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December 29, 1999

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

EX PARTE

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 Twelfth Street, SW, TW-A325
Washington, D.C. 20554

RE: Service Rules for the 746-764 and 776-794 MHz Bands,
WT Docket No. 99-168

Dear Ms. Salas:

Please be advised that on December 29, 1999, Peter Cramton, and Larry Ausubel of Spectrum Exchange, and the undersigned met with Adam Krinsky, Legal Advisor to Commissioner Tristani, to discuss issues concerning the above-captioned proceeding. Attached hereto is a copy of the presentation material which was distributed and discussed at this meeting.

In accordance with Section 1.1206(b)(2) of the Commission's rules, the original and one copy of this letter are being filed with your office. Acknowledgement and date of receipt of these transmittals are requested. A duplicate of this letter is included for this purpose.

Please contact me at (202) 429-3134 should you have any questions concerning this matter.

Sincerely,

Kathleen Q. Abernathy

cc: Adam Krinsky

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spectrum exchange

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www.spectrum-exchange.com

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Efficient Clearing of UHF TV Channels 59-69

A presentation by

Spectrum Exchange Group, LLC

Peter Cramton, chairman
Larry Ausubel, co-president

28 December 1999

Summary

- Overview
- The interference problem
  - Clearing the broadcasters is essential to efficient use of the spectrum
- Needed rules from the FCC
  - Broadcasters in 59-69 are permitted to "clear" (i.e., terminate over-the-air transmission) before the date that analog licenses are returned
  - A cleared broadcaster in 59-69 retains its "must carry" cable status
  - A cleared broadcaster in 59-69 retains its DTV allocation
  - The operation of a private auction or market mechanism to clear 59-69 is authorized and encouraged

spectrum exchange

- Spectrum Exchange mission

  "To create value for the public by implementing a system for the efficient clearing of TV spectrum."

- Spectrum Exchange formed by the principals of Market Design Inc., the world leader in the design of high-stake auction markets
  - Peter Cramton, chairman of the board
  - Larry Ausubel, co-president
  - Paul Milgrom, co-president
  - Preston McAfee, Market Design Inc.

Overview

- FCC to auction UHF channels 60-69 in late April or early May
- Spectrum in this 700 MHz band is highly desirable, since it has excellent propagation characteristics (can penetrate walls, etc.)
- Best use is uncertain but will be either mobile voice and data or fixed high-speed data
- Spectrum is encumbered by existing UHF broadcasters
- Spectrum has been scored by Congress to raise $2.6 billion for Treasury
- Spectrum is nearly worthless (less than $0.5 billion) if UHF broadcasters do not terminate service
- Spectrum is worth billions (at least $3 billion) if cleared of incumbent broadcasters

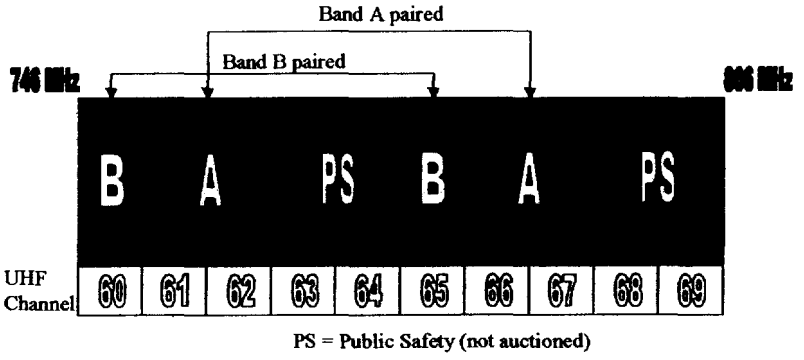
Overview (continued)

- Spectrum Exchange plans to create value for the public by implementing a system for the efficient clearing of TV spectrum
- Clearing of spectrum must be ***voluntary***
- Analog TV licenses do not have to be returned to FCC until 2006 at the earliest
- Efficient clearing is made difficult by "hold-up" and "free-rider" problems
  - Hold-up: incumbent broadcasters likely to demand much more than the cost of retiring their service
  - Free-rider: many license holders benefit when one license holder clears a broadcaster

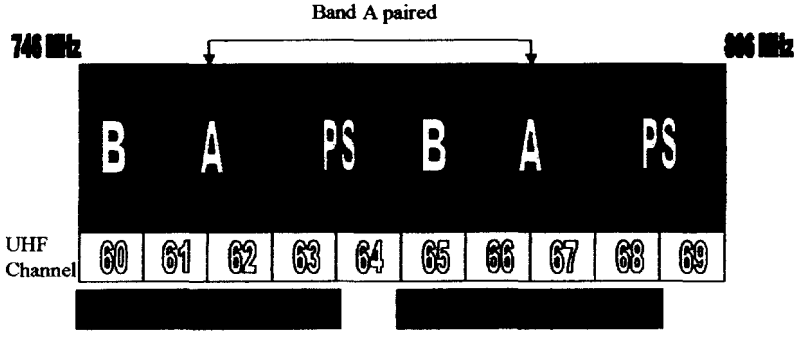
Overview (continued)

- Spectrum Exchange has developed private market mechanisms for the efficient clearing of TV spectrum, for example:
  - Unlinked auction
  - Linked auction
- Most major markets are made worthless without the clearing of the incumbent broadcasters

Proposed Band Plan for FCC Auction

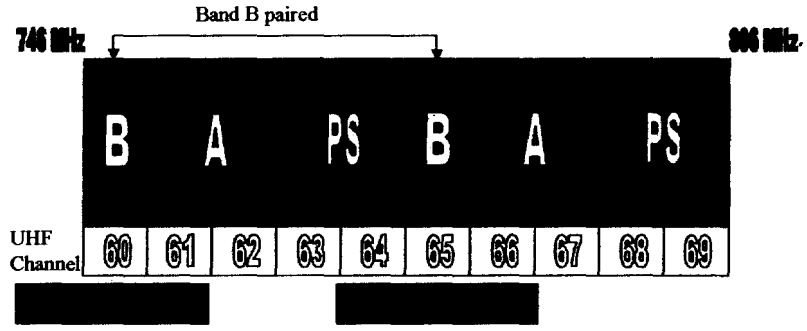


Incumbent broadcasters have co-channel and adjacent-channel protection



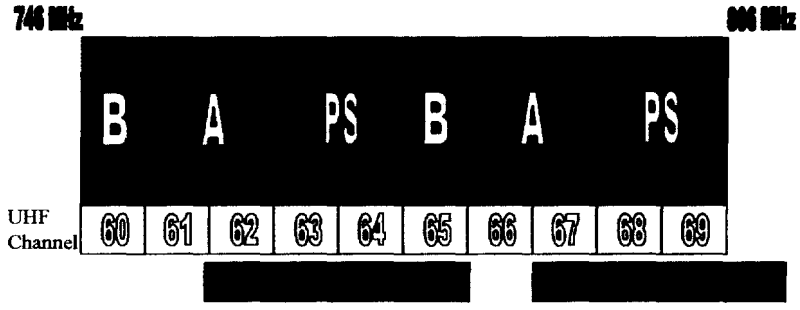
License A winner must clear 60-63 and 65-68

Incumbent broadcasters have co-channel and adjacent-channel protection



License B winner must clear 59-61 and 64-66

Incumbent broadcasters have co-channel and adjacent-channel protection



Public Safety must have 62-65 and 67-70 cleared

Plan 1
Unlinked auction

- Private auction of options to clear
- Broadcaster sells an option to be cleared
- Broadcaster specifies clearing cost by year
- Options to clear sold in simultaneous ascending auction
- Winner pays the market price for the option to clear
- Winner decides ex post when to clear the broadcaster and pays the broadcaster's clearing cost for the particular year
- Issue: Option to clear and FCC licenses are strong complements (left shoe and right shoe)
  - Pricing of shoes separately is difficult

Plan 2
Linked auction

- A bid in the FCC auction is linked to a bid in a private auction for clearing rights in the UHF channels
  - Explicitly recognizes that left and right shoes should be sold together
- Revenue sharing rule determines how the linked auction revenues are distributed among the incumbent broadcasters
  - A single UHF channel can interfere with multiple bands
  - Multiple UHF channels can interfere with a particular band
- Free-rider problem may be solved by the FCC adopting a cost sharing rule as in PCS, where all the beneficiaries bear the cost of clearing

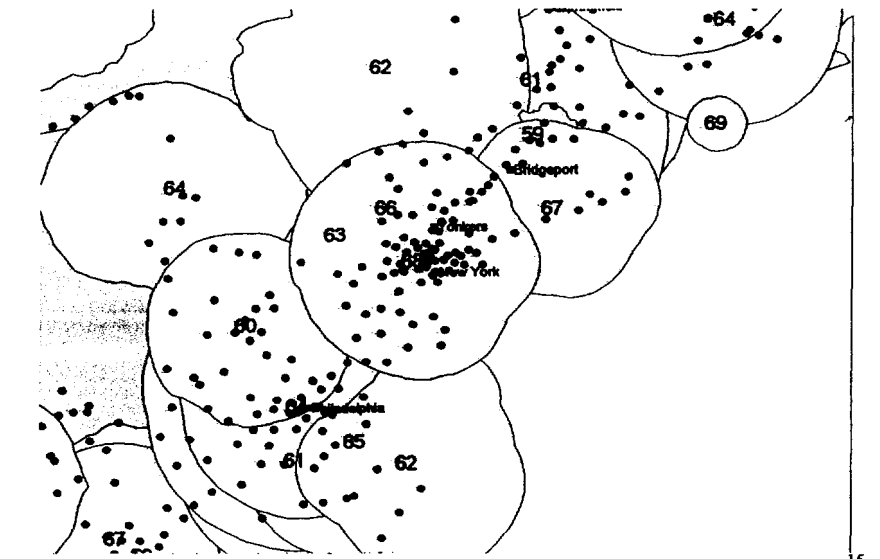
Cellular-UHF Interference

- Analog and DTV incumbent broadcasters have priority over license winners in upcoming spectrum auctions
- Auctions are for the "Swiss cheese" not encumbered by TV broadcasters
- FCC rules protect analog UHF incumbent from both co-channel and adjacent-channel interference
- Example: Cellular on channel 62 will interfere with analog UHF on 61, 62, and 63
- Digital TV protected on co-channel only
- Low power and translator stations not protected

Interference is a serious problem

- Most major markets are made worthless without the clearing of the incumbent broadcasters
- Examples
  - New York City
  - Chicago
  - San Francisco
  - Los Angeles

UHF Ch 59-69 in Greater NY



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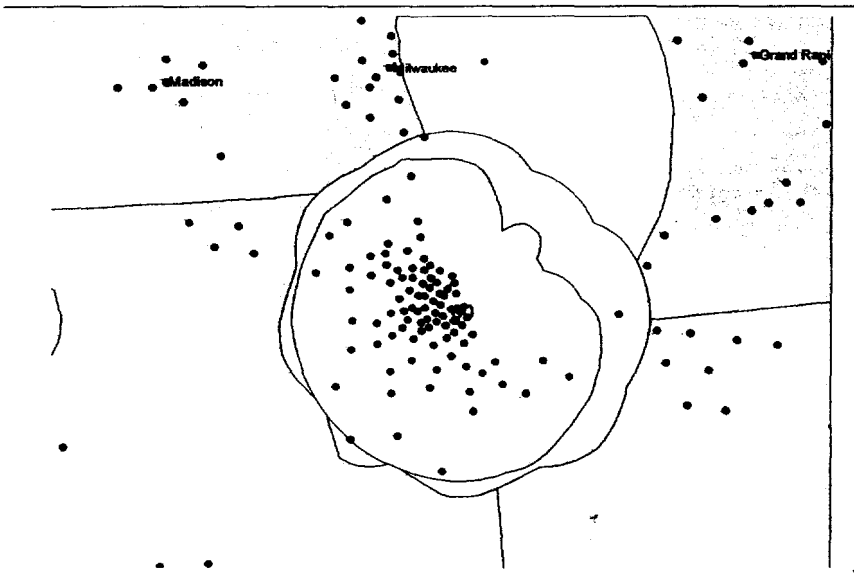
Chicago: UHF 60, 66



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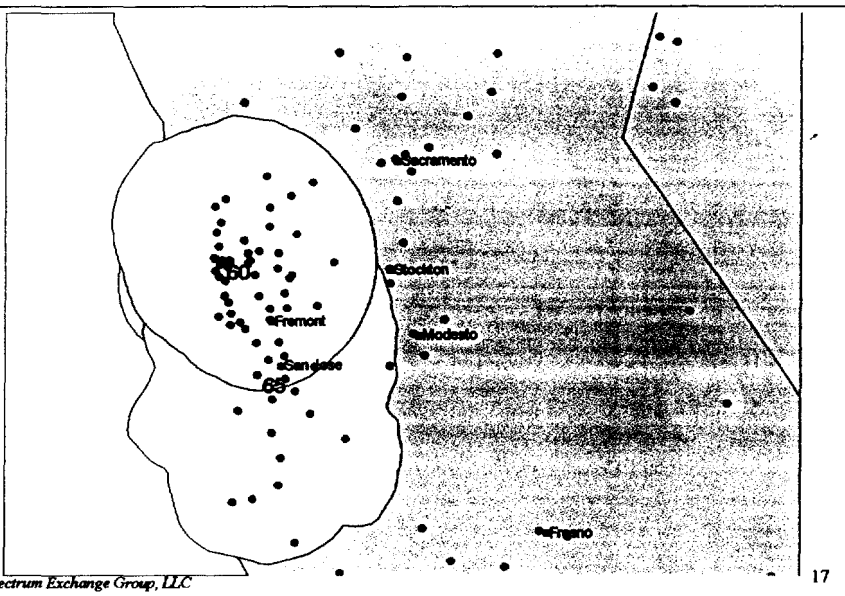
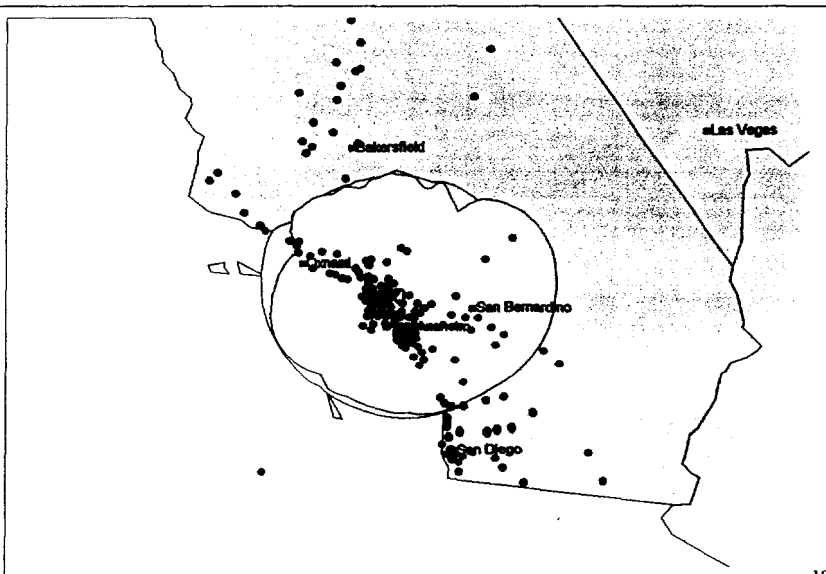
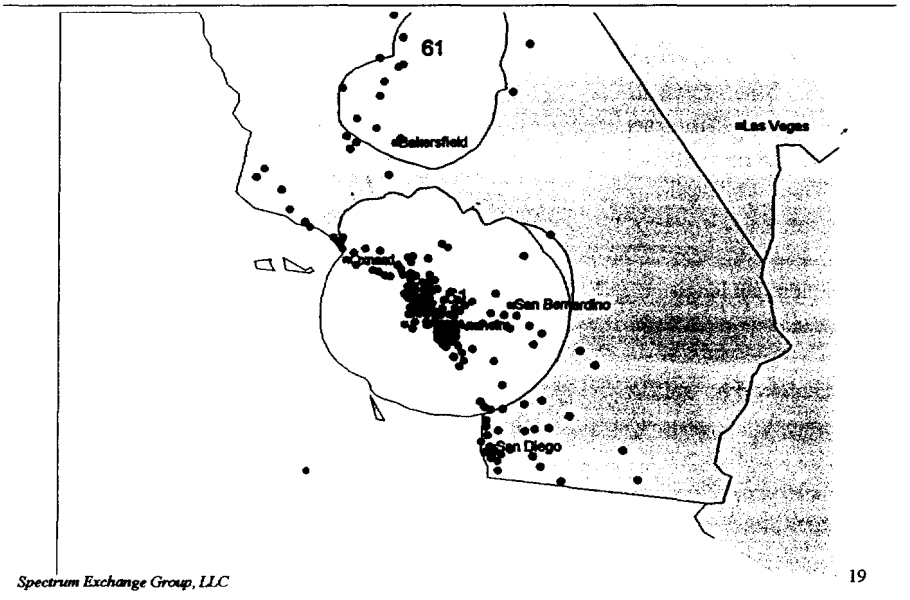
San Francisco: UHF 60, 65, 66



Los Angeles: DTV 60, 65



Los Angeles: DTV 61, 66



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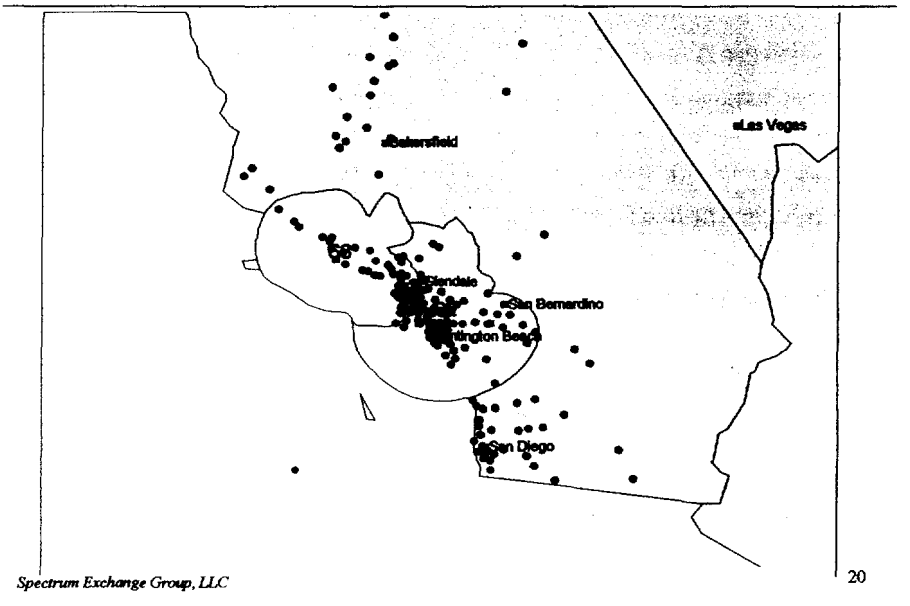
19

Los Angeles: UHF 62, 63



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20

How the FCC can create value by encouraging the efficient clearing of UHF incumbents

- Rules governing clearance need to be issued at the earliest possible date
- Broadcasters in 59-69 are permitted to "clear" (i.e., terminate over-the-air transmission) prior to the date that analog licenses are returned
  - Since so few viewers watch via the transmission on 59-69, there is little or no loss in shifting these signals entirely to cable and DTV
- A cleared broadcaster in 59-69 retains its "must carry" cable status
  - The overwhelming majority of all viewers of 59-69 are currently receiving the signal via cable rather than by over-the-air transmission
  - Retaining "must carry" status would maintain the public service created by these stations
- A cleared broadcaster in 59-69 retains its DTV allocation
  - The public service of these stations would be further enhanced by broadcasting the signal on DTV
- The operation of a private auction or market mechanism to clear 59-69 is authorized and encouraged

Clearing incumbent broadcasters creates tremendous value for the public

- New competition is introduced for wireless telecommunication
  - Competition leads to innovative and diverse services
  - Competition in wireless services spills over to wire-based services
  - Consumers enjoy improved services at reduced prices
- In next decade, innovation and competition in wireless will be a driving force in the digital economy
- Encouraging efficient clearing is consistent with FCC goal in new millennium: *Make markets work better!*