adopt rules that would inhibit the introduction of spectrum efficient equipment such as that developed by Icom. Rather, the Commission must implement rules which encourage continued innovation in product development. Retention of Section 90.203(j)(5), albeit with a later effective date in the near future, will mandate that product development continue and not stagnate around the current 12.5 kHz standard, which has been available for years and which has yielded little tangible benefit. By having a Section 90.203(j)(5) effective date prior to 2013, users will have a choice when they implement more spectrum efficient equipment, and users will have incentives (in the form of additional capacity) to utilize the most efficient equipment available. Mandating that manufacturers achieve 6.25 kHz efficiency in the near future is achievable and realistic, without imposing costs on users which would price equipment beyond their reach. Structuring the rules in this manner will encourage innovation, permit interoperability, and

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<sup>18</sup> Comments of M/A-Com at 1.

provide users with the greatest number of choices prior to the FCC's current mandatory 12.5 kHz migration deadline in 2013.

WHEREFORE, the premises considered, it is respectfully requested that the Commission act in accordance with the views expressed herein.

**ICOM AMERICA, INC. AND ICOM, INC.**

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Date: September 13, 2005