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March .8, 2007

Via Electronic Filing

Marlene H. Dortch, Esquire
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554

Re: WT Docket Nos. 96-86 and 06-169
Record of Ex Parte Meeting

Dear Ms. Dortch:

On March 7, 2007, Andrew Rein of Access Spectrum, LLC (“ASL”), Stagg Newman representing ASL, Cheryl Crate of Pegasus Communications (“Pegasus”) and Paul Kolodzy and I representing Pegasus, met with Julius Knapp and Ron Chase of the Office of Engineering and Technology. We presented the attached slides and discussed the subject matter addressed therein, including the status of the proceedings in the above-mentioned dockets and the importance of prompt action to adopt the Broadband Optimization Plan (“BOP”). We also emphasized that the BOP is the only plan in the record that will allow consolidation of public safety spectrum to allow public safety broadband operations in a way that will not cause grave deployment problems for public safety entities in the nation’s fourteen states bordering Canada.

I am filing one copy of this document, with one attachment, for the record as required by the Commission’s rules.

Very truly yours,

//signed//

Kathleen Wallman
Wallman Consulting, LLC
Adviser to Pegasus Communications

Copies provided to:
John Branscome
Fred Campbell
Angela Giancarlo
Barry Ohlson
Aaron Goldberger
Julius Knapp
Cathy Massey
Jim Schlichting
Dana Shaffer

Optimizing the Upper 700 MHz Band

March 2007

Overview

- The public safety community has endorsed the Broadband Optimization Plan (“BOP”) and both the First and Second Technical Working Group (“TWG”) Reports

- Public Safety has specifically excluded consideration of any alternatives (e.g., “6+6 Plan”) that do not solve the issues related to the Canadian border and the re-programming of existing 700 MHz systems
 - *“The further NPRM must clearly state the concerns that public safety has expressed regarding shifts in the narrowband channel allocation, and make clear that solutions to those problems are necessary before the Commission adopts a channel plan that shifts the narrowband allocation... the two principal concerns that have been expressed are the cost of re-programming 700/800 MHz radios and the blocking of narrowband channel use in Canadian border states.” (Letter from APCO, IACP, IAFC, MCCA, MCSA and NSA – July 31, 2006*

 - *“While objecting to the guard band licensee proposal [the BOP], Verizon urges that the public safety narrowband channels be relocated... the relocation entails numerous challenges, all of which are resolved by the proposal [the BOP]. Verizon addresses none of them; its recommendation should be rejected.” (NPSTC Letter – February 23, 2007)*

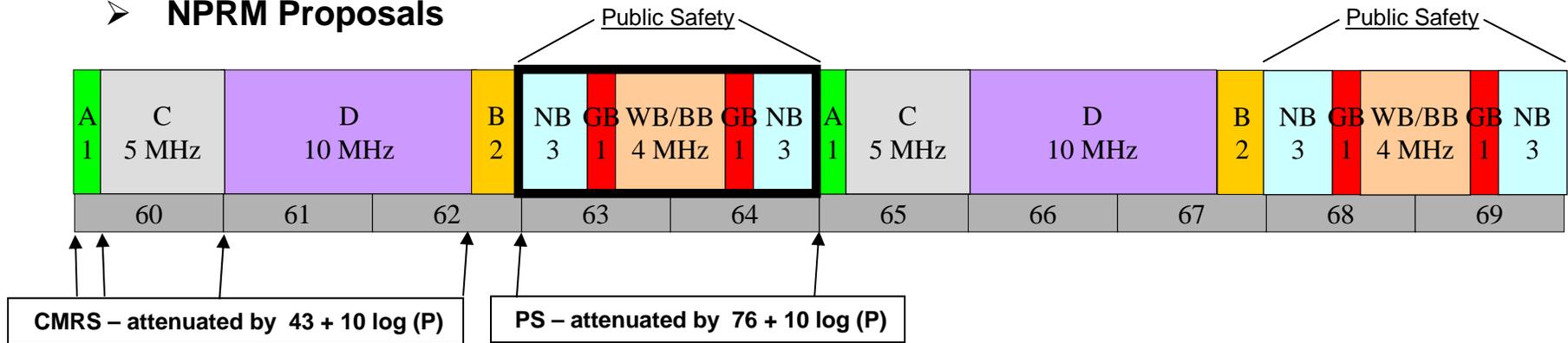
- Some of the country’s leading technical experts from the public safety and commercial communities have been studying the implications of the Broadband Optimization Plan for nine months
 - *“The TWG concluded that there were no inherent technical impediments to implementing the BOP.” (Second TWG Report pg. 2)*

The benefits of the BOP

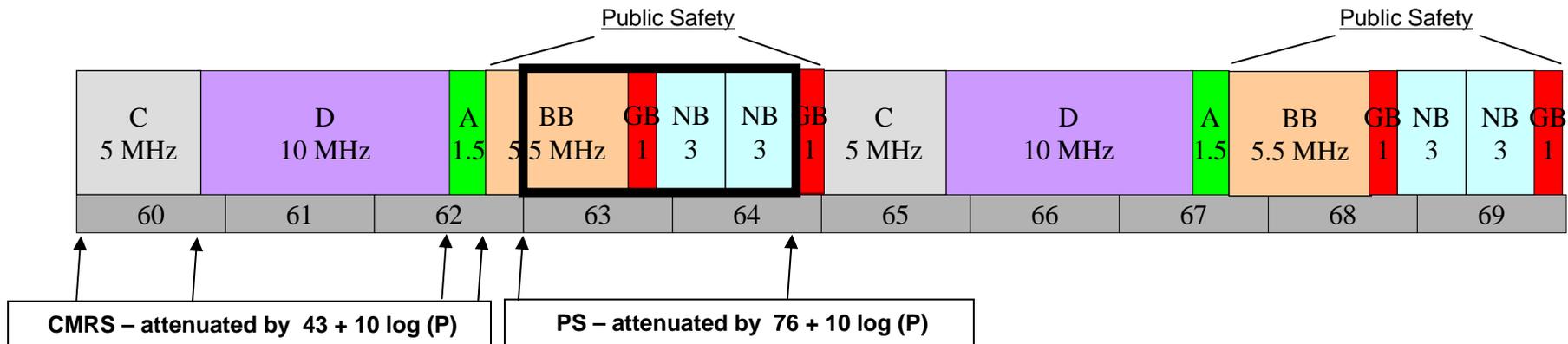
- The BOP:
 - Results in an additional 3 MHz of usable broadband spectrum for BOTH public safety and commercial use and creates a 1 MHz “talk-around” channel that public safety can use in emergency situations
 - Significantly reduces the potential for harmful interference to BOTH public safety AND neighboring commercial systems in part by requiring the use of guard bands and buffer spaces within public safety’s allocation
 - Makes the Upper 700 MHz band more attractive for 4G technologies, for new entrants and for public-private partnerships
 - Solves the technical concerns that Public Safety said must be addressed before considering any movement of the narrowband channels
 - Is good for public safety, good for future commercial licensees and good public policy

The Broadband Optimization Plan – OOB

➤ NPRM Proposals



➤ Re-configuring the public safety allocation – the Broadband Optimization Plan



Support for the BOP

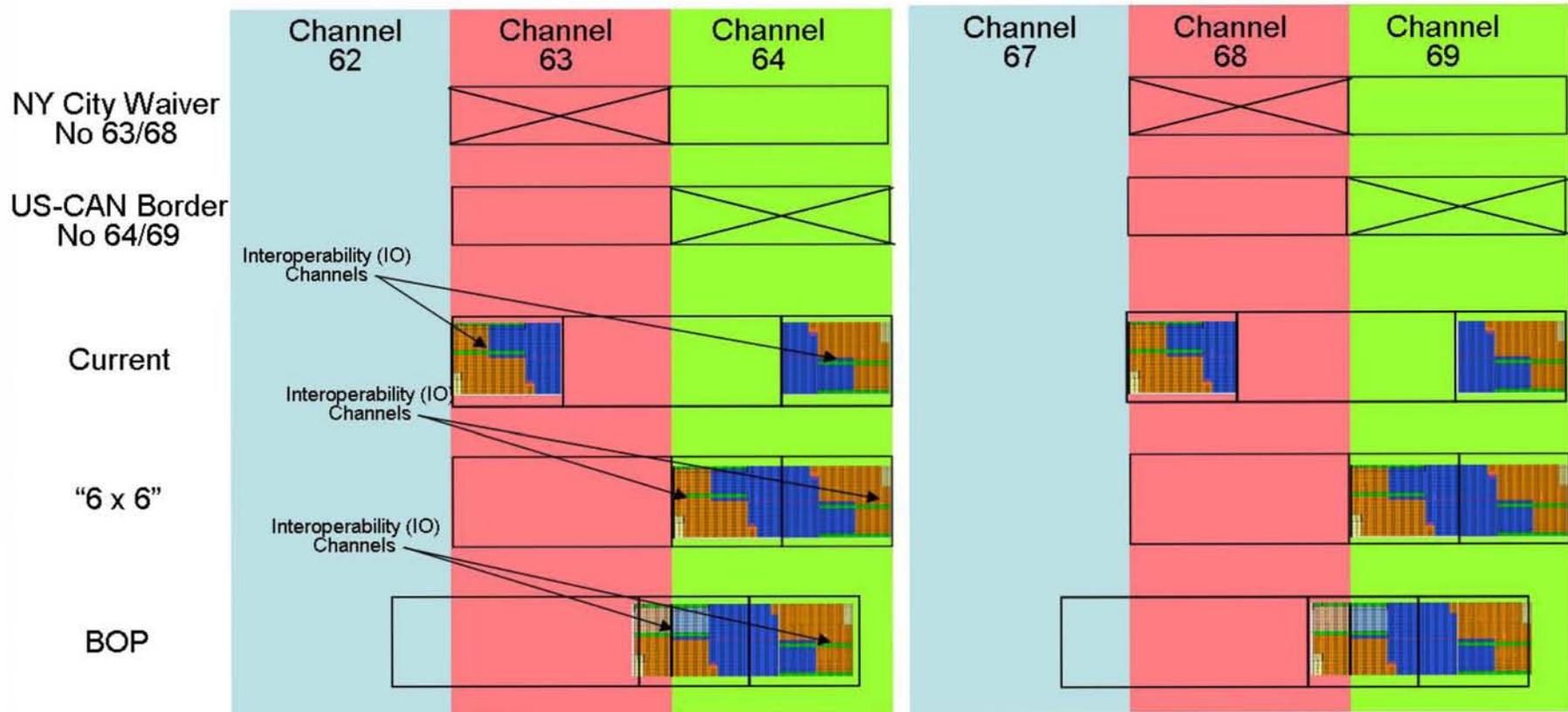
- The public safety community has endorsed the BOP, both the First and Second Technical Working Group (“TWG”) Reports and is supported by:
 - NPSTC, APCO, IACP, IAFC, New York State, Major Cities Chiefs Association, Major Counties Sheriffs Association, National Sheriffs Association, the American Association of State Highway Transportation Officials, American Radio Relay League, American Red Cross, Association of Fish & Wildlife Agencies, Forestry Conservation Communications Association, International Association of Emergency Managers, International Municipal Signal Association, National Association of State Emergency Medical Services Officials, National Association of State Foresters, National Association of State Telecommunications Directors), the State of Hawaii, the Mobile County Public Works and the following 700 MHz Regional Planning Committees: Region 4 (Arkansas), Region 5 (Southern California), Region 7 (Colorado), Region 8 (Metropolitan New York City Area), Region 9 (Florida), Region 10 (Georgia), Region 11 (Hawaii), Region 13 (Illinois except Southern Lake Michigan counties), Region 14 (Indiana except Southern Lake Michigan counties), Region 17 (Kentucky), Region 22, (Minnesota), Region 24 (Missouri), Region 26 (Nebraska), Region 30 (New York - Albany area), Region 32 (North Dakota), Region 33 (Ohio), Region 35 (Oregon), Region 39 (Tennessee), Region 45 (Wisconsin except Southern Lake Michigan counties), Region 54 (Chicago – Southern Lake Michigan counties) and Region 55 (New York – Buffalo)

- Commercial support for the BOP is also broad
 - DirecTV, Echostar, Google, Intel, Northrop Grumman, the SDR Forum, Skype, the WiMAX Forum, Yahoo, etc...

The “6+6 Plan”

- Simply consolidating public safety’s narrowband allocation (Alcatel-Lucent’s “6+6 Plan”) would not be a viable alternative to the BOP:
 - The 6+6 Plan fails to address the technical issues that were explicit prerequisites for public safety’s consideration of any re-configuration of its spectrum allocation
 - Issues related to the Canadian border would not be solved and the 6+6 Plan would actually create significant problems for public safety entities in border regions, especially New York State
 - Mission-critical voice interoperability eliminated
 - Broadband deployments severely hampered
 - Equipment re-programming and spectrum planning database issues would not be solved
 - The 6+6 Plan includes no additional spectrum for Public Safety. The result is:
 - Less usable broadband spectrum
 - The loss of Public Safety control of its guard bands
 - No “talk-around” for emergency situations at 805-806 MHz
 - The 6+6 Plan has not undergone any technical review whatsoever
 - No single public safety entity has supported the 6+6 Plan and all of the leading public safety organizations specifically oppose it

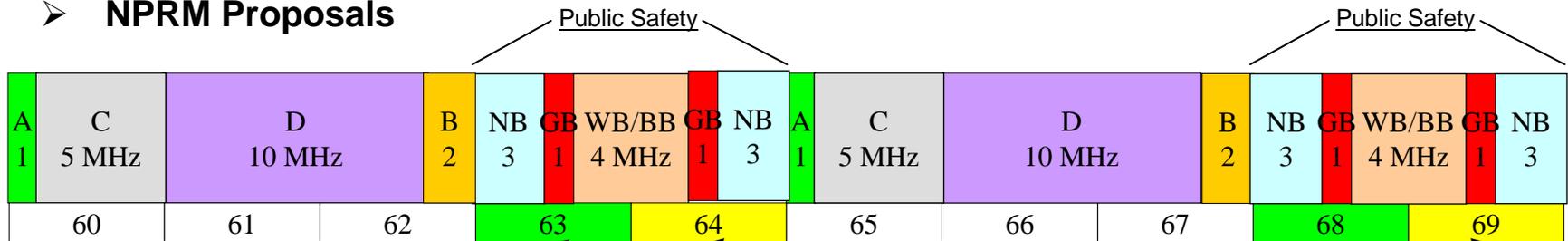
The Canadian Border Issue



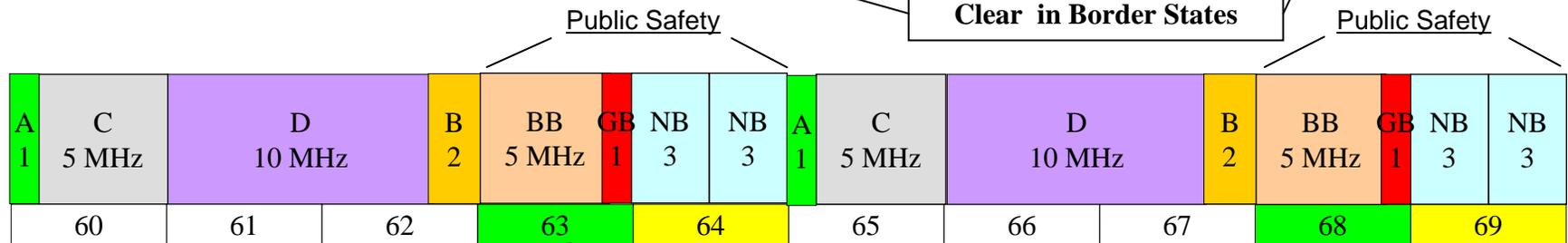
- **Constraints:**
 - Public Safety Band Plan must satisfy the need for fixed interoperability channels with some available under all circumstances
 - Canada has no official plan to transition channel 64 & 69
 - NY City to use channels 64 & 69

Public Safety alternatives

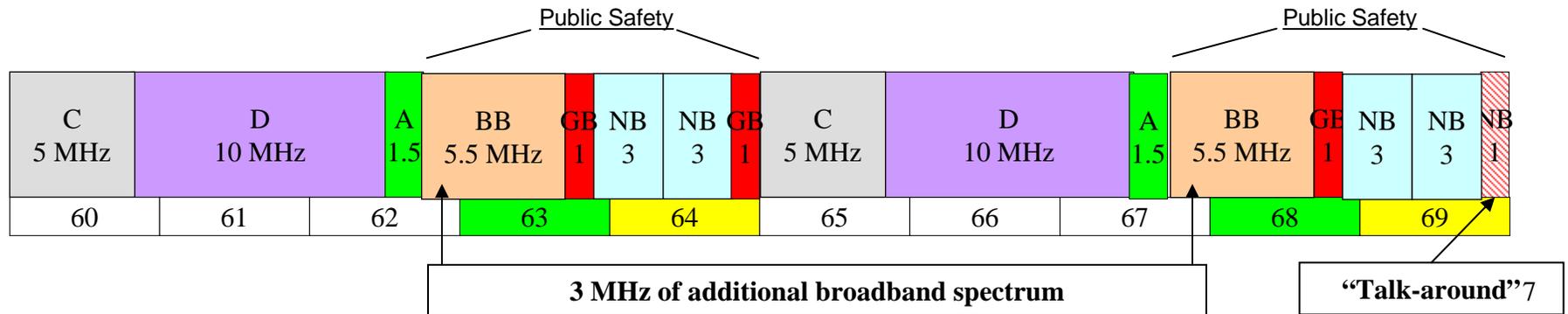
➤ NPRM Proposals



➤ The 6+6 Plan



➤ The Broadband Optimization Plan



Conclusion

- The FCC should immediately adopt the BOP:
 - If implemented, it will create 33 MHz of commercial broadband spectrum, resulting in many more alternatives with respect to the commercial allocation that promote broadband competition
 - Adopting the BOP is consistent with a variety of band plans for the commercial allocation, including a 10 MHz D Block and a 5 MHz C Block
 - Prompt action on the BOP and a full consideration of the commercial alternatives that build upon the BOP can be achieved consistent with the statutory deadline for the auction

Appendix

The 776 MHz public safety/commercial interface

- Public safety interference conditions are improved
 - Under the status quo:
 - Public safety directly adjacent to commercial operations and 1 MHz away from commercial broadband operations – OOBE protection = attenuated by $76 + 10 \log (P)$ at 776 MHz
 - Under the BOP:
 - Public safety 1 MHz away from commercial operations – OOBE protection = attenuated by $76 + 10 \log (P)$ at 775 MHz

- Commercial interference conditions are at the very least maintained if not improved
 - Under the status quo:
 - Commercial broadband operations directly adjacent to commercial A Block and 1 MHz away from the sensitive public safety narrowband operations
 - Under the BOP:
 - Commercial operations 1 MHz away from the sensitive public safety narrowband operations
 - The BOP explicitly contains suggestion that the FCC make clear that public safety should not expect any interference protection in the 1 MHz guard band at 775-776 MHz

- Public safety benefits from being able to use the spectrum at 805-806 MHz for unpaired, simplex communications (e.g., talk-around in emergency situations)

The 762.5/792.5 MHz public safety/commercial interface

- Public safety interference conditions are improved
 - Under the status quo:
 - Public safety’s narrowband operations are directly adjacent to commercial operations and 2 MHz away from commercial broadband operations – OOBE protection = attenuated by $76 + 10 \log(P)$ at 764 MHz
 - Public safety’s narrowband operations, which have very sensitive receivers, face a significant threat from intermodulation interference (IMI) from the commercial B,D Blocks
 - Under the BOP:
 - Public safety’s narrowband operations are 6.5 MHz away from commercial operations and are separated from public safety’s broadband operations by a 1 MHz internal guard band
 - Public safety’s narrowband operations receive much greater protection from IMI
 - In order to experience IMI, public safety’s own broadband operations would have to contribute to it, something that is within public safety’s control to ameliorate
 - Consolidating the narrowband permits the use of tighter filters and better receivers
 - Public safety’s broadband/wideband operations continue to receive full public safety protection at 764/794 MHz; however, it should be noted that there are a few situations where IMI may be slightly worse for public safety’s wideband/broadband operations
 - *“The TWG concluded that the other technical advantages of the BOP far outweighed any disadvantage associated with this slight potential increase in interference.”*
(Second TWG Report pg. 2)

The 762.5/792.5 MHz public safety/commercial interface (cont'd)

- Under the BOP, public safety will receive traditional CMRS OOB interference protection in the new spectrum added to their allocation (762.5-764/792.5-794 MHz)
 - *“The BOP would apply commercial cellular OOB rules inside the lower 1.5 MHz paired of public safety spectrum (762.5 – 764 and 792.5 – 794 MHz), effectively placing 1.5 MHz separation between commercial broadband and any non-cellular public safety operations.” (Second TWG Report pg. 5)*
 - Within this buffer, public safety’s systems will need to be designed and operated under these conditions which include the acceptance of interference within commercial OOB limits as well as interference that results from the deployment of incompatible commercial broadband systems
 - *“The TWG concluded that public safety wideband and narrowband operations should be permitted only in the spectrum from 764 - 775 MHz and 794 - 805 MHz” (Second TWG Report pg. 4)*

- The BOP harmonizes the technical rules for the entire commercial allocation
 - *“The TWG recognizes that a central feature of the BOP is the elimination of separately regulated commercial guard bands and the adoption of commercial rules from the existing C&D Blocks for the new A Block” (Second TWG Report pg. 2)*

The 762.5/792.5 MHz public safety/commercial interface (cont'd)

- Commercial interference conditions are at the very least maintained if not improved
 - Under the status quo:
 - D Block commercial broadband operations must meet the public safety “attenuated by $76 + 10 \log(P)$ OOB limit” at 764/794 MHz and are 2 MHz away from public safety’s narrowband
 - Commercial broadband operations will likely cause severe IMI to public safety’s narrowband operations
 - Under the BOP:
 - D Block commercial broadband operations must meet the more strict public safety OOB limit at 764/794 MHz and are 3 MHz away from public safety’s strictly protected wideband/broadband and 1.5 MHz away from public safety’s CMRS-protected broadband
 - A Block commercial broadband operations, since they are operating under the C&D Block rules, must meet the more strict public safety OOB limit at 764/794 MHz and are 1.5 MHz away from public safety’s strictly protected wideband/broadband and directly adjacent to public safety’s CMRS-protected broadband

- Allowing for full commercial broadband use directly adjacent to public safety’s commercial-like broadband is critical for the facilitation of public-private partnerships
 - The opportunity for public-private partnerships provide additional incentive for new entrants to participate in the auction, which is of course in the interests of public safety and the country

The 746 MHz commercial/commercial interface

- VZW is wrong when it states, without citation, that the FCC established a lower A Block at 746-747 MHz to separate the Upper and Lower 700 MHz bands
 - The FCC's order states that in order to protect the immediately adjoining public safety licensees from harmful interference, the FCC placed a 1 MHz guard band at 776-777 MHz and placed the other 1 MHz segment of the A Block at 746-747 MHz in order to allow for a paired block

- VZW contends that a series of Motorola filings (circa 1999) support its contention; however, closer examination reveals that Motorola was concerned with high-powered television stations that are not subject to the rules that exist for today's C Block licensees
 - The hard date for the DTV transition renders this concern moot

- VZW has never before commented on this issue in the record
 - CTIA raised this question on October 23, 2006 and Access Spectrum and Pegasus comprehensively dealt with the issue in the reply comments on November 13, 2006
 - In short, the current rules applicable to the Upper and Lower 700 MHz commercial blocks provide more than adequate protection against interference
 - The FCC envisioned both high-site mobile broadcast and low-site commercial broadband systems and developed appropriate rules
 - More specifically, the Lower 700 MHz blocks have PFD requirement that restrict the power levels on the ground
 - This fact addresses VZW's concerns about the differences in transmitter ERP