Commission indicated that a primary goal was to ensure that 700 MHz public safety operations are protected from harmful interference from commercial systems in adjacent bands.[593] Because the occurrence and severity of interference increases as an interfering source comes spectrally closer to a receiver's assigned frequencies, the Commission was particularly concerned about the effect of commercial operations on adjacent public safety narrowband systems.[594] To address one form of interference to public safety systems – receiver overload[595] – the Commission established the 700 MHz Guard Bands between commercial and public safety spectrum. The Commission also adopted a package of stringent interference protections modeled on the interference standards used for the 700 MHz public safety spectrum.[596] Specifically, the Commission required that operations in the Guard Bands must adhere to the rigorous out-of-band emission criteria—adjacent channel power (ACP) limits—used by 700 MHz public safety operations.[597] The Commission also required that spectrum users in the Guard Bands employ frequency coordination procedures in cooperation with 700 MHz public safety coordinators,[598] and prohibited the use of cellular architectures in the Guard Bands.[599]

261. In their comments, Access Spectrum/Pegasus and Arcadian argue that in the event that the Commission chooses to reconfigure the Guard Band A Block, the Commission should apply to the reconfigured A Blocks the same technical rules that apply to other commercial licensees.[600] Access Spectrum/Pegasus argue that in the case where Guard Band A Block transmitters are no longer next to public safety narrowband channels,[601] transmitter power should be attenuated out-of-band by at least 43 +10log P dB, and that, in order to protect public safety wideband and narrowband, A Block transmissions should be attenuated to at least 76 + 10log P dB, in a 6.25 kilohertz bandwidth for base stations, and 65 + 10log P dB for mobile units.[602] According to this proposal, which assumes that the A Block is adjacent to

[593] *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 490 ¶ 33.

[594] Although filtering is used to minimize interference, no receiver filter can confine emissions to a specific channel; some signals will inevitably "spillover" into nearby spectrum. Compounding the problem, public safety narrowband receivers often are not sufficiently selective to reject undesired signals that may be present under these conditions.

[595] Overload (also known as receiver or front-end overload) is an informal term describing situations where a receiver is exposed to very strong signal levels leading to a loss of receiver sensitivity.

[596] *See Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5307 ¶ 16. The Commission reasoned that applying the same out-of-band emissions limits in both the Guard Bands and the public safety bands will provide the same effective technical interference protection to public safety users as users of public safety equipment provide to themselves. *Id.*

[597] 47 C.F.R. § 27.53.

[598] Frequency coordination permits Guard Bands and public safety operators to select frequencies that are as far from one another as possible.

[599] *See Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5308-09 ¶¶ 18-19.

[600] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 17; Arcadian *700 MHz Further Notice* Reply Comments at 9.

[601] Although Access Spectrum/Pegasus's argument was made in the context of the alternative Access Spectrum/Pegasus proposal (Proposal 3), it can similarly be applied in the context of a reconfigured A Block placed between the commercial C and D Blocks.

[602] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 17-19. Access Spectrum/Pegasus propose that we apply OOBE limits as recommended in WT Docket No. 06-169 by Access Spectrum/Pegasus and the 700 MHz Technical Working Group. *See Ex Parte* from Ruth Milkman, Counsel for Access Spectrum, LLC and Kathleen Wallman, Adviser to Pegasus Communications Corporation, to Marlene H. Dortch, Secretary, FCC in WT Docket Nos. 06-169 and 96-86 (filed Jan. 26, 2007) (*Second Report of the 700 MHz Technical Working Group* or *Second TWG Report*).

the Public Safety Broadband allocation, A Block licensees would need to meet the 76 +10logP/65+10logP attenuation requirement either 1 or 1.5 megahertz into the public safety broadband block depending on whether the Commission permits wideband operations in the public safety broadband spectrum.[603] Access Spectrum/Pegasus argue that by applying these emissions limits, the Commission would promote public-private partnerships, as well as adequately protect public safety spectrum from interference.[604]

262. Discussion. Because the reconfigured Guard Band A Block will now be located at 757-758/787-788 MHz between the Upper 700 MHz Band C and D Blocks, and will no longer be adjacent to public safety narrowband spectrum, we conclude that it is no longer necessary to apply the ACP emissions criteria to the A Block. Instead, we will apply OOBE limits, which are consistent with emission limits applicable to the C Block. Thus, A Block licensees are required to attenuate out-of-band by at least 43 +10log P dB. Further, as explained above, we continue to believe that we should continue to apply heightened out-of-band emissions criteria in order to provide adequate protection to public safety. Therefore A Block transmitter power must be attenuated to at least 76 + 10log P dB, in a 6.25 kilohertz bandwidth for base stations at 763 MHz, and 65 + 10log P dB for mobile units at 793 MHz. We agree with Access Spectrum/Pegasus that reconfiguring the public safety block and applying OOBE rules that are consistent with those applicable to the C Block will help to promote more efficient use of the 700 MHz Band and could lead to the combined use of multiple spectrum blocks for the provision of broadband services.[605] We find that the OOBE limits we are applying here are readily achievable by the A Block licensees, yet will provide appropriate out-of-band protection to other Upper 700 MHz operations. Accordingly, we will no longer require the reconfigured A Block licensees to comply with the ACP limits set forth in Section 27.53(d) of our rules.

263. *Frequency Coordination and the Cellular Architecture Prohibition.* In addition to imposing the more stringent OOBE limits, the *Upper 700 MHz Second Report and Order* required that guard band users employ frequency coordination procedures in cooperation with 700 MHz public safety coordinators, and prohibited the use of cellular architectures in the Guard Bands.[606] Given the elevated

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[603] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 19. Specifically, in the event that wideband operations are permitted, Access Spectrum/Pegasus recommend that the 76 + 10log P/65 + 10log P attenuation requirement begin 1 megahertz inside the public safety spectrum, or 764/794 MHz, respectively. Access Spectrum/Pegasus state that, in the event that we do not permit wideband operations in the public safety broadband block, we should require A Block licensees to meet the 76 + 10log P/65 + 10log P attenuation requirement 1.5 megahertz inside the public safety broadband block, *i.e.* 764.5/794.5 MHz, respectively. Access Spectrum/Pegasus, however, do not provide a basis for this difference.

[604] *Id.*

[605] *See* Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 17.

[606] *See Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5307-08 ¶ 17. The Commission noted that the significant interference problems arising from the adjacency of 700 MHz commercial and public safety spectrum are further compounded by the conflicting network architectures typically employed by public safety narrowband operations and commercial systems. Cellular systems, by design, are composed of large numbers of base stations within a relatively small geographic area. Public safety systems, on the other hand, are typically composed of high-powered base stations operating at a few sites that provide coverage to a large geographic area. This mix of network architectures often result in an interference scenario—sometimes referred to as "near-far"—that arises when a cellular system operates in close proximity to a public safety system. In the near-far scenario, interference occurs where a public safety mobile/portable unit receives a stronger signal from a nearby, adjacent channel commercial base station rather than from the desired, distant public safety transmitter. The Commission found it necessary to re-band the 800 MHz band to resolve this type of "near-far" interference, which, in that band, was "caused by a fundamentally incompatible mix of two types of communications systems: cellular-architecture multi-cell systems—used by ESMR and cellular telephone licensees—and high-site non-cellular systems—used by public safety, private wireless and some SMR licensees . . . ." *See 800 MHz Report and Order*, 19 FCC Rcd at 14972-73 ¶ 2.

risk of receiver overload interference to public safety posed by the Guard Bands' adjacency to narrowband operations, the Commission felt that it was advisable to provide a process through which a Guard Bands licensee and a public safety licensee could select operating frequencies that are as far from one another as possible, thereby minimizing the risk of harmful interference to the public safety operation.[607] The Commission concluded that frequency coordination was an essential requirement for Guard Bands users given the spectral proximity of public safety operations.[608] Further, because the Commission required such frequency coordination, the Commission restricted operation in the Guard Bands to entities that do not use cellular system architectures.[609] Interference between public safety operations and systems using similar architectures—*e.g.*, high-power base stations providing coverage to a large geographic area—can generally be resolved through the required frequency coordination without much difficulty. Systems employing cellular architectures, however, create a high density of potential interference sources to public safety operations.[610] The Commission concluded that attempting to remedy such interference would be a complex, difficult task of coordinating frequencies between each commercial base station, and the various public safety systems operating in the area.[611] The Commission therefore prohibited the use of cellular architectures in the Guard Bands spectrum.

264. Access Spectrum/Pegasus argue that we should no longer apply the stringent coordination requirements,[612] and Access Spectrum/Pegasus and Arcadian argue that the prohibition on cellular architecture should be removed.[613] Access Spectrum/Pegasus assert that deployment across the 700 MHz Band will likely be low-site, low-power systems, and that maintaining the cellular architecture prohibition will prevent the deployment of next-generation broadband operations, including any network that may be shared with public safety operations.[614] Because the reconfigured Guard Band A Block will no longer be located adjacent to public safety spectrum, we find that it is no longer necessary to apply our frequency coordination requirement, and, consequently, our prohibition against cellular architecture with respect to A Block licenses. We believe that continuing to apply such rules would interfere with the ability of licensees and other users of A Block spectrum to deploy broadband service, enter into arrangements with other 700 MHz commercial entities, as well as prevent any efficiencies or economies of scale that may result from network sharing. Accordingly, we will no longer apply Sections 27.601(d) and 27.2(b) to reconfigured A Block licenses.[615]

265. *Removal of the 746-747 MHz A Block Guard Band.* The power limit for base stations operating in the Lower and Upper 700 MHz Band commercial spectrum is 1 kW ERP.[616] Base stations in

[607] *700 MHz Guard Bands Notice*, 21 FCC Rcd at 10421 ¶ 18.

[608] *Id.*

[609] The Commission defined a cellular system architecture as "one where large geographic service areas are segmented into many smaller areas or cells, each of which uses its own base station, to enable frequencies to be reused at relatively short distances." *Upper 700 MHz Second Report and Order*, 15 FCC at 5306 ¶ 14 n.34. The Commission noted that its definition is similar to that established in 47 C.F.R. ¶ 22.99. *Id.*

[610] *Id.* at 5308-09 ¶ 19.

[611] *Id.*

[612] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 20.

[613] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 20; Arcadian *700 MHz Further Notice* Reply Comments at 9.

[614] *See id.*

[615] *See* 47 C.F.R. §§ 27.2(b), 27.601(d).

[616] *See* 47 C.F.R. §§ 27.50(b), (c).

the Lower 700 MHz Band, however, may operate at power levels up to 50 kW ERP provided they meet a power flux density (PFD) limit of 3 mW/m^2 on the ground within 1 kilometer of the station.[617] Through the use of this PFD limit, a transmission from a 50 kW ERP base station would appear, to an adjacent band receiver operating in the vicinity of the base station, like a transmission from a 1 kW ERP base station operating without a PFD constraint. It is therefore unnecessary to retain the A Block Guard Band at 746-747 MHz to shield Upper 700 MHz Band C Block operations from interference from high power operations allowed in the Lower 700 MHz Band C Block.[618] Moreover, if the winner of the 22 MHz Upper 700 MHz Band C Block were concerned about potential interference from higher power operations in the adjacent Lower 700 MHz Band C Block despite the PFD limit, it would have more than ample spectrum to employ an internal guard band.[619] We also note that the 746-747 MHz Guard Band was not adopted, as Ericsson implies, "to create a buffer between incompatible [commercial] spectrum blocks."[620] Rather, the Commission allocated the Guard Bands "to ensure that the public safety bands are protected from interference,"[621] and it placed a 1-megahertz block at 746-747 MHz "to allow for a paired block" architecture.[622]

(ii) Treatment of Reconfigured B Block

266. Background. While the reconfiguration of the Upper 700 MHz Band and placement of the Guard Band A Block between commercial spectrum blocks permit us to liberalize the technical rules applicable to A Block licensees, similar relaxation of technical requirements for the reconfigured Guard Band B Block is not feasible as it remains adjacent to public safety narrowband spectrum. We received no comment supporting additional flexibility for future operations in the reconfigured B Block in this context.

267. Discussion. We find that it would not be prudent to make any changes that would introduce the possibility of increased interference to adjacent public safety operations. Because all existing Guard Band A and B Block licensees, with the exception of grandfathered PTPMS II licenses discussed below, are voluntarily repacking their spectrum into a new A Block, the reconfigured B Block allocation will be vacant for the time being. Any future operations in the Guard Band B Block will continue to be bound by our existing Guard Bands technical rules requiring frequency coordination and prohibiting the use of cellular system architectures. These continued technical restrictions on the B Block can be fully taken into account as the Commission considers future uses for the block. We will, however, create additional flexibility by providing operations in the reconfigured B Block the option of employing either the existing ACP limits set forth in Section 27.53(d) of the Commission's rules, or the same OOBE limits used by other commercial licensees to protect public safety, *i.e.* 76 + 10log P dB per 6.25 kHz for base stations, and 65 + 10log P dB per 6.25 kHz for mobile units.[623]

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[617] *See* 47 C.F.R. §§ 27.50(c), 27.55(b).

[618] *See* AT&T *700 MHz Further Notice* Comments at 5.

[619] *See* Verizon Wireless *700 MHz Further Notice* Comments at 16 (removal of A Block Guard Band at 746-747 MHz "can be undertaken without creating new interference to commercial users, because the C Block is increased in size, to 22 MHz, allowing for some of the spectrum to be used for an 'internal guard band.'"); *see also* AT&T *700 MHz Further Notice* Comments at 5 n.5 ("it is critical that the Upper 700 MHz C Block license be allocated 11 MHz (2 x 5.5 MHz) so as to provide the licensee with the capability of utilizing an internal guard band").

[620] Ericsson *700 MHz Further Notice* Comments at 20.

[621] *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 491 ¶ 33.

[622] *Id.* at ¶ 34.

[623] By permitting B Block licensees the option of complying with the 76 + 10log P/65 + 10log P attenuation requirement, we resolve the issue identified in the *700 MHz Guard Bands Notice* with respect to the appropriate (continued....)

(iii) Treatment of PTPMS II Licenses

268. Background. As discussed above, PTPMS II is not participating in the "repacking" of incumbent Guard Bands licenses, and instead has chosen to retain its licenses under the terms of their current authorizations.[624]

269. Discussion. To ensure interoperability in border areas with Canada we are modifying the PTPMS II licenses by relocating its Guard Band A Block license to 757-758 MHz and 787-788 MHz along with the "repacked" Guard Band A Block licenses, and by shifting its Guard Band B Block licenses down 1 megahertz to 761-763 MHz and 791-793 MHz.[625] Although PTPMS II has elected to remain under the existing terms of its licenses, we conclude that, for purposes of regulatory parity, we should apply to the PTPMS II A Block the same technical rules that will apply to the reconfigured A Block licenses. As noted, the new spectral position of the A Block between the commercial Upper 700 MHz Band C and D Blocks makes it no longer necessary to apply stringent Guard Bands technical rules to such licenses. Because the PTPMS II A Block will be situated similarly to the reconfigured A Block operations, we find that it is in the public interest to apply the same technical rules.

270. The PTPMS II B Block licenses, however, will remain adjacent to the public safety allocation in two markets. We continue to find it necessary to ensure that public safety operations remain free from harmful interference from commercial systems. Accordingly, we conclude that the existing B Block technical rules continue to apply to PTPMS II's B Block licenses given their adjacency with public safety spectrum. We note that although the PTPMS II B Block licenses will occupy the same spectrum as the D Block in two markets, we do not have the same concerns regarding interference by the D Block because the D Block will operate in concert, and share facilities, with the Public Safety Broadband Licensee pursuant to the 700 MHz Public/Private Partnership discussed in this order.

(iv) License Terms

271. Background. In the *700 MHz Report and Order*, we revised the license terms for non-Guard Band commercial spectrum in the 700 MHz Band from January 1, 2015 to February 17, 2019.[626] We did not, however, apply to the Guard Bands the same revised license term.[627]

272. Discussion. In light of the changes we are making to the Upper 700 MHz band plan, we find that revision to the license term with respect to the reconfigured Guard Band A Block is appropriate in order to provide regulatory parity with other commercial licensees and to provide A Block licensees with a reasonable opportunity to deploy systems under their revised technical rules. Accordingly, the license terms for the A Block licenses, including the PTPMS II A Block, shall extend to 10 years after the end of the DTV transition, through February 17, 2019, and subsequent renewal terms will be 10 years.

273. With respect to the incumbent PTPMS II B Block operations, however, we do not believe it is in the public interest to permit these grandfathered B Block licensees to operate indefinitely at the critical juncture between the public safety broadband spectrum and the D Block spectrum, preventing the latter from deploying a ubiquitous nationwide footprint. Therefore, we will retain the existing license terms for the grandfathered PTPMS II B Block licenses, rather than extending them to match the other commercial licensees. Furthermore, we do not provide a renewal expectancy to the PTPMS II B Block

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emission limits that Guard Band licensees should use for channel bandwidths greater than 150 kHz. *See 700 MHz Guard Bands Notice*, 21 FCC Rcd at 10428 ¶ 34.

[624] *See supra* Section III.A.1.b.ii.a.

[625] *Id.*

[626] *See 700 MHz Report and Order*, 22 FCC Rcd at 8096 ¶ 84.

[627] *Id.*

licenses, the terms of which will expire in 2015.

3. Auctions-Related Issues

a. Anonymous Bidding

274. Background. *In the 700 MHz Further Notice, we sought comment on whether to use* anonymous bidding (or "limited information") procedures in the auction of new 700 MHz licenses, in order to deter anticompetitive behavior that may be facilitated by the release of information on bidder interests and identities.[628] Current competitive bidding rules permit withholding information on bidder interests and identities prior to the close of the auction.[629] Accordingly, the Commission could wait to make a final decision regarding the information procedures for the auction as part of the pre-auction process, in which specific procedures are adopted after seeking public comment on proposed auction designs. In prior auctions, the Commission has adopted procedures, made contingent on pre-auction assessments of likely competition in the auction, for withholding public release until the close of the auction of: (1) bidders' license selections on their short form applications; and (2) the identities of bidders placing bids.[630]

275. We noted in the *700 MHz Further Notice* that revealing all information during the auction process potentially may result in harms as well as benefits.[631] Those harms and benefits depend in part on how licenses offered in the auction will be used. Accordingly, we expressly sought comment on whether the potential to use new 700 MHz Band licenses to create alternatives to existing broadband networks increases the benefits from anonymous bidding by making it harder for existing providers to identify and impede the efforts of potential new entrants to win.[632] We also sought comment on whether the lack of readily available technologies for use in the band, relative to existing broadband networks in other bands, reduces the potential benefit to bidders and the public of bidders using information about the identities of other bidders to guess what technologies will be deployed.[633]

276. In prior auctions, the Commission has adopted anonymous bidding procedures and made final implementation of those procedures contingent on a pre-auction measure of the likely competitiveness of the auction. More specifically, the Commission has assessed likely competition in the auction based on the level of upfront payments, which establish the eligibility of auction participants to bid on licenses.[634] The level of upfront payments roughly reflects the likely level of competition for licenses offered in the auction. Assuming other factors are consistent, a higher level of competition in the auction may reduce the potential for bidders to use bidding information in an anti-competitive manner. Consequently, we asked commenters to address whether we should make the use of anonymous bidding

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[628] *700 MHz Report and Order*, 22 FCC Rcd at 8153 ¶ 246.

[629] 47 C.F.R. § 1.2104(h).

[630] *700 MHz Report and Order*, 22 FCC Rcd at 8153 ¶ 247; *see, e.g.*, Auction of 1.4 GHz Band Licenses, Scheduled for February 7, 2007, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 69, *Public Notice*, 21 FCC Rcd 12393, ¶¶ 4-6 (2006); Auction of Advanced Wireless Services Licenses Scheduled for June 29, 2006, Notice and Filing Requirement, Minimum Opening Bids, Upfront Payment and Other Procedures for Auction No. 66, *Public Notice*, 21 FCC Rcd 4562, ¶¶ 140-157 (2006) ("*Auction No. 66 Procedures Public Notice*").

[631] *See 700 MHz Further Notice*, 22 FCC Rcd at 8153 ¶ 247; *see also Auction No. 66 Procedures Public Notice* at ¶¶ 140-157.

[632] *700 MHz Further Notice*, 22 FCC Rcd at 8154 ¶ 248.

[633] *Id.*

[634] *See, e.g., Auction No. 66 Procedures Public Notice,* 21 FCC Rcd at ¶ 142.

in the 700 MHz auction contingent on a pre-auction assessment of likely competition in the auction, in light of the balance of potential harms and benefits from releasing information on bidder identities and interests during the auction of new 700 MHz Band licenses.[635] We further sought comment on the appropriate method of assessing likely competition in the 700 MHz Band auction.[636] Finally, we sought comment on whether the use of anonymous bidding should be a factor in determining the final band plan, given the potential importance of the band and the band plan with respect to competition in broadband services.[637]

277. We received comments both in support of and in opposition to the use of anonymous bidding in the 700 MHz Band auction. Commenters supporting anonymous bidding in response to the *700 MHz Further Notice* elaborate on arguments made in this proceeding prior to the *700 MHz Further Notice*. Some parties have previously asserted that anonymous bidding for new 700 MHz licenses is critical to promoting competitive entry in wireless broadband.[638] In response to the *700 MHz Further Notice*, supporters contend that anonymous bidding would protect bidders against the possibility of retaliatory or "blocking" bids.[639] Frontline asserts that the Commission should use anonymous bidding in the auction of 700 MHz Band licenses because the benefits of disclosing bidding information will be limited but the harms will be substantial.[640] Google notes that anonymous bidding such as the Commission proposes is "not uncommon" in commercial auctions.[641] Another commenter argues from his experience that anonymous bidding is necessary to "level the playing field" between large and small bidders.[642] Verizon Wireless notes that "[i]mposing limitations on the release of bidder information prior to and during the course of an auction ensures that bidders will be appropriately focused on the licenses and their value, not on other bidders and their bidding strategies."[643] In an attempt to buttress the logical and anecdotal arguments supporting anonymous bidding, PISC submitted studies by Gregory Rose that

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[635] *700 MHz Further Notice*, 22 FCC Rcd at 8154 ¶ 248.

[636] *Id.*

[637] *700 MHz Further Notice*, 22 FCC Rcd at 8153 ¶ 246. PISC contends that the more licenses the Commission offers, the greater the need for anonymous bidding, to thwart bidders using additional licenses to "signal" other bidders and to protect new entrants attempting to aggregate a larger number of licenses. PISC *700 MHz Further Notice Comments* at 33-34. However, PISC supports anonymous bidding generally, and does not make this position contingent on the band plan adopted. In opposition, MetroPCS notes that the availability of multiple blocks in the band plan makes "blocking" bidding strategies more difficult to implement, thereby lessening any perceived need for anonymous bidding to protect against such strategies. MetroPCS *700 MHz Further Notice* Comments at 47-48. While this observation suggests that the need for anonymous bidding may be less for band plans with larger number of blocks, MetroPCS opposes anonymous bidding generally, and does not make this position contingent on the band plan adopted.

[638] PISC April 3, 2007 *Ex Parte* Comments in PS Docket No. 06-229 and WT Docket Nos. 06-150, 05-211, 96-86 at 13; Letter from Harold Feld, counsel to Media Access Project, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket No. 06-150 (filed Apr. 19, 2007) (contending that accompanying Affidavit of Dr. Gregory Rose demonstrates that the open auction structure of Auction No. 66 permitted incumbents to engage in retaliatory bidding).

[639] *See* PISC *700 MHz Further Notice* Comments at 30-34; Frontline *700 MHz Further Notice* Comments at 56; Google *700 MHz Further Notice* Comments at 10; McBride *700 MHz Further Notice* Comments at 11; Verizon Wireless *700 MHz Further Notice* Comments at 35-36.

[640] Frontline *700 MHz Further Notice* Comments at 56.

[641] Google *700 MHz Further Notice* Comments at 10.

[642] McBride *700 MHz Further Notice* Comments at 11.

[643] Verizon Wireless *700 MHz Further Notice* Comments at 36.

purport to demonstrate that incumbents engaged in retaliatory bidding and used strategies to block new entrants in Auction No. 66, the recent Commission auction of AWS-1 licenses.[644] With respect to how to implement anonymous bidding, several supporters contend that the use of anonymous bidding should not be contingent on a pre-auction assessment of likely competition. PISC contends that participants in Auction No. 66 manipulated the Commission's pre-auction assessment in Auction No. 66,[645] while Verizon Wireless contends that the assessment is insufficient and potentially subject to manipulation.[646]

278. A number of commenters contend that anonymous bidding would disadvantage smaller bidders.[647] These commenters argue that smaller bidders rely on information regarding the identity of

[644] PISC *700 MHz Further Notice* Comments, Attach. B, C. We do not find that the Rose studies support the claims made by PISC. To support the claim of retaliatory bidding, Rose applies procedures used by Cramton and Schwartz to study an earlier auction and identifies less than two-tenths of one percent of the bids placed in Auction No. 66 as "retaliatory." PISC *700 MHz Further Notice* Comments, Attach. B at 7-9. The Cramton and Schwartz study, however, relied heavily on "code bids" to help focus the search for likely retaliatory bids. Cramton, P. and J. Schwartz, "Collusive Bidding in FCC Spectrum Auctions," *Contributions to Economic Analysis and Policy* 1:1 (2002) ("*Cramton and Schwartz*"). Auction No. 66 did not permit bidders to customize bid amounts to place "code bids." PISC *700 MHz Further Notice* Comments, Attach. B at 8. As a result, Rose's application of the Cramton and Schwartz methodology to Auction No. 66 is less likely to produce reliable results. In addition, unlike the Cramton and Schwartz study, Rose does not control for alternative hypotheses before making conclusions about the effects of retaliatory bidding on the auction outcome. *Cramton and Schwartz* at 9. In his study, Rose finds 31 retaliatory bids but does not identify the bidders placing those bids or whether they are incumbents. PISC *700 MHz Further Notice* Comments, Attach. B at 8. Absent such information, the study does not demonstrate its claim that incumbents engaged in retaliatory bidding. Moreover, Rose finds no instances of retaliatory bidding in the REAG block, which appears to be inconsistent with claims in the study that incumbents directed their efforts at denying a national footprint to Wireless DBS, which bid primarily in the REAG blocks. *Id.* at 9.

To argue that bidders in Auction No. 66 engaged in blocking behavior, Rose presents pages of "challenge rates," without defining how the rates are calculated. PISC *700 MHz Further Notice* Comments, Attach. C at 6-9. Without a basic definition, it is impossible to determine whether the numbers are meaningful. Rose asserts that a higher challenge rate indicates blocking behavior. However, a more careful investigation of the bidding activity behind some of the highest rates of challenge suggests nothing irregular. For example, Cellco bid against Command Connect, LLC, six times in rounds 121-132 on the Louisiana-3 (CMA 456) license, which is adjacent to an REAG license on which Cellco was the provisional winner. This behavior earned them an unusually high challenge rate of 8.884 (compared to challenge rates generally between 0 and -1). *Id.* at 8. Atlantic Wireless bid against NTELOS only once, but this single bid somehow earned a very high challenge rate of 4.2286. *Id.* at 16. These examples undermine claims that challenge rates capture any meaningful information, especially in the absence of information on how the rates are derived. Given these and other shortcomings in the Rose studies, the studies do not demonstrate that incumbents engaged in retaliatory and blocking bidding behavior to deter entry in Auction No. 66.

[645] PISC *700 MHz Further Notice* Comments at 33. We note that PISC's theory appears premised on a misunderstanding of the pre-auction application process and the Commission pre-auction assessment of competition. PISC speculates that "[b]ecause the Commission allows parties to correct imperfect applications, parties willing to front 'dummy bidders' to drive up the ratio have the opportunity to game the system with precision. After the initial application round, the parties fronting dummy bidders will correct a sufficient number of applications to ensure that – as happened in the AWS auction – just enough bidders qualify to trigger the open bidding rules." *Id.* Contrary to PISC, the Commission has not based the use of anonymous bidding on the number of qualified applications but rather on the total amount of upfront payments received from qualified bidders. And while the Commission affords applicants an opportunity to correct the data submitted in applications, there is not an analogous opportunity to "correct" upfront payments. Thus, contrary to PISC, the Commission's procedures do not enhance the ability of any party to "game" the system.

[646] Verizon Wireless *700 MHz Further Notice* Comments at 37-38.

[647] *See* USCC *700 MHz Further Notice* Reply Comments at 16-18 (citing comments filed in opposition to anonymous bidding). Prior to the *700 MHz Further Notice*, one party contended that smaller auction participants (continued....)

other parties placing bids to assess the likely post-auction market, with respect to technologies likely to be deployed and potential partnerships with other licensees, and to provide sufficient assurances to their financiers regarding market valuations.[648] RTG notes that bidders are subject to other sanctions for the anti-competitive behavior that anonymous bidding seeks to prevent.[649] MetroPCS states that it relies on information regarding parties interested in particular markets to assess its ability to differentiate itself from potential competitors in a market.[650] Several opponents of anonymous bidding deny any inference that their bidding in past auctions was motivated by "blocking" strategies.[651]

279. A few opponents of anonymous bidding suggest revisions to the Commission's procedures, in the event that the Commission employs anonymous bidding. Alltel proposes that the Commission should disclose round-by-round changes in the bidding eligibility of auction participants.[652] USCC proposes that the Commission make the use of anonymous bidding contingent on a pre-auction assessment of likely competition based on the eligibility ratio, as it did in Auction No. 66.[653] Further, USCC contends that the eligibility ratio of 3.0 used in Auction No. 66 was unnecessarily high and should be lowered to 2.5.[654]

280. Discussion. Based on the current record, we conclude that the public interest will be served if the upcoming auction of 700 MHz Band licenses for which we establish service rules today is conducted using anonymous bidding procedures. We further conclude, based on the current record, that implementation of anonymous bidding procedures during the upcoming auction of new 700 MHz Band licenses should not be contingent on a pre-auction measurement of likely competition based on an eligibility ratio. We find that the record in this proceeding indicates that implementing anonymous bidding procedures will reduce the potential for anti-competitive bidding behavior, including bidding activity that aims to prevent the entry of new competitors.[655] The Commission has delegated to the Wireless Bureau authority to establish auction procedures based on comment solicited shortly prior to the auction.[656] Consistent with that authority, we delegate to the Wireless Bureau the discretion to adopt specific procedures implementing these conclusions, taking into account the further record developed during our standard pre-auction process for establishing auction procedures and the possibility that

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may encounter difficulties with financing if the Commission withholds information during the auction. *See* Letter from George Y. Wheeler, counsel to United States Cellular Corp., to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 06-150, 06-169, 96-86, 05-265, and 00-139, and PS Docket No. 06-229 (filed Mar. 27, 2007) at 7.

[648] *See* USCC *700 MHz Further Notice* Reply Comments at 16-18.

[649] RTG *700 MHz Further Notice* Comments at 14-15; USCC *700 MHz Further Notice* Reply Comments at 17. RTG also speculates that larger bidders will have sufficient resources to analyze available bidding information and determine bidder identities, leaving smaller bidders at a relative disadvantage. RTG *700 MHz Further Notice* Comments at 9; USCC *700 MHz Further Notice* Reply Comments at 17.

[650] MetroPCS *700 MHz Further Notice* Comments at 47 ("MetroPCS might decide to continue bidding at a higher per pop price in this market, as compared to moving to a lower cost market containing new entrants with business plans less distinguishable from that of MetroPCS.")

[651] *See* USCC *700 MHz Further Notice* Reply Comments at 18-19 & n.37 (summarizing comments by Aloha, AT&T, MetroPCS, and SpectrumCo).

[652] Alltel *700 MHz Further Notice* Comments at 9-10.

[653] USCC *700 MHz Further Notice* Reply Comments at 16.

[654] USCC *700 MHz Further Notice* Reply Comments at 17.

[655] As discussed earlier, we do not rely on the Rose studies as a basis for this conclusion.

[656] 47 C.F.R. §§ 0.131, 0.331.

alternative licenses may be offered at auction as described below.

281. As the Commission noted prior to the AWS-1 auction (Auction No. 66), in the years since the Commission's simultaneous multiple round auction design was developed, economists have observed, as a potential drawback to disclosing information, that bidders could use the information revealed over the multiple rounds to signal each other and implement a division of the licenses at lower than market prices, and in some cases, to retaliate against competing bidders.[657] Since some types of signaling and coordinated bidding are very hard to detect in auction data, making it difficult to pursue enforcement actions after such alleged activity has occurred, it is important to reduce the potential for such collusive bidding behavior to occur in the first place, in circumstances in which we believe collusion is most likely to occur. In addition, it is important to reduce the potential for anti-competitive unilateral behavior, such as retaliatory bidding, which may be used by incumbents to foreclose new entry into a market, even when there is a significant level of competition in an auction. The potential for these types of anti-competitive bidding behavior is greater when an auction offers multiple, substitutable blocks of licenses for sale, when license prices are expected to be relatively high, and when the auction outcome may have a significant effect on post-auction market structure. Given that the auction of new 700 MHz Band licenses is likely to meet these criteria, the potential harm from both coordinated and unilateral behavior that is facilitated by full information on bidders' interests and bidding behavior appears likely to outweigh the benefits. We note that the Commission has successfully conducted bidding using procedures to limit disclosure of certain information on bidder interests and identities prior to the close of the auction.[658]

282. Although some potential bidders may find information regarding bidding by other parties useful, on balance this benefit likely is substantially outweighed by the enhanced competitiveness and economic efficiency of the auction that will result from withholding public release of certain information about bids and bidder identities prior to and during the upcoming 700 MHz Band auction. We disagree with those commenters that contend that use of the information outweighs potential anti-competitive uses of bidding information to deter or exclude new entrants. Given the inherent uncertainties regarding future technologies that may be used in the 700 MHz Band, we conclude that the benefit to some bidders of having detailed information regarding bidding by others cannot outweigh the potential anti-competitive use of such information. The potential benefit of knowing the identity of other parties placing bids for particular licenses appears likely to be less in this auction than in past Commission auctions, in light of the early stage of development with respect to new services in these frequencies.[659] We are not persuaded by USCC's contention that such uncertainties only heighten the importance of bidding information.[660] Uncertainties regarding what market leaders and equipment manufacturers might do in this band after it is licensed will not be substantially mitigated during the auction by information regarding the identities of parties placing bids. Moreover, bidding information during the auction is not the only source of information regarding technologies likely to be deployed in this band. Anonymous bidding does not

[657] "Auction of Advanced Wireless Services Licenses Scheduled for June 29, 2006; Comment Sought on Reserve Prices or Minimum Opening Bids and Other Procedures," *Public Notice*, 21 FCC Rcd 794, 799 (2006).

[658] *See, e.g.*, "Auction of Broadband PCS Spectrum Licenses Closes; Winning Bidders Announced for Auction No. 71," *Public Notice*, 22 FCC Rcd 9247 (2007). The Commission also established anonymous bidding procedures for two other auctions (Auctions 66 and 69) contingent on a pre-auction assessment on the likely competitiveness of the auction. Since the competitiveness threshold was met in those two auctions, the bidding was conducted with full information disclosure between bidding rounds. We note that with respect to three of the four auctions for which comment has been sought on anonymous bidding procedures, there were no comments at all submitted on the anonymous bidding issue.

[659] PISC *700 MHz Further Notice* Comments at 32.

[660] USCC *700 MHz Further Notice* Reply Comments at 18.

"blackout" all information about the plans of market leaders and equipment suppliers in 700 MHz, any more than bidding information provides certainty regarding what those plans ultimately will be. Furthermore, even under anonymous bidding procedures, the Commission has disclosed the identity of parties participating in the auction.[661] Finally, we find Alltel's proposal to disclose round-by-round changes in the bidding eligibility of auction participants to be inconsistent with our conclusions here.

283. As indicated above, for several reasons we also conclude that we should employ anonymous bidding procedures even if the pre-auction eligibility ratio indicates that competition in the auction will be significant. First, anonymous bidding is unlikely to result in the loss of significant benefits from disclosing detailed bidding information during the auction, given that existing uncertainties make the likelihood of any such benefits relatively low in this band. Second, even in an auction with many competitors, individual bidders still could use retaliatory bidding unilaterally to block market entry. Finally, we also note that the eligibility ratio is inherently a very rough measure of competition in an auction, as it is not unusual for a bidder to submit an upfront payment and never place a bid or for a bidder to fail to utilize the full eligibility its upfront payment provides. Accordingly, we conclude that the Commission's final implementation of anonymous bidding procedures should not be made contingent on any pre-auction eligibility ratio assessment of likely competition in the auction.

284. For all the above reasons, we conclude that the record regarding the available 700 MHz Band licenses and our recent experience with anonymous bidding in other auctions indicate that the Commission's statutory mandates under Section 309(j)(3) of the Communications Act would better be served by adopting anonymous bidding procedures for the upcoming auction of 700 MHz Band licenses. Such procedures should withhold from public release until after the auction closes any information that may indicate specific applicants' interests in the auction, including information such as their license selections and the identities of bidders placing bids or taking other bidding-related actions, such as withdrawals. We further conclude that the implementation of anonymous bidding procedures in the upcoming auction of new 700 MHz Band licenses should not be contingent on the likely level of auction competition indicated by pre-auction bidder eligibility. Accordingly, we direct the Wireless Bureau to propose and seek comment on detailed anonymous bidding procedures for the upcoming auction of the 700 MHz Band licenses consistent with these conclusions, including how anonymous bidding would impact a potential re-auction of one or more spectrum blocks if the reserve prices for the individual blocks are not met, and any additional continuation or alteration to the anonymous bidding rules necessary to preserve the integrity of the subsequent auction.

b. Declaratory Ruling on Anti-Collusion Rule Reporting Requirement

285. To further our policy of preventing collusive behavior in Commission auctions, we take this opportunity to clarify by declaratory ruling and conforming textual edit the obligation that applicants in Commission auctions have to report any communications of bids or bidding strategies that are prohibited by Section 1.2105(c)(1) of the Commission's rules.[662] Pursuant to Section 1.2105(c)(6), any applicant that makes or receives such a communication shall report such communication in writing to the Commission immediately, and in no case later than five business days after the communication occurs.[663] As noted in the Commission's Order adopting Section 1.2105(c)(6), the Commission cannot "take on the impossible task of screening all applicant communications" and, therefore, "the responsibility for

[661] *See* Auction of Broadband PCS Spectrum Licenses, 23 Bidders Qualified to Participate in Auction 71; Limited Information Procedures to be Used," DA 07-1921, *Public Notice*, 22 FCC Rcd 8347 (2007).

[662] *See* 47 C.F.R. § 1.2105(c)(1).

[663] 47 C.F.R. § 1.2105(c)(6).

identifying potentially unauthorized communications [must fall] on auction applicants."[664] The reports provided by applicants are essential to the Commission's ability to enforce its rule. Absent such reports, parties might find it easy to evade enforcement for extended periods of time, and possibly altogether.

286. *Accordingly, the reporting requirement "obligate[s] parties to notify the Commission of* communications that appear to violate the anti-collusion rule and to allow the Commission to determine whether a violation has occurred."[665] Consistent with this purpose, applicants have a continuous obligation to make such reports extending beyond the five business days after the communication occurs. This declaratory ruling, and the conforming modification of Section 1.2105(c)(6), expressly state the continuing nature of this obligation. We thus clarify that the Commission can and will enforce the obligation so long as it remains unfulfilled. We emphasize the continuing nature of the duty to report to preclude any attempt to evade the obligation by waiting out the expiration of the statute of limitations applicable for the enforcement of forfeitures[666] and to reinforce our ability to detect collusion, which is critical to our ability to enforce and thereby discourage collusive behavior in our auctions.

c. Package Bidding

287. Background. In the *700 MHz Further Notice*, we sought comment on whether to permit package bidding for one or two Upper 700 MHz blocks in some proposed band plans in order to facilitate license aggregation providing a nationwide footprint of 11- or 22-megahertz spectrum blocks.[667] With package bidding, a bidder may place an all-or-nothing bid on multiple licenses, and thereby avoid the risk of winning less than all the licenses needed to justify its bid. For example, a bidder whose business plan is premised on realizing economies of scale may need to win a large number of licenses in order to justify the bid that it would make if it could win all of them. The risk of winning less than all the licenses needed to support the amount of the aggregate bid is sometimes known as the "exposure problem." As noted in the *700 MHz Report and Order*, our current competitive bidding rules authorize the use of package bidding.[668] Consequently, no modifications to the competitive bidding rules are needed in order to conduct package bidding as contemplated herein.

288. Commenters are divided on the issue of package bidding for the upcoming auction of new 700 MHz Band licenses. Commenters that support package bidding contend that it is essential for a new entrant seeking to aggregate licenses and offer service nationwide.[669] AT&T asserts that "a bidder whose business model requires nationwide coverage to achieve adequate scale for new technologies and new devices may not be able to participate in the bidding unless package bidding is an option."[670] The 4G Coalition notes that by increasing the range of potential bidders and competition for the licenses package bidding may enhance the Commission's licensing process, regardless of whether any of the ultimate

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[664] Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures, *Seventh Report and Order*, 16 FCC Rcd 17546, 17554 ¶ 15 (2001).

[665] Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures, *Seventh Report and Order*, 16 FCC Rcd 17546, 17554 ¶ 15 (2001).

[666] *See* 47 U.S.C. § 503(b)(6).

[667] *See 700 MHz Further Notice*, 22 FCC Rcd at 8134 ¶ 191 (Band Plan Proposal 1, package bidding for 22 megahertz REAG C Block); ¶ 202 (Band Plan Proposal 4, package bidding for 11 megahertz REAG C Block and/or 11 megahertz REAG or EA D Block), 8139 ¶ 206 (Band Plan Proposal 5, package bidding for 11 megahertz C Block).

[668] *700 MHz Report and Order*, 22 FCC Rcd at 8091 ¶ 69.

[669] *See, e.g.*, Google *700 MHz Further Notice* Comments at 7-8.

[670] AT&T *700 MHz Further Notice Comments* at 35.

licensees use package bidding.[671] In addition, an exhibit to Frontline's comments observes that, absent package bidding, the exposure problem creates an opportunity for competitors to block a would-be package bidder without actually competing for all of the licenses in the package.[672] In the event the Commission adopts package bidding, a few additional commenters support package bidding in bands with small licenses.[673]

289. Most commenters that oppose package bidding contend that any form of package bidding will disadvantage bidders not bidding on packages.[674] Alltel contends that package bidding to facilitate a nationwide package amounts to "giving away the spectrum on a nationwide basis."[675] Others contend that the Commission's auction provides sufficient opportunities to assemble a nationwide footprint without package bidding.[676] Finally, some commenters contend that the Commission does not have sufficient time to address outstanding design issues regarding an appropriate form of package bidding for the 700 MHz auction, particularly if the Commission elects to permit package bids on some, but not all, blocks of licenses.[677] USCC and Verizon Wireless, in particular, make various assumptions about the potential details of the auction design and raise concerns based on their assumptions.[678]

290. Discussion. Based on the current record, we conclude that package bidding with respect to licenses in the Upper 700 MHz Band C Block would serve the public interest by reducing the exposure problem that might otherwise inhibit bidders seeking to create a nationwide footprint. Minimizing the exposure problem with package bidding should facilitate the entry of applicants whose business plans require the economies of scale that only can be obtained with nationwide operation. We anticipate that package bidding can be implemented so as to shield such bidders from a potential significant exposure problem. Importantly, we also anticipate that it can be implemented without imposing disadvantages on parties that wish to bid on individual licenses comprising the nationwide footprint. Thus, the use of package bidding for licenses in the Upper 700 MHz Band C Block facilitates direct competition between competing business plans, without predetermining the outcome or favoring one business plan over the other.

291. We further conclude that the public interest in minimizing the exposure problem for applicants whose business plans require nationwide economies of scale is satisfied by providing package bidding solely with respect to licenses for the Upper 700 MHz Band C Block spectrum. The C Block provides applicants with 22 megahertz of bandwidth (comprised of paired 11-megahertz blocks), enough

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[671] 4G Coalition *700 MHz Further Notice* Comments at 10-12.

[672] Frontline *700 MHz Further Notice* Comments, Exhibit 1 at 22-23.

[673] Embarq *700 MHz Further Notice* Comments at 5-7; *see* Alltel *700 MHz Further Notice* Comments at 9-10 (otherwise opposed to package bidding generally, Alltel asserts that if used package bidding should be used with blocks licensed by CMA).

[674] *See* Aloha *700 MHz Further Notice* Comments at 7-8; Blooston *700 MHz Further Notice* Comments at 10; Cellular South *700 MHz Further Notice* Comments at 16; Leap *700 MHz Further Notice* Comments at 9; MetroPCS *700 MHz Further Notice* Comments at 22; RCA *700 MHz Further Notice* Comments at 18; RTG *700 MHz Further Notice* Comments at 16.

[675] Alltel *700 MHz Further Notice* Comments at 10.

[676] SpectrumCo *700 MHz Further Notice* Comments at 16; Verizon Wireless *700 MHz Further Notice* Comments at 39; USCC *700 MHz Further Notice* Reply Comments at 10.

[677] Verizon Wireless *700 MHz Further Notice* Comments at 43.

[678] Verizon Wireless *700 MHz Further Notice* Comments at 38-43 (objecting to the assumed details of a purported "hybrid" auction); USCC *700 MHz Further Notice* Comments at 14-16 (assuming that recently released experiments present all the pertinent details of a package bidding auction design).

to enable a new entrant to offer a wide range of service without any additional licenses. Limiting package bidding to licenses for C Block spectrum will prevent package bidding from deterring participation by bidders, if any, that for any reason are completely unwilling to compete against package bids. The variety of blocks and licenses not subject to package bidding provides bidders unwilling to compete with package bids with a wide array of opportunities.[679] Finally, while it is in the public interest to enable bidders to minimize their exposure risk to an extent consistent with other public interest goals, we do not conclude that we need auction all 700 MHz Band licenses in a manner that minimizes the exposure risk. Although they would be subject to some exposure risk, bidders seeking to aggregate multiple licenses in other blocks of 700 MHz Band spectrum will not be precluded from attempting to aggregate licenses in the absence of package bidding.

292. Accordingly, we direct the Wireless Bureau, pursuant to its delegated authority and pre-auction process, to propose and implement detailed package bidding procedures for the auction of the Upper 700 MHz Band C Block licenses, taking into account the goals we have articulated for package bidding and the concerns raised in this record.[680] More specifically, the Wireless Bureau should propose an auction design that includes package bidding for the C Block licenses to facilitate the entry of a new nationwide competitor in that block, while not introducing undue difficulties for bidders on licenses in that block that do not desire a nationwide license. The Wireless Bureau should also explore the use of package bidding for any blocks subject to re-auction in the event that a reserve price is not met. The Wireless Bureau, consistent with its delegated authority and pre-auction process, may revise its proposal prior to implementation in the auction. In order to facilitate compliance with the statutory deadlines applicable to the auction of 700 MHz Band licenses, the Wireless Bureau has delegated authority to conduct an auction without package bidding for the Upper 700 MHz Band C Block licenses in the event that currently unforeseen difficulties make it impracticable to implement package bidding for the C Block consistent with the goals we have articulated here. Finally, consistent with our conclusions today, we direct the Wireless Bureau to adopt procedures for the auction of licenses in other blocks of 700 MHz Band spectrum without the use of package bidding.

d. "New Entrant" Bidding Credit

293. Background. As discussed elsewhere, we have concluded that we should not restrict eligibility to hold any licenses in the 700 MHz Band based upon concerns about competition in the market for broadband services. As an alternative to limiting the parties eligible for new licenses in the 700 MHz Band, we also sought comment on whether parties unaffiliated with incumbent wireline broadband service providers should receive a bidding credit on licenses in one or more blocks of the Upper 700 MHz Band spectrum.[681] Further comment was requested regarding how any such new entrant bidding credits should be coordinated with existing bidding credits for small businesses, *i.e.*, should new entrant credits be cumulative or exclusive of small business bidding credits.[682]

294. The possibility of granting "new entrant" bidding credits attracted far less comment than other issues relating to the auction of the 700 MHz licenses. Those parties that responded are divided on the need for a "new entrant" bidding credit.[683] PISC supports such a credit, while acknowledging

[679] Google *700 MHz Further Notice* Comments at 8.

[680] 47 C.F.R. §§ 0.131, 0.331.

[681] *700 MHz Further Notice*, 22 FCC Rcd at 8144 ¶ 221.

[682] *700 MHz Further Notice*, 22 FCC Rcd at 8144 ¶ 221.

[683] Some parties responded with alternatives appear to be beyond the scope of the *700 MHz Further Notice*. Alltel proposed that rather than grant a credit to new entrants, the Commission charge incumbents a premium. Alltel *700 MHz Further Notice* Comments at 14; *see also* AT&T *700 MHz Further Notice* Reply Comments at 9, n.30 (arguing that the perimum is beyond the scope of the notice provided for by the *700 MHz Further Notice*. WISPA proposes a (continued....)

difficulties in implementing one.[684] Google also supports such a credit, arguing that existing infrastructure gives incumbents a material advantage against other competitors, regardless of their relative financial resources.[685] Although Frontline itself does not advocate such a credit, a study it submitted with its comments does.[686] Finally, McBride also supports the idea of such a credit, to "level the playing field."[687]

295. In its comments, Wirefree Partners argues that the Commission should limit bidding credits to designated entities.[688] In its reply comments, AT&T opposed a new entrant bidding credit as poorly defined, unsupported by the record, and not necessary to serve the public interest.[689]

296. Discussion. Particularly given the scant record on a "new entrant" bidding credit, and the open issue of how to define a "new entrant" in this context, we are not persuaded that we should grant a "new entrant" bidding credit for 700 MHz Band licenses. Various aspects of the licensing process to be used for new 700 MHz Band licenses will facilitate the entry of new service providers. First and foremost, the Commission will make available multiple licenses in each and every market. Moreover, the varied geographic sizes of the licenses offered in this band, coupled with the large number of licenses, should offer new ventures a variety of opportunities to provide service. In addition, we have directed the Wireless Bureau to develop a package bidding proposal to facilitate new entrants hoping to operate on a nationwide scale. Furthermore, we offer substantial bidding credits to small businesses, many of which may be new entrants in the spectrum services market. In light of all these provisions, we are not persuaded that an additional "new entrant" bidding credit is necessary to serve the public interest. Google's observation that parties with existing infrastructure may have an advantage over other bidders does not, by itself, justify granting a bidding credit to parties without such infrastructure. Accordingly, we conclude that we do not need to compound the discounts already offered to small new entrants by existing designated entity bidding credits, or to offer large, nationwide new entrants significant discounts on their bids.

e. Reserve Prices

297. Background. In the Balanced Budget Act of 1997, Congress directed the Commission to prescribe methods by which to establish reasonable reserve prices or minimum opening bids for licenses subject to auction, unless the Commission determines that such reserve prices or minimum opening bids are not in the public interest.[690] This statutory mandate creates a presumption that reserve prices or

(Continued from previous page)

20 percent credit for existing broadband service providers, identified as parties filing FCC Form 477, that do not have "material relationships" with a "large wireless carrier" or a "large cable operator," when bidding on licenses in rural CMAs. WISPA *700 MHz Further Notice* Comments at 7-12; *see also* USA Broadband *700 MHz Further Notice Reply Comments* at 3 (supporting WISPA proposal). Whatever merits such a targeted credit might have, it is not as a general new entrant bidding credit.

[684] PISC *700 MHz Further Notice* Comments at 35.

[685] Google *700 MHz Further Notice* Comments at 9-10.

[686] Frontline *700 MHz Further Notice* Comments, Exhibit 1 at 23-25.

[687] McBride *700 MHz Further Notice* Comments at 8.

[688] Wirefree Partners *700 MHz Further Notice* Comments at 7-8.

[689] AT&T *700 MHz Further Notice* Comments at 9-10 (citing Wirefree Partners).

[690] Balanced Budget Act of 1997, Pub. Law 105-33, 111 Stat. 251 (1997) (codified at 47 U.S.C. § 309(j)(4)(F)). The Commission's competitive bidding rules have, since their inception, allowed for the use of reserve prices. *See* Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, *Second Report and Order*, 9 FCC Rcd 2348, 2384 ¶¶ 206-07, 2387 ¶ 224 (1994); 47 C.F.R. § 1.2104(c) (1994-present).

minimum bids are required.[691] In the past, the Commission, as a general matter, has considered establishing publicly disclosed or undisclosed reserve prices, and has set publicly disclosed reserve prices in some cases, during the process of establishing auction-specific procedures.[692] In the Commercial Spectrum Enhancement Act,[693] Congress mandated the use of a reserve price for the Commission's auction of Advanced Wireless Services (AWS) spectrum in the 1710-1755 MHz band to ensure recovery of relocation costs for government incumbent operators in that band.[694]

298. Discussion. We conclude that we should provide for separate aggregate reserve prices for each block of licenses to promote our statutory objective of recovering for the public a portion of the value of the public spectrum resource.[695] If the auction results for the licenses in any block satisfy the aggregate reserve for that block, all licenses in the block will be assigned based on the auction results, subject to completion of the licensing process, including review of applicants' qualifications. The separate aggregate reserve prices should, taken together, reflect current assessments of the potential market value of this spectrum based on various factors including, but not limited to, the characteristics of this band and the value of other recently auctioned licenses, such as licenses for Advanced Wireless Services.

299. We recognize that assigning 700 MHz licenses as promptly as possible will further the significant public interest in the development and rapid deployment of new services and the timely recovery of a portion of the public value with respect to the 700 MHz Band. Accordingly, in the event that licenses are not assigned because the applicable block-specific aggregate reserve is not met, we provide for a prompt auction of alternative, less restrictive licenses for the A, B, C, and E Blocks, subject to the same applicable reserves. Our rules also provide for the possibility of re-offering the D Block license in a subsequent auction. This will maximize the likelihood that we can recover an appropriate portion of the value of the public spectrum resource and license this valuable spectrum for new uses by February 18, 2009, when the spectrum is to be clear of existing uses.

300. *Block-Specific Aggregate Reserve Prices.* In this proceeding, we have adopted a variety of provisions regarding the use of the 700 MHz Band spectrum to serve the public interest. As in any proceeding establishing service rules for licenses authorizing use of the public spectrum resource, we are obliged to consider and balance a variety of public interests and objectives. In addition, we are required, in establishing the competitive bidding process for assigning the licenses to seek to promote the purposes specified in Section 1 of the Communications Act and a number of objectives. Among those objectives is the efficient and intensive use of the electromagnetic spectrum as well as the recovery for the public of a portion of the value of the public spectrum resource.[696]

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[691] *See* Auction of 800 MHz SMR Upper 10 MHz Band; Minimum Opening Bids or Reserve Prices, *Order*, 12 FCC Rcd 16354, 16358 ¶ 11 (WTB 1997).

[692] *See, e.g.*, Auction of Advanced Wireless Services Licenses Schedule for June 29, 2006, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 66, Public Notice, 21 FCC Rcd 4562 (2006) (setting a publicly disclosed reserve price); Auction of Licenses in the 747-762 and 777-792 MHz Bands Scheduled for June 19, 2002, DA 02-260, *Public Notice*, 17 FCC Rcd 2117, 2122-23 (2002) (seeking comment on whether to set a publicly disclosed or undisclosed reserve price).

[693] Commercial Spectrum Enhancement Act, Pub. L. No. 108-494, 118 Stat. 3986, Title II (2004) (codified in scattered sections of Title 47 of the United States Code).

[694] *Id.*, § 203(b) (Section 203(b) amended Section 309(j) of the Communications Act by adding at the end a new paragraph (15)).

[695] 47 U.S.C. § 309(j)(3)(C).

[696] *See, e.g.*, 47 U.S.C. § 309(j)(3)(C) & (D).

301. Consistent with this objective, Congress has required that when adopting regulations for conducting competitive bidding, the Commission shall prescribe methods by which a reasonable reserve price will be required unless we determine that such a reserve price is not in the public interest.[697] In these circumstances, to safeguard against the possibility that various factors, including but not limited to the service rules we adopt today, might interfere with the recovery of a portion of the value of the public spectrum resource, we conclude that the public interest requires a separate aggregate reserve price for each block of the 700 MHz Band licenses subject to competitive bidding in the upcoming auction.[698] The reserve prices will be in addition to, and separate and apart from, any minimum opening bid amounts that may be established for purposes of the upcoming auction. If the aggregate reserve is met for any block, all licenses in that block that receive winning bids will be eligible for licensing subject to the completion of our review of long-form license applications.

302. Given the array of different conditions imposed on the licenses for different blocks, we recognize that bidders may place sufficient value on licenses in a particular block to satisfy the reserve applicable to that block even though interest in licenses in another block may be too low to satisfy the latter block's aggregate reserve. Block-specific aggregate reserve prices will facilitate licensing specific blocks based on block-specific auction results. We therefore direct the Wireless Bureau, pursuant to its existing delegated authority, to adopt auction procedures that will enable licensing of specific blocks provided that the auction results satisfy the block-specific reserve prices. In this regard, we note that under procedures typical of Commission auctions, a bidder would be able to raise its own provisionally winning bid(s) to attempt to satisfy the reserve price for licenses in any spectrum block.

303. Enabling licensing to proceed on a block-specific basis furthers our statutory objective of promoting the development and rapid deployment of new technologies, products, and services for the benefit of the public.[699] If there is sufficient interest in and value placed on licenses in a particular block, it follows that we should make every effort to assign those licenses, consistent with our other statutory objectives, including recovery for the public of a portion of the value of the public spectrum resource. We conclude that it is appropriate to assess interest in licenses in this context on a block-by-block basis. While licenses across some blocks have greater similarities than licenses across others, for example licenses for the A and B Blocks arguably are more similar than licenses for the A and C Blocks, each block is sufficiently distinct with respect to geographic license area, spectral location, spectrum bandwidth, and service rules, that it is appropriate to consider assigning licenses in each block based on auction results for licenses in that block alone.

304. We direct the Wireless Bureau to adopt and publicly disclose block-specific aggregate reserve prices, pursuant to its existing delegated authority and its regular pre-auction process, consistent with our conclusions. Given our intent that the reserve prices should maximize the possibility of recovering an appropriate portion of the value of the public spectrum resource while enabling licensing as promptly as possible, the Wireless Bureau should establish the particular amounts of the block-specific aggregate reserves by taking into account a conservative estimate of market value based on auction results for AWS-1 spectrum licenses. For example, if we were to use the AWS-1 auction results as a guide, the

[697] 47 U.S.C. § 309(j)(4)(F).

[698] This includes the D Block license, which will be subject to various conditions related to the 700 MHz Public/Private Partnership.

[699] *See* 47 U.S.C. § 309(j)(3)(A).

total of the aggregate reserves for this auction would amount to about $10.4 billion.[700] For several reasons, using AWS-1 auction results might be an appropriate approach for setting block-specific reserve prices reflecting a conservative estimate of final market value. For instance, spectrum in the 700 MHz Band possesses superior propagation characteristics to AWS-1 spectrum. In addition, as of February 18, 2009, the 700 MHz Band spectrum will be completely unencumbered, while full access to AWS-1 spectrum requires the relocation of both Government and commercial incumbent users. Thus, other factors aside, 700 MHz Band licenses with comparable geographic service areas and bandwidth should have a higher market value on a per-megahertz basis than AWS-1 licenses. In setting block-specific reserve prices, the Bureau should also give due consideration to Congress's view as to the value of the spectrum, as reflected in Congressional mandates regarding the uses for revenues from this auction.[701]

305. More specifically, the Wireless Bureau should consider the following factors when setting the block-specific aggregate reserves. The detailed rules regarding the D Block license, the D Block licensee's required construction of a network to be shared by public safety service users, and the resulting limitations on the flexibility of the D Block licensee, should be given substantial weight in assessing the D Block's value. Based solely on geographic area and spectrum block size, AWS-1 auction results might suggest a D Block reserve of $1.7 billion. However, in light of the D Block license conditions essential to the public safety purpose of the public/private partnership, it might be appropriate to expect the D Block licensee to contribute only about 75 percent to 80 percent of such an amount, or about $1.33 billion. In addition, when determining relative valuation of other blocks, the Wireless Bureau should consider the relative valuation of differing blocks in the recent auction of AWS-1 licenses.

306. *Subsequent Auction of Alternative Licenses.* We recognize that it is possible that the auction results may not satisfy one or more of the block-specific reserves. In that event, we establish a process to enable the assignment of alternative licenses for the A, B, C, and E Blocks of the 700 MHz Band as soon as possible in order to promote the speedy deployment of services utilizing 700 MHz Band spectrum. Under our rules, the license for the D Block may also be re-offered in a subsequent auction. Given the highly useful nature of the underlying spectrum, there is a strong public interest in promptly assigning all 700 MHz Band licenses for recovered analog spectrum. Congress has expressly provided that all incumbent analog television broadcasters must be cleared from this spectrum before February 18, 2009.[702] It would not be possible to fully reconsider the conditions and the band plan as well as potential alternatives without significantly delaying the licensing of the spectrum. Such delays in licensing this spectrum could thwart the public interest in new licensees being able to offer services as soon as possible after the 700 MHz Band is cleared of incumbent broadcasters. Furthermore, delays in licensing would delay the recovery of a portion of the value of the public spectrum resource, already anticipated by

[700] Aggregate reserve price calculation for 700 MHz Band auction based on Auction No. 66 (AWS) bids:

700 MHz Block	700 MHz Bandwidth (MHz)	Geographic Area Type	Comparable AWS Block	AWS Bandwidth (MHz)	Bandwidth Ratio 700/AWS	AWS Bids	700 MHz Reserve*
A	12	EA	C	10	1.2	$1,491,238,000	$1,789,485,600
B	12	CMA	A	20	0.6	$2,268,029,200	$1,360,817,520
E	6	EA	C	10	0.6	$1,491,238,000	$894,742,800
C	22	REAG	F	20	1.1	$4,174,486,000	$4,591,934,600
D	10	Nationwide**	D and E	10	1.0	$1,749,031,000	$1,749,031,000
Total	62						$10,386,011,520

* Calculated as the bandwidth ratio times AWS bids.

** Since AWS did not have any nationwide licenses, reserve price calculation is based on 10 MHz REAG licenses.

Auction No. 66 results are available at http://wireless.fcc.gov/auctions/66/.

[701] These mandates total $10.1825 billion. *See* DTV Act, §§ 3005-3012; 47 U.S.C. § 309(j)(8)(E)(iii).

[702] DTV Act, § 3002(b)(1).

Congress. We have an extensive record in response to the *700 MHz Further Notice* and have no reason to believe that further proceedings would result in substantially different conclusions regarding the band plan and the various license conditions we adopt today.

307. *Our statutory authority to provide for reserve prices enables us to withhold assignment of* licenses so that they may be offered again in the future under circumstances that will more effectively benefit the public.[703] Accordingly, we establish a process to enable the assignment of alternative licenses as soon as possible in the event that the relevant block-specific aggregate reserve price is not met when those licenses are first offered. Specifically, we will offer the more flexible, less conditioned licenses described below in the A, B, C, and E Blocks as soon as possible after the first auction.[704] This will address the possibilities that license conditions adopted today significantly reduce values bidders ascribe to those licenses and/or have unanticipated negative consequences. Given the unique character of the D Block license conditions, we leave open the possibilities of reevaluating those conditions or of promptly offering that license again in a subsequent auction, in the event the D Block-specific reserve is not met.

308. We provide further below that the auction of alternative licenses shall be subject to the same applicable reserve prices as the initial auction of licenses. The Wireless Bureau has delegated authority, however, to determine the appropriate means of reapportioning the reserve associated with the C Block in light of our determination below to split the block into two should a re-auction occur. This assures both that any initial and subsequent auctions will be as similar as possible (other than with respect to particular license terms detailed below) and also that the final assignment of the licenses will be based only on which licenses are able to serve the statutory goal of recovering a portion of the value of the public spectrum resource fixed in advance of the auction. In other words, we are balancing essential goals of assigning licenses on terms that serve the public interest, both with respect to service provided by licensees and recovery of value, rather than attempting to maximize revenue. In this vein, we note that, in light of all the relevant factors discussed above, we anticipate that the reserve price for the C Block would be approximately $4.6 billion.

309. *Performance Requirements for Alternative Licenses.* As discussed in detail elsewhere, in order to better promote access to spectrum and the provision of service, especially in rural areas, we have replaced the current "substantial service" requirements for the 700 MHz Band licenses that have not been auctioned with significantly more stringent performance requirements. We are adopting these rigorous requirements in an effort to ensure that licensees put this spectrum to use throughout the course of their license terms and their license areas.

310. It is possible, however, that the geographic area benchmarks we adopt for the A, B, and E Block licenses might result in a reduction in the monetary value of the licenses, thus reflecting potential flaws in our determinations regarding the public interest value of the imposed conditions. We conclude that a failure of the auction results for the A, B, and E Block licenses to satisfy the applicable block-specific aggregate reserve should result in a prompt offering of alternative licenses for the relevant block(s) that are subject to performance requirements with the population benchmark regime we have adopted for the C Block licenses.

311. *Changes to Alternative C Block Licenses.* As discussed elsewhere, we have concluded based on the extensive record in this proceeding that certain open platform conditions on the C Block licenses serve the public interest and that the conditions will permit licensee(s) to make effective and

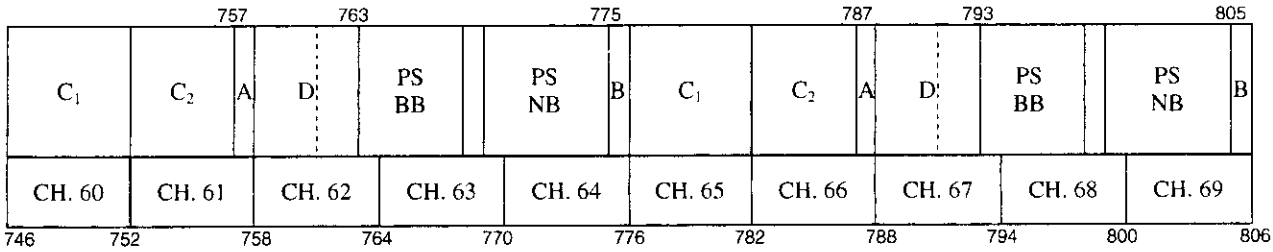
[703] *See* 47 U.S.C. § 309(j)(4)(F); 47 C.F.R. § 1.2104(c); *see also* Auction of 800 MHz SMR Upper 10 MHz Band; Minimum Opening Bids or Reserve Prices, *Order*, 12 FCC Rcd 16354, 16358 ¶ 11 (WTB 1997).

[704] We provide here for alternative licenses in the A, B, C, and E Blocks of the 700 MHz Band only in the event that all licenses in one of those blocks are not assigned because the auction results do not satisfy the applicable block-specific reserve price for the licenses originally offered.

efficient use of the spectrum. Based on the record in this proceeding, we conclude that in the event that auction results for conditioned Upper 700 MHz C Block licenses do not satisfy the aggregate reserve price for the C Block, we will offer as soon as possible licenses for the C Block without the open platform conditions.

312. Similarly, we will modify the C Block band plan. In this regard, we note that Frontline Wireless contends that the licensing plan supported by Verizon is intended to discourage new entrants and competitors that would not be interested in, or financially capable of, bidding on REAG licenses without package bidding.[705] It maintains that the use of REAG licenses would result in limited competition, with few likely bidders other than Verizon and AT&T for such licenses.[706] To provide different opportunities for the different mix of bidders, consistent with established auction procedures, that may be interested in the unconditioned C Block licenses, we will reconfigure the bandwidth of the licenses, as set out in the Figure below, to create two paired blocks of 6 and 5 megahertz each, which we will label the C1 and C2 Blocks. Further, we will license the C1 Block based on EAs and the C2 Block based on REAGs. We believe that in the event that the conditioned 700 MHz Band licenses are not assigned due to a failure to meet the reserve price and that the open platform conditions are lifted, reconfiguring the band plan in this way will serve the public interest by providing licenses under circumstances that may have more appeal to certain bidders.

FIGURE 11: SPLIT C BLOCK PLAN



Block	Frequencies	Bandwidth	Pairing	Area Type	Licenses
C_1	746-752, 776-782	12 MHz	2 x 6 MHz	EA	176
C_2	752-757, 782-787	10 MHz	2 x 5 MHz	REAG	12
D	758-763, 788-793	10 MHz	2 x 5 MHz	Nationwide	1*
A	757-758, 787-788	2 MHz	2 x 1 MHz	MEA	52**
B	775-776, 805-806	2 MHz	2 x 1 MHz	MEA	52**

*Block is associated with the 700 MHz Public/Private Partnership.
**Guard Bands block has been auctioned, but is being relocated.

313. It has been suggested that a decision to reauction reconfigured C Block licenses without open platform restrictions in the event that the bids for the C Block licenses fail to meet the reserve price, is "an allocation decision being driven by revenue considerations," in violation of Section 309(j)(7)(A), and not by the public interest value of the requirements.[707] The treatment of these licenses under such a

[705] July 2, 2007 Letter from Gerard J. Waldron, Covington & Burling LLP, Counsel to Frontline Wireless, LLC, with attached slide deck "Verizon's Spectrum Grab: Summary of Economic Arguments," slides 10-13.

[706] *Id.*

[707] *See* Frontline July 23, 2007 *Ex Parte* letter at 2. 47 U.S.C. § 309(j)(7)(A) provides that "[i]n making a decision pursuant to Section 303(c) to assign a band of frequencies to a use for which licenses or permits will be issued pursuant to this subsection, and in prescribing regulations pursuant to paragraph 4(C) of this subsection, the (continued....)

reauction scenario, however, reflects our determination that the cost of the open platform requirements to wireless service providers – evidenced by the magnitude of the devalued bids – would reveal a significant problem with the requirements, such as a greater negative impact on network operations than we are predicting. As such, our assessment of the net public interest benefit of imposing these requirements (*i.e.*, the benefit of fostering the development of innovative devices and applications vs. the potential negative effects on network operations) changes. We believe that these circumstances, (*i.e.*, the failure of the auction results for conditioned C Block licenses to satisfy the C Block-specific reserve price) are unlikely to occur. But if they do, they provide sufficient evidence to conclude that we have weighed the public interest balance incorrectly, and that the cost of the open platform restrictions was too high – not because the auction would have failed to generate enough Federal revenue, but because the low level of bidding would indicate inherent problems with operating a wireless system under this type of open platform regime.[708] In addition, as indicated above, our decision to change the geographic scope and spectrum block sizes under the reauction scenario is based on our determination that it would serve the public interest by providing different opportunities for the different mix of bidders that may be interested in the unconditioned C Block licenses.[709]

314. *D Block License.* With respect to the D Block, we have concluded that the public interest supports adopting unique service rules that will establish a nationwide 10-megahertz commercial license in the Upper 700 MHz Band D Block that will be awarded to the winning bidder once it has entered into a Commission-approved Network Sharing Agreement (NSA) with the Public Safety Broadband Licensee. As detailed elsewhere, this D Block license will require the commercial licensee to construct and operate a nationwide, interoperable broadband network to be used to provide both a commercial service and a broadband network service to public safety entities, across both the D Block and the 700 MHz public safety broadband spectrum.[710] In light of the importance of such a network to the public interest, as well as the difficulty of assessing an appropriate reserve price prior to an initial auction, we conclude that we should not alter the conditions we have adopted today for the D Block license based solely on auction results. As discussed above, we believe that a D Block-specific aggregate reserve of approximately $1.33 billion is appropriate given our goal of enabling the recovery of a portion of the value of the spectrum while also permitting licensing to proceed as quickly as possible. If, however, the D Block-specific aggregate reserve is not met, we conclude that we should leave open the possibility of re-offering the license on the same terms in a subsequent auction, as well as the possibility of re-evaluating all or some of the applicable license conditions.

315. *Auction Procedures.* In providing for a subsequent auction of licenses in the event that the relevant block-specific aggregate reserves are not satisfied, we find it in the public interest to utilize the same auction design, including the block-specific aggregate reserve price, anonymous bidding, and package bidding, insofar as possible. Accordingly, we direct the Wireless Bureau to adopt for the auction of 700 MHz Band licenses, consistent with its delegated authority and pursuant to its routine pre-auction process, procedures that will enable a prompt subsequent auction of alternative licenses for any block, as

(Continued from previous page)
Commission may not base a finding of public interest, convenience, and necessity on the expectation of Federal revenues from the use of a system of competitive bidding under this subsection."

[708] In any event, we note that the limited Section 309(j)(7) prohibition against basing a public interest finding on the expectation of Federal auction revenues would not apply to our decision regarding the possible removal of the open platform requirement.

[709] As discussed below, because we determine that the auction procedures to be established should limit qualified bidders for any auction of alternative licenses to those that qualify to bid in the auction offering licenses in all blocks of the 700 MHz Band, we note that bidders interested in the alternative C Block licenses will be required to qualify to bid in the upcoming auction that will offer licenses in all blocks.

[710] *700 MHz Further Notice*, 22 FCC Rcd at 8161 ¶ 272.

described above, in the event that the relevant block-specific aggregate reserve price is not met. This order's provisions with respect to the procedures for the initial auction, including with respect to anonymous and package bidding, will continue to apply in any subsequent auction. Furthermore, the same applicable reserve prices for each block of licenses shall apply in both the initial and subsequent auctions, recognizing that the Wireless Bureau will be required to determine how to allocate the block-specific reserve price for the C Block upon reauction under the split block plan described above. We detail below a few additional auction procedures to further the goal of promptly and effectively assigning these licenses. We direct the Wireless Bureau, consistent with its delegated authority to adopt procedures that will comply with this order and preserve the integrity of any necessary reauction.[711]

316. Given the related nature of the initial auction and any subsequent auction of alternative licenses and to avoid unnecessary delay, we direct the Wireless Bureau to establish procedures that limit qualified bidders in a subsequent auction of alternative licenses to those bidders that qualify to bid in the upcoming auction offering 700 MHz Band licenses in all of these blocks. Likewise, given the related nature of the initial auction of 700 MHz Band licenses and any subsequent auction of alternative licenses, we find that the applicable "down payment deadline" for purposes of our anti-collusion rule shall be the "down payment deadline" established for the subsequent auction.[712] In addition, because licenses for the same spectrum will be offered in both auctions, and the auctions will take place relatively close in time, we conclude that the purpose of our anti-collusion rule requires that the provisions of that rule continue to apply until the down payment deadline for the subsequent auction. To assure that bidders will have sufficient bidding eligibility to pursue various bidding strategies, we direct the Wireless Bureau to propose and adopt procedures that give applicants an opportunity to obtain bidding eligibility specifically for the alternative licenses, in addition to the initial licenses.

317. The Wireless Bureau also should consider any additional procedures within its delegated authority that may enhance the effectiveness of our auction of 700 MHz Band licenses in either the initial or subsequent auction. In this regard, we direct the Wireless Bureau to consider what procedures may be appropriate to deter bidders from actions that might thwart the assignment of licenses in either auction. For example, the Wireless Bureau should consider whether otherwise eligible bidders should be denied bidding eligibility in a subsequent auction of unconditioned licenses based on their bidding behavior, *e.g.*, withdrawals, defaults, and/or other actions, in connection with the initial auction.

f. Statutory Deposit Deadline

318. *Background.* Our conduct of this auction is, of course, subject to a statutory deadline for depositing proceeds from the auction of 700 MHz Band licenses in the Digital Television Transition and Public Safety Fund. The DTV Act amended the Communications Act to provide that the Commission "shall deposit the proceeds of such auction in accordance with paragraph (8)(E)(ii) not later than June 30, 2008."[713] In the cross-referenced paragraph, the DTV Act requires that "the proceeds (including deposits

[711] For example, the Wireless Bureau may be required to adopt procedures to maintain the anonymity of bidders until the completion of the second auction to maintain the integrity of the second auction, prevent collusion, or prevent the disclosure of bidding strategies that would influence the behavior of bidders in the second auction.

[712] *See* 47 C.F.R. § 1.2105(c)(1).

[713] 47 U.S.C. § 309(j)(15)(C)(v). The statute's reference to "the proceeds of such auction" refers to the statute's provision for bidding on licenses for the recovered analog spectrum that must commence not later than January 28, 2008. Licenses may be offered by January 28, 2008, and remain unassigned for a variety of reasons. *See* 47 C.F.R. § 1.2104 (c) (reserve prices), (d) (minimum opening bids), (g)(i) (withdrawals prior to close of auction), and (g)(ii) (default or disqualification after close of auction). In such circumstances, the deadline for commencement of bidding on licenses for the relevant spectrum will not preclude the Commission from offering the same or other licenses for the spectrum in a later auction.

and upfront payments from successful bidders) from the use of a competitive bidding system under this subsection with respect to recovered analog spectrum shall be deposited in the Digital Television Transition and Public Safety Fund."[714]

319. *Discussion.* To provide greater certainty for potential bidders, we here set forth our plan for fulfilling our responsibility to comply with this deadline in a manner fully consistent with the rules governing the 700 MHz Band licenses and the Commission's competitive bidding process. In particular, to comply with the statutory deadline, we will deposit payments made by successful bidders towards their respective winning bids for their licenses - including upfront payments, deposits, and final payments held on deposit pending the completion of licensing - as of the deposit deadline, June 30, 2008, even in instances where the licensing process for those licenses has not yet been completed.

320. We conclude that this will comply with the statute's deadline for depositing "the proceeds" of the auction. In the context of the DTV Act and competitive bidding for licenses for the "recovered analog spectrum," the term "the proceeds" consists of payments by successful bidders toward their winning bids for licenses made prior to the deposit deadline. For several reasons, we find that the statute's intended meaning of proceeds is not limited to the final net revenues that the Commission will realize at the completion of the auction and licensing of all relevant licenses. As an initial matter, there can be no guarantee that applicants will place winning bids on any and all the licenses the Commission offers.[715] In addition, with respect to licenses that are the subject of winning bids, we note the period of time between the required commencement of bidding and the deposit deadline in the statute is well short of the time it can take to complete licensing under long-established Commission procedures. The Communications Act and/or the Commission's rules provide parties with prescribed periods of time following an auction to file license applications, petitions to deny, and responses.[716] Similarly, under Commission rules, parties seeking post-auction tribal land bidding credits are afforded a defined period of time – namely, up to 180 days after the filing of a winning bidder's long form application after the close of the auction - in which to negotiate with tribes on the land to be served.[717] Furthermore, the statute's express requirement that the amounts deposited by the deadline include deposits and upfront payments[718] from successful bidders clearly indicates that the statute contemplates deposits being made before the completion of licensing, at which time the successful bidders' deposits and upfront payments are merged into final payments and net auction revenues.[719]

321. We therefore find that the statute requires the deposit of payments made by successful bidders towards their respective winning bids for licenses for recovered analog spectrum as of the June 30, 2008, deposit deadline, even if that date occurs before conclusion of the licensing process. Because our rules provide for the collection of all the required payments from winning bidders before completing the licensing process,[720] the June 30, 2008, statutory deadline for depositing auction proceeds does not conflict with or otherwise affect any of our regulatory provisions that might extend final licensing beyond June 30, 2008.

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[714] 47 U.S.C. § 309(j)(8)(E)(ii).

[715] *See, e.g.*, Auction of Advanced Wireless Services Licenses Closes, DA 06-1882, *Public Notice*, 21 FCC Rcd 10521 (2006) (35 licenses remained FCC-held following auction).

[716] *See* 47 C.F.R. §§ 1.2107, 1.2108.

[717] *See* 47 C.F.R. § 1.2110(g).

[718] 47 U.S.C. § 309(j)(8)(E)(ii).

[719] *See* 47 C.F.R. § 1.2106(d) (upfront payments to be applied to down payments).

[720] *See* 47 C.F.R. § 1.2109 (enabling the Commission to set payment deadline prior to final license determinations).

B. 700 MHz Public Safety Spectrum

322. In this section, we adopt a regulatory framework for the 700 MHz Public Safety Band to facilitate the establishment of a nationwide, interoperable broadband communications network for the benefit of state and local public safety users. In accordance with our decision relating to the Guard Band spectrum, and the corresponding shift by 1 megahertz downward of the 700 MHz Public Safety Band, we designate the lower half of the 700 MHz Public Safety Band (763-768/793-798 MHz) for broadband communications. We also consolidate existing narrowband allocations to the upper half of the 700 MHz Public Safety block (769-775/799-805 MHz). To effectuate the consolidation of the narrowband channels, we require the Upper 700 MHz D Block licensee to pay the costs of relocating narrowband radios, require every 700 MHz public safety licensee to certify to the Commission specific information regarding their operating narrowband handsets and base stations or forfeit reimbursement for associated relocation costs, and establish a deadline for completion of the narrowband transition of no later than the DTV transition date. In order to minimize interference between broadband and narrowband operations, we adopt a 1-megahertz guard band (768-769/798-799 MHz) between the public safety broadband and narrowband segments. Concerning the broadband segment, we address certain technical criteria related to power levels and the establishment of a broadband standard with a nationwide level of interoperability. Finally, we establish a single nationwide license (hereafter, the "Public Safety Broadband License") for the 700 MHz public safety broadband spectrum. We will assign this to a single licensee, the Public Safety Broadband Licensee, and we specify the criteria, selection process, and responsibilities for this licensee. In establishing this broadband license, and in assigning the license to the Public Safety Broadband Licensee, we also are providing the necessary ingredients for enabling the 700 MHz Public/Private Partnership with the commercial Upper 700 MHz Band D Block licensee, as discussed in more detail elsewhere in this Second Report and Order.

1. Band Plan

323. In the *700 MHz Further Notice*, we tentatively concluded to (1) redesignate a portion of the public safety spectrum in the 700 MHz Band from wideband use to broadband use consistent with a nationwide interoperability standard; (2) prohibit wideband operations on a going forward basis within the newly designated broadband spectrum; (3) consolidate the existing narrowband allocations to the upper half of the 700 MHz Public Safety Band (770-776/800-806 MHz), and locate broadband communications in the lower half of this band (764-769/794-799 MHz); and (4) establish a 1-megahertz internal guard band between the narrowband and broadband allocations (669-770/799-800 MHz) to prevent interference.[721] Further, we sought comment on whether to allow the use of this newly created internal guard band along the Canadian border, based on our tentative conclusion not to adopt the BOP which, like the band plan that we adopt today, included a downward shift of 1 megahertz of the 700 MHz Public Safety Band.[722] These tentative conclusions and proposals were intended to facilitate the establishment of a nationwide, interoperable broadband communications network for the benefit of public

[721] *700 MHz Further Notice*, 22 FCC Rcd at 8154 ¶ 250.

[722] *Id.* at 8157 ¶ 259, 8157-57 ¶¶ 260-61. The *700 MHz Further Notice* explained that while the Canadian government agreed to clear broadcasters from channels 63 and 68, there was no such agreement in place for channels 64 and 69. As a result, by consolidating the narrowband channels onto channels 64 and 69, operations in these channels would be subject to interference from Canadian broadcast operations. (This matter of potential interference that may be caused to public safety narrowband operations at the border will be referred hereafter as the "Canadian Border Issue.") The Canadian government recently announced that it has now established a date certain, August 30, 2011, by which it will complete the DTV transition for all broadcasters, including channels 64 and 69. Broadcasting Public Notice CRTC 2007-53 (May 17, 2007), available at http://www.crtc.gc.ca/archive/ENG/Notices/2007/pb2007-53.htm. Nevertheless, the Canadian Border Issue will persist for more than two years following the U.S. DTV transition date.

safety. We discuss our decisions on these issues below.

a. Broadband Segment

324. Background. The majority of commenters support our tentative conclusion in the *700 MHz Further Notice* to modify the current band plan for the 700 MHz Public Safety Band to provide for broadband operations in the lower portion of the band and consolidated narrowband operations at the top of the band.[723] Some commenters supporting band modification in this manner qualify their support. For example, APCO states that it supports the proposed band reconfiguration provided the plan addresses (i) a mechanism to reimburse those public safety licensees that must modify their 700 MHz Band radios that have already been deployed on 700 MHz channels and (ii) the Canadian Border Issue.[724] A few commenters oppose modifying the band. Region 16 (Kansas) does not support the Commission's proposal because its imposition of a nationwide network favors "federal mandates" over local and regional decisions.[725] Similarly, Region 33 (Ohio) argues that the Commission's proposal would eliminate the option to deploy cost effective wideband systems or dedicated local agency broadband systems.[726]

325. Discussion. We conclude that revision of the band plan for the 700 MHz Public Safety Band to accommodate broadband communications is in the public interest. The communications needs of public safety have evolved in recent years, and the record in this proceeding affirms our expectation that wireless broadband services will play an essential role in the ability of public safety entities, especially first responders, to fulfill their mission to protect the health, welfare and property of the public.[727] The current band plan for the 700 MHz Public Safety Band does not provide for a broadband communications capability. Accordingly, we adopt the following band plan for the 700 MHz Public Safety Band:

[723] *See, e.g.*, Alcatel-Lucent *700 MHz Further Notice* Comments at ii and 3; AT&T *700 MHz Further Notice* Comments at 14; Frontline *700 MHz Further Notice* Comments at 51; Motorola *700 MHz Further Notice* Comments at 7; TIA *700 MHz Further Notice* Comments at 2; WCA *700 MHz Further Notice* Comments at 4.

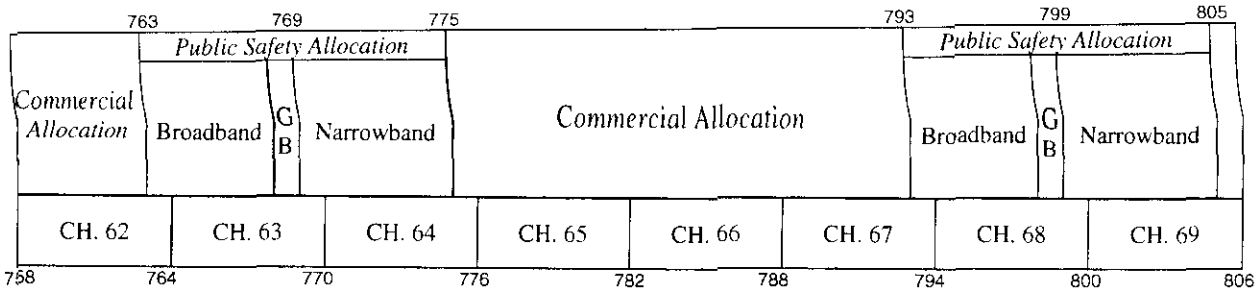
[724] APCO *700 MHz Further Notice* Comments at 7; *see also* NATOA *700 MHz Further Notice* Comments at 5.

[725] Region 16 (Kansas) *700 MHz Further Notice* Comments at 2.

[726] Region 33 (Ohio) *700 MHz Further Notice* Comments at 2; *see also* Motorola *700 MHz Further Notice* Reply Comments at 3-11.

[727] For example, broadband technology would enable public safety agencies to transmit (1) real-time, full motion video from any location to any other location, (2) live video from an emergency scene to a command center, and (3) building diagrams, blueprints, and mug shots to personnel in the field. *See, e.g.*, Bechtel June 14, 2007 *Ex Parte* in PS Docket No. 06-229.

FIGURE 12: REVISED 700 MHZ BAND PLAN FOR PUBLIC SAFETY SERVICES



326. We are designating the lower 5-megahertz paired (10 megahertz total) segment of the 700 MHz Public Safety Band for broadband communications. This 5-megahertz paired designation will allow public safety to implement advanced wireless communications systems. It also will place public safety broadband operations adjacent to spectrum available for commercial broadband operations. We find this facilitates the deployment of a shared broadband network architecture by commercial and public safety entities and is consistent with the public/private partnership framework adopted herein. As discussed elsewhere in detail, such partnership would allow public safety to leverage advanced technologies and infrastructure that can lead to reduced build-out, equipment and operating costs, as well as speedier deployment of advanced public safety communications systems. While some commenters express concerns about the prospect of losing some level of local control should we adopt a nationwide broadband allocation, we believe such concerns are misplaced. As shown elsewhere in this Second Report and Order, local agencies, working through the Public Safety Broadband Licensee, will have substantial opportunity to provide input not only on the design of this network, but also on the particular broadband services they require. In addition, in Section III.C of this Second Report and Order, we provide a means for local agencies to request a waiver to conduct wideband operations, subject to additional conditions and restrictions.

b. Narrowband Segment

(i) Consolidation of Narrowband Channels

327. Background. In the *700 MHz Further Notice*, we tentatively concluded to consolidate the existing narrowband allocations to the upper half of the 700 MHz Public Safety Band. This tentative conclusion to consolidate these narrowband channels received broad support in the record. For example, Alcatel-Lucent states that narrowband consolidation is an essential component to the deployment of broadband in the commercial and public safety portions of the 700 MHz Band.[728]

328. In an *ex parte* letter dated June 25, 2007, NPSTC reiterates its support for consolidating the narrowband channels, and also proposes a plan by which the narrowband consolidation would take place.[729] This plan is premised on the assumption that Access Spectrum/Pegasus would be responsible for

[728] Alcatel-Lucent *700 MHz Further Notice* Comments at 18-19; *see also* ALU *700 MHz Further Notice* Comments at 3-12; AT&T *700 MHz Further Notice* Comments at 14; Ericsson *700 MHz Further Notice* Comments at 10-11; M/A COM *700 MHz Further Notice* Comments at 4; Motorola *700 MHz Further Notice* Comments at 7; NENA *700 MHz Further Notice* Comments at 2; Northrop Grumman *700 MHz Further Notice* Comments at 2-3; Qualcomm *700 MHz Further Notice* Comments at 38; Upper 700 MHz Licensees *700 MHz Further Notice* Comments at 3; Access Spectrum June 14 *Ex Parte* in WT Docket Nos. 96-86, 06-150 and 06-169, and PS Docket No. 06-229.

[729] Letter from Vincent R. Stile, Chair, NPSTC, to Kevin Martin, Chairman, FCC, WT Docket Nos. 96-86, 06-150, 06-169, and PS Docket No. 06-229, filed June 25, 2007 (*NPSTC June 2007 Ex Parte*).