



Federal Communications Commission
INCENTIVE AUCTION IMPLEMENTATION

Broadcaster LEARN Program Workshop

Overview of the Incentive Auction NPRM

October 26, 2012

Commissioner Mignon Clyburn



Gary Epstein

Chair, Incentive Auction Task Force

Overview and Guiding Principles of the NPRM

The Broadcast Incentive Auction

- Broad ranging proceeding introducing the concept of incentive auction to help meet U.S. broadband spectrum needs
- Implements Spectrum Act legislation passed in February 2012
- FCC issued its NPRM on 9/28/12, with comments due 12/21/12 and replies due 2/19/13
 - ***Note: Dates extended to 1/25/13 and 3/12/13 respectively***
- The FCC recognizes the importance of broadcaster outreach, both for those who participate in the auction and those who do not

Goals for this Workshop

First Broadcaster LEARN Workshop

- Intended focus is broadcasters and related professionals

Purpose of today's workshop:

- Clarify proposals and issues raised in NPRM of most interest to broadcasters
- Answer questions about the NPRM
- Web participants please send questions to learn@fcc.gov

Seeking responsive and informed comments in the public participation process

This is an overview

- Subsequent materials and events will go into greater depth on certain topics
- We will post information on the LEARN website:
www.fcc.gov/learnprogram

Incentive Auction Components

- Auctions
 - Reverse auction to pay broadcasters who relinquish UHF or VHF spectrum
 - Forward auction to license “repacked” spectrum for new flexible use
- Eligibility and bid options
- Reassignment (repacking) of television channels
- Wireless band plans
- Unlicensed spectrum
- Transition and payment of relocation costs

Broadcaster-Focused Principles

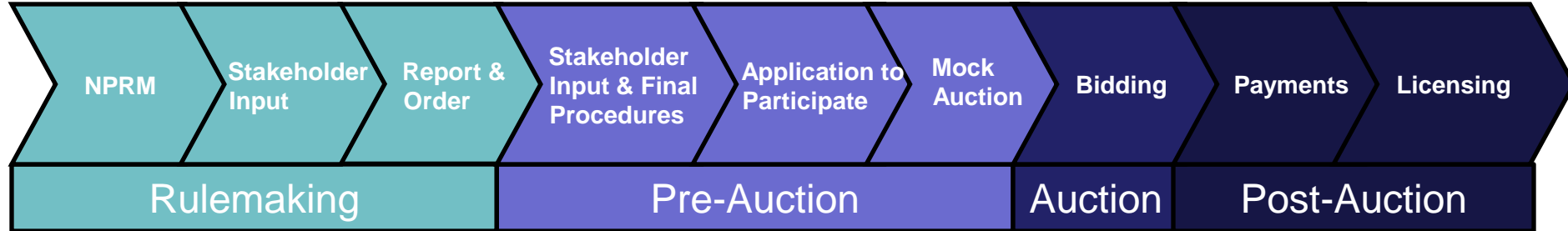
For participating stations:

- Broadcaster participation is *voluntary*
- FCC seeks to *maximize participation*
- The goal of our proposals is to keep participation simple for broadcasters

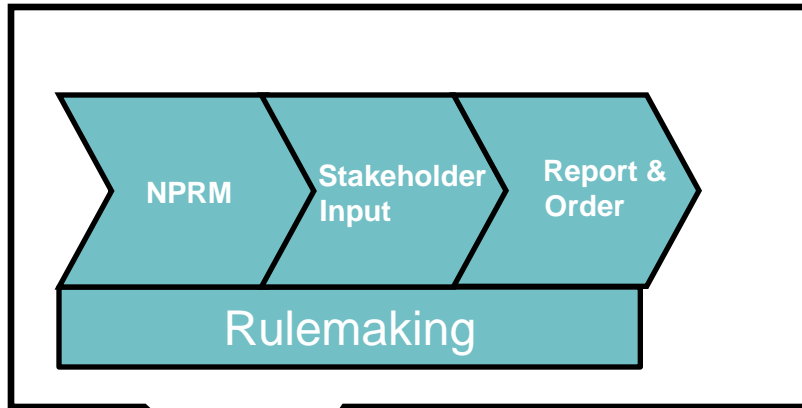
For stations remaining on air:

- Honor statutory protections
- Work with industry on transparent repacking methodology
- Develop viable reimbursement and transition mechanisms

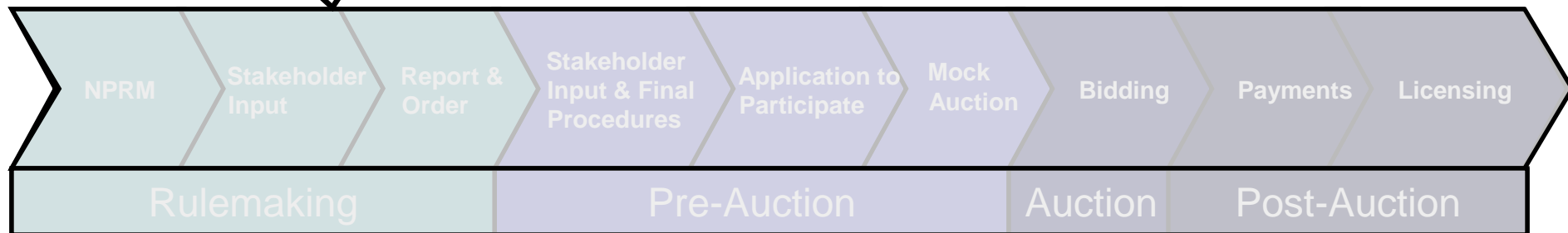
Auction Process Overview



Proposed Rulemaking In-Depth



Today's session will focus on the rulemaking phase of the process





Brett Tarnutzer

Chief Data Officer

Wireless Telecommunications Bureau

**Auction Design
Considerations**

Three Basic Design Elements

- The NPRM discusses three basic auction design elements for both the Reverse and Forward Auctions as well as the assignment stage of the Forward Auction
 1. Bid Collection
 2. Assignment / Winner Determination
 3. Determining Payment Amounts
- The NPRM includes Appendix C, prepared by auction experts proposing one possible auction design

Reverse Auction: Bid Collection

- What bids are collected: FCC plans to accept bids for different relinquishment options, including:
 - Go off the air
 - Includes channel-sharing option
 - Move to a lower band (e.g., UHF to VHF)
 - Accept more interference (under consideration)

Reverse Auction: Bid Collection

- Alternatives for how the bids are collected
 - Single-round sealed bid
 - Bidders submit one-time “best offers” for one or more bid options (e.g., go off the air, move from UHF to VHF)
 - Multiple round auction
 - Bidders see prices for each bid option, prices decline round by round, and bidders exit the auction when prices are too low
 - *Appendix C discusses a multiple round, descending clock auction*

Reverse Auction: Determining Winners

- Bid amounts
 - For the sealed bid version, the FCC may score bids based on some combination of the bid amount, the population served, interference contours, and other characteristics that define the value of the station.
 - For the clock auction version, the clock prices can be set based on similar factors. Thus, different stations will see different prices.
- Repacking evaluation
 - In addition to considering bid amounts, the auction design must be certain that there exists a channel assignment for every station that will remain broadcasting.
- NPRM discusses different ways to evaluate bids while ensuring repacking would be feasible
- *Appendix C discusses evaluating bids in decreasing order of “scored” bid amount, checking repacking feasibility at each step*

Reverse Auction: Determining Payments

- Pay-as-Bid
 - Bidder is paid the amount it bids
- Threshold Price
 - In a sealed bid auction, can be computed as the highest bid you could have made and still had your bid accepted
 - In a clock auction, the prevailing clock price when the bid is accepted (because the station can no longer be assigned a channel in its pre-auction band). This is logically equivalent to a sealed-bid threshold auction.
- *Appendix C discusses a clock auction using threshold prices*

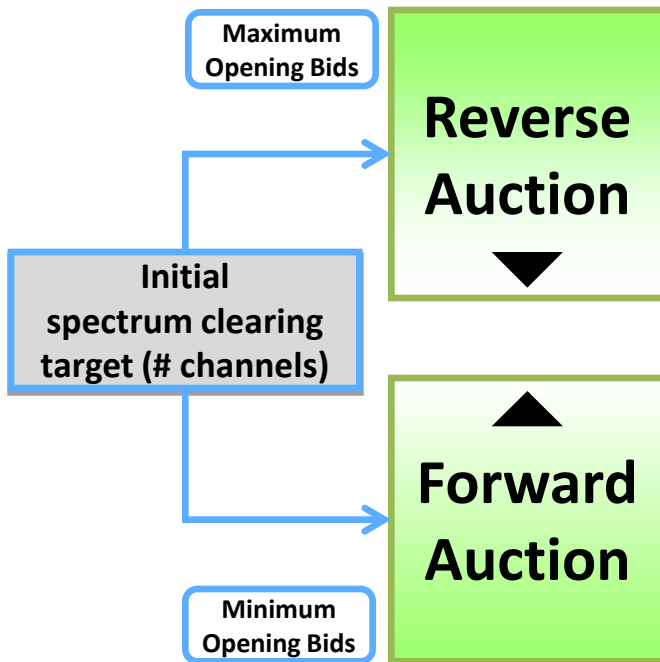
Integrating the Reverse and Forward Auctions

- Sequential
 - Run Reverse Auction first, followed by Forward Auction
- Concurrent
 - Run Reverse and Forward Auctions concurrently
- *Appendix C discusses a concurrent approach*

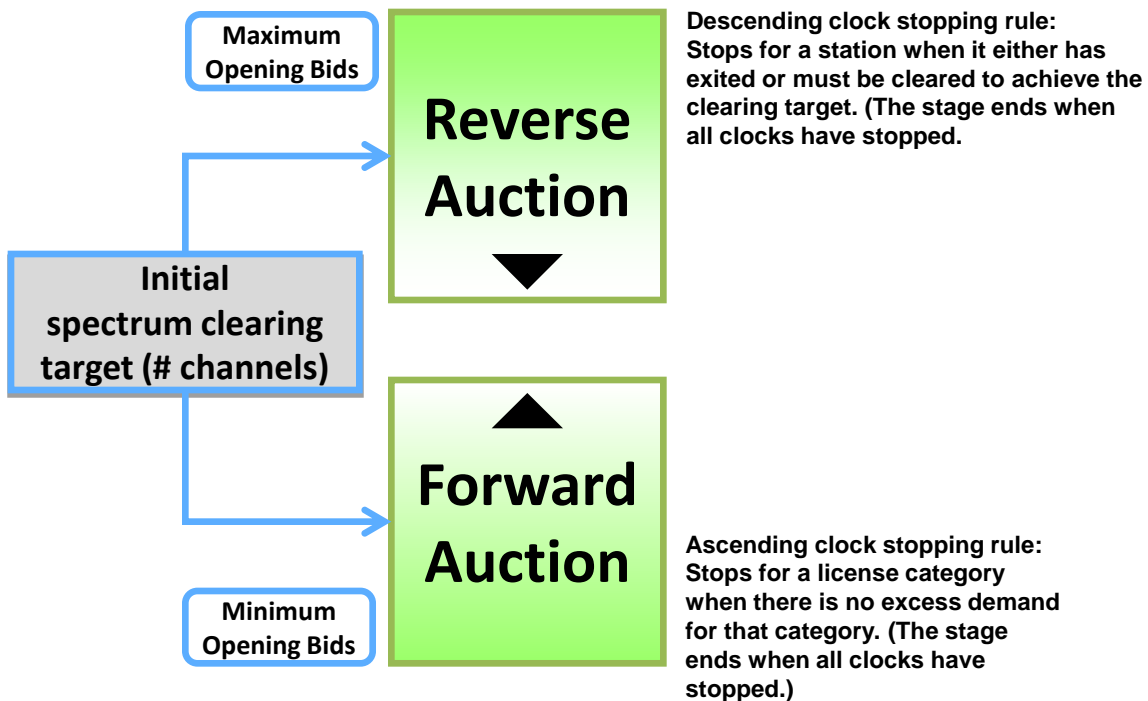
Incentive Auction Decision Tree

**Initial
spectrum clearing
target (# channels)**

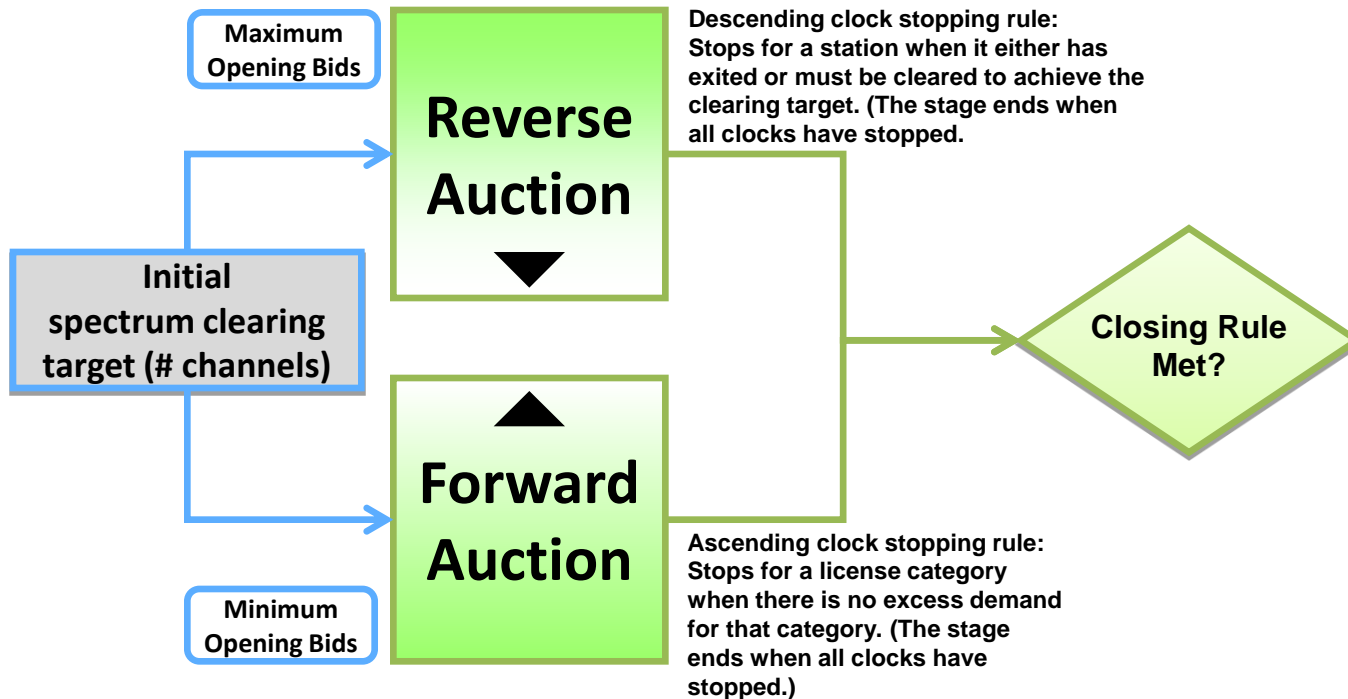
Incentive Auction Decision Tree



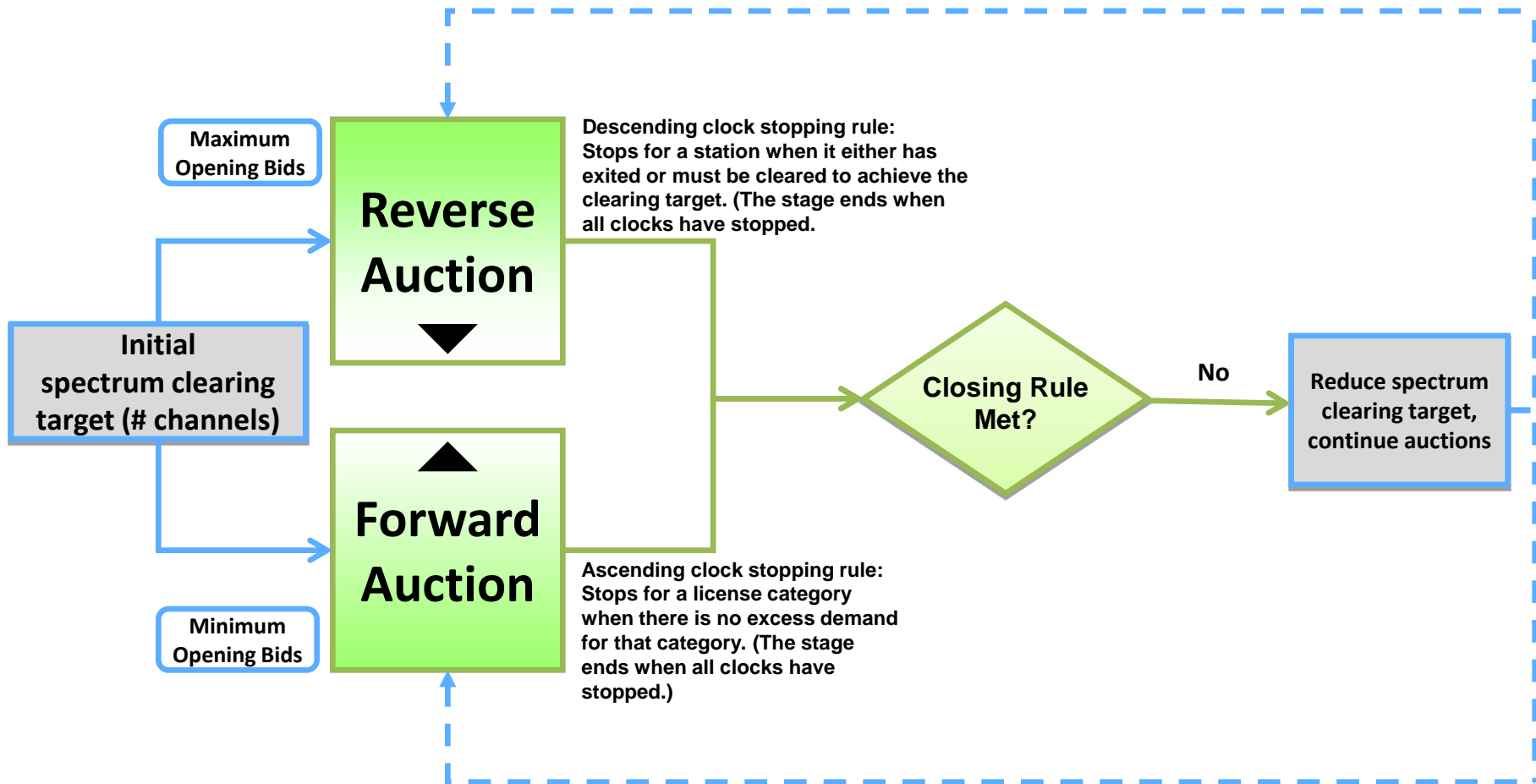
Incentive Auction Decision Tree



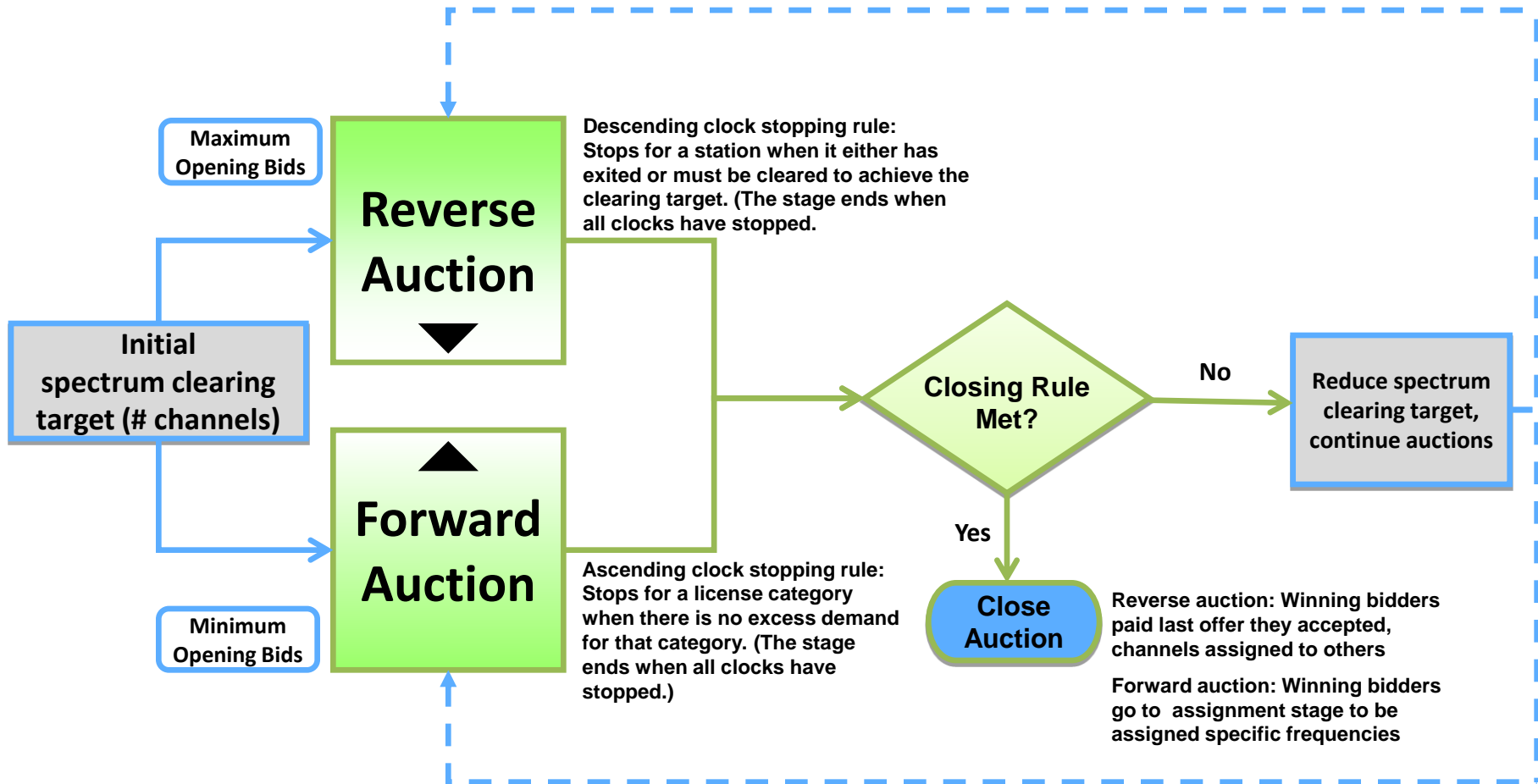
Incentive Auction Decision Tree



Incentive Auction Decision Tree



Incentive Auction Decision Tree





Bill Lake

Chief, Media Bureau

**Reverse Auction Bidder
Eligibility and Transition
Issues**

Eligibility for Participation in the Reverse Auction

Who is eligible?

- Spectrum Act authorizes full power and Class A stations only

Who is not eligible?

- Station whose license is expired, cancelled or revoked
- A contributing channel sharing station that must change its community of license or DMA in order to share
 - Sharing stations can be licensed to different communities
- LPTV and translator stations

LPTV and Translators

- Should we authorize voluntary channel sharing among low power stations and/or translators?
- What role, if any, should the FCC play in providing access to secondary users of spectrum after the auction?
- Should we change our rules governing how displaced station seek new channels?
- Should the FCC consider measures to promote carriage of low power/translator programming on available capacity on full power or Class A stations, MVPDs or the internet?
- How should we manage or avoid mutually exclusive displacement applications?

Channel Sharing: High Level Rules in Place

Authorized an initial, general framework in Report and Order released on April 27, 2012

1. Voluntary arrangements negotiated by channel sharing stations
2. Channel sharers remain separate FCC licensees
3. Only in connection with the incentive auction at this time
4. Full power and Class A stations only
5. Commercial and NCE stations may channel share
6. Must carry rights preserved for stations that channel share, based on the shared location

See Channel Sharing Workshop on May 22, 2012, archived at www.fcc.gov/learnprogram

Channel Sharing: More Detail in the NPRM

- Should the FCC require that certain provisions appear in channel sharing agreements, with the goal of limiting service disruption for viewers?
- How should terminations and/or transfers of a channel sharing license be treated?
- What if a Class A station sharing a channel loses its Class A status and, consequently, its right to channel share?
- We propose that if a Class A moves onto a full power, the shared facility remains at full power, but if a full power moves onto a Class A, the shared facility remains at low power.

Channel Sharing: More Detail in the NPRM

- We propose that an NCE licensee retain its NCE status in the event it either
 - leaves its reserved channel to share on a non-reserved channel, or
 - invites a non-NCE station onto its reserved channel.This preserves the number of channels and partial channels dedicated to NCE use in a given market.
- For purposes of must carry, if a Class A channel shares on a full power station, it will have the must carry rights it would have had were it not channel sharing, and if a full power shares on a Class A station, it would have the must carry rights that it would have if it were not sharing, provided it can provide the requisite signal quality to the MVPD on its low power.
- No channel sharing station can change its community of license or DMA.

Post-Auction Transition: New Channels

- Goals are to transition expeditiously / minimize viewer disruption
- Repacked stations will not be able to choose their new frequencies
- May be easier for some stations than others
 - New equipment vs. tower enhancements
- Considering expedited processing (10 days) for early deadline minor change applications
- Will take channel substitution requests after all minor change applications have been processed
 - Winning UHF to VHF bidders can't request a new UHF channel
 - Can they request new VHF channels?
 - Only available to stations that moved involuntarily?

Post-Auction Transition: Timing and Notice

- Should there be one transition completion deadline, or a series?
- Is 18 months enough time to move to new frequencies?
- When should terminating bidders cease operations?
- When and how should consumers be notified to rescan?

Cost Reimbursement

- Workshop on structuring fund and other issues in June, 2012
 - See archived webcast on reimbursement issues at www.fcc.gov/learnprogram
- Goal is to balance expediency with avoidance of waste, fraud and abuse
 - Fund expires three years after auction “completion”
 - Who should be eligible?
- What costs are reimbursable?

Cost Reimbursement

- We propose advancing payments based on estimates
 - Advances could be partial, with true up based on receipts at the end
 - Or could be a fixed amount sufficient to cover costs, with an appeals process for excess costs
 - How to formulate reimbursable amounts?
 - Should there be tiers based on technical and market variations?
 - Should cost estimates be the same for full powers and Class As?
 - How to handle costs that exceed estimates?

Rules Proposed for Pre-Auction Process

Managing auction-related communications among applicants

- Relevant to channel sharing planning

A rule incorporating the statutory requirement that the Commission take all reasonable steps necessary to protect the confidentiality of Commission-held data of a licensee participating in the Reverse Auction



Julius Knapp

Chief

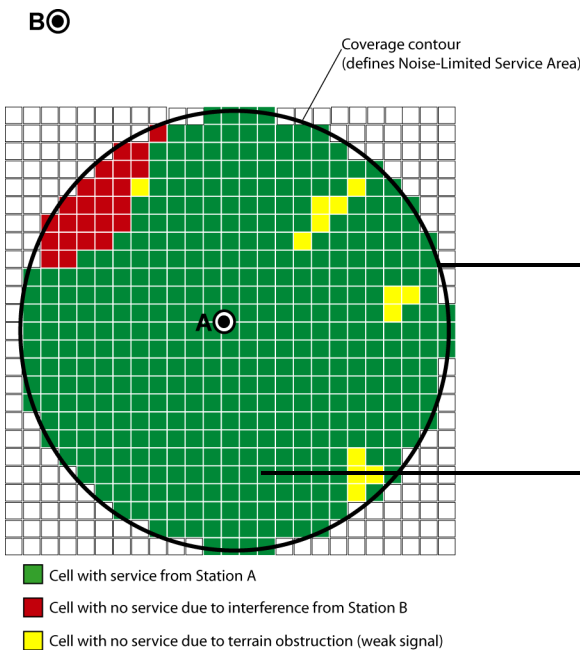
Office of Engineering and Technology

Repacking

Repacking

Legislative mandate:

“...make all reasonable efforts to preserve, as of [February 22, 2012], the **coverage area** and **population served** of each broadcast television licensee...using the methodology...in OET Bulletin 69...”



For purposes of satisfying this mandate, we interpret:

“Coverage area” = noise limited contour w/o regard to interference from other stations (the area inside the circle)

“Population served” = who receives signal within the coverage area, excluding station interference and terrain obstructions (the green area)

Proposal to Preserve Coverage Area

Repacked stations may continue to use their existing antenna patterns and adjust power to achieve same total square kilometers covered as before repacking

- Or station may choose antenna pattern and power resulting from FCC software run
- We anticipate *de minimis* impact within coverage area (<2%), due to changes in terrain losses

Currently considering only reassignment of channels

- No involuntary geographic moves contemplated
- Only a channel sharing station will move to a new geographic location (its partner's tower)

Option to Preserve Population Served #1

Repack can't result in more total population interference than the station had as of 2/22/12*

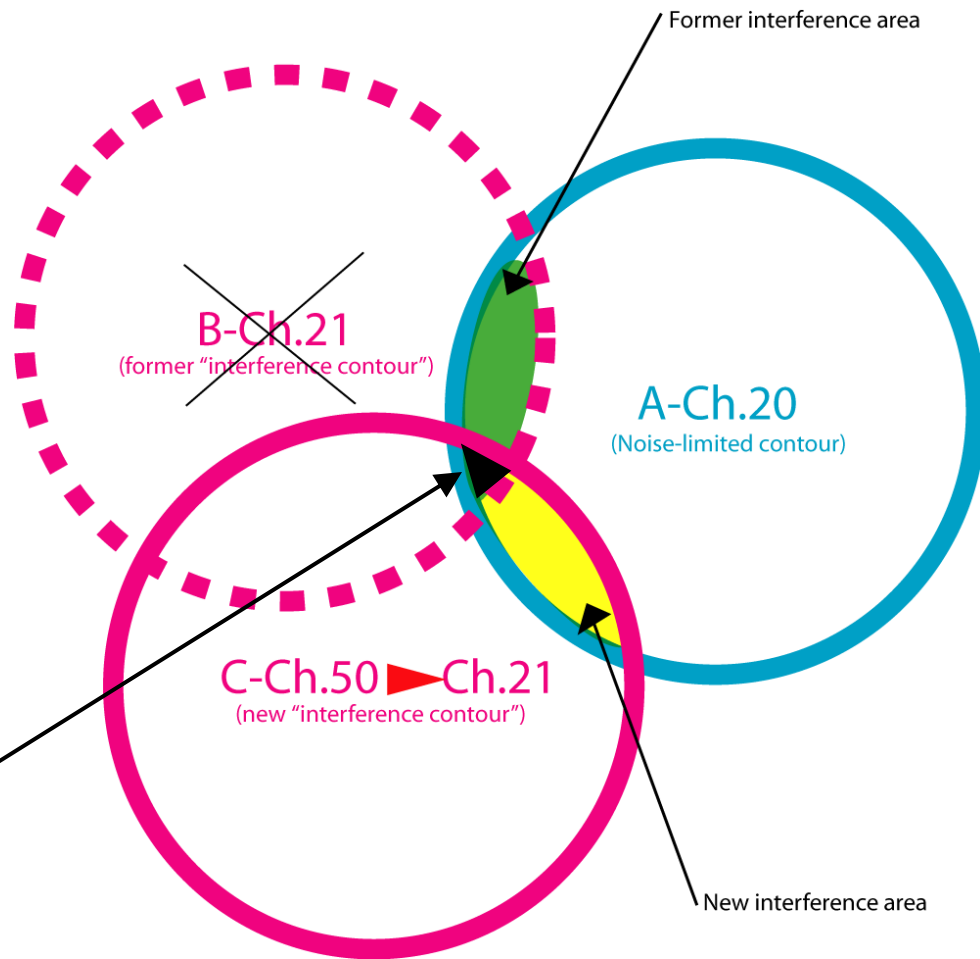
Total population interference would stay the same, but area(s) of new interference could occur elsewhere in coverage area

Possible gains of new viewers and/or increase in population served (green)

Possible loss of existing viewers (yellow)

Possible areas of no change (black)

*Current rules call for 0.5% rounding tolerance



Option to Preserve Population Served #2

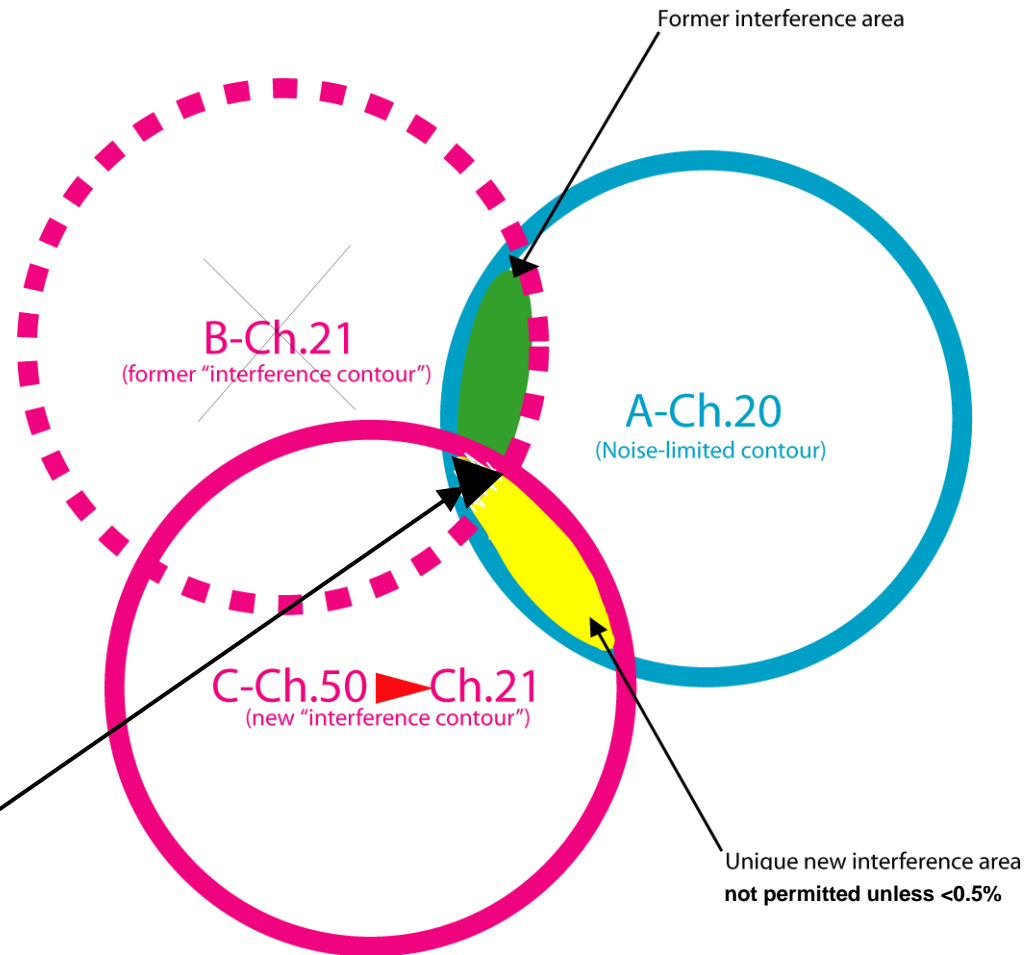
Repack can only “replace” population interference existing as of 2/22/12

No new areas of population interference allowed exceeding 0.5% viewer loss

Potential to gain new viewers (green)

Channel assignment not possible if new viewer loss exceeds 0.5% (yellow)

Possible areas of no change (black)

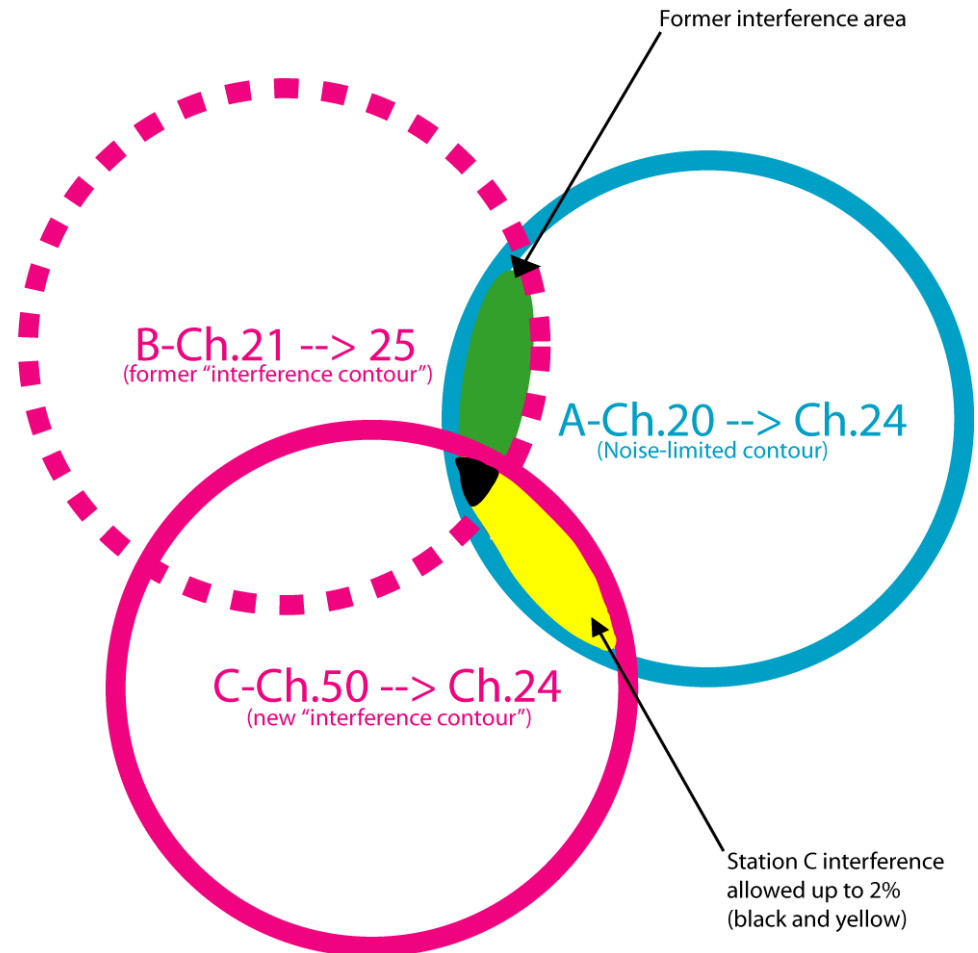


Option to Preserve Population Served #3

Only stations causing population interference to each other previously could continue to do so at that same level

Any new station(s) could cause new population interference up to 2% elsewhere in the coverage area

Interference measured on a station-to-station basis (not aggregated)





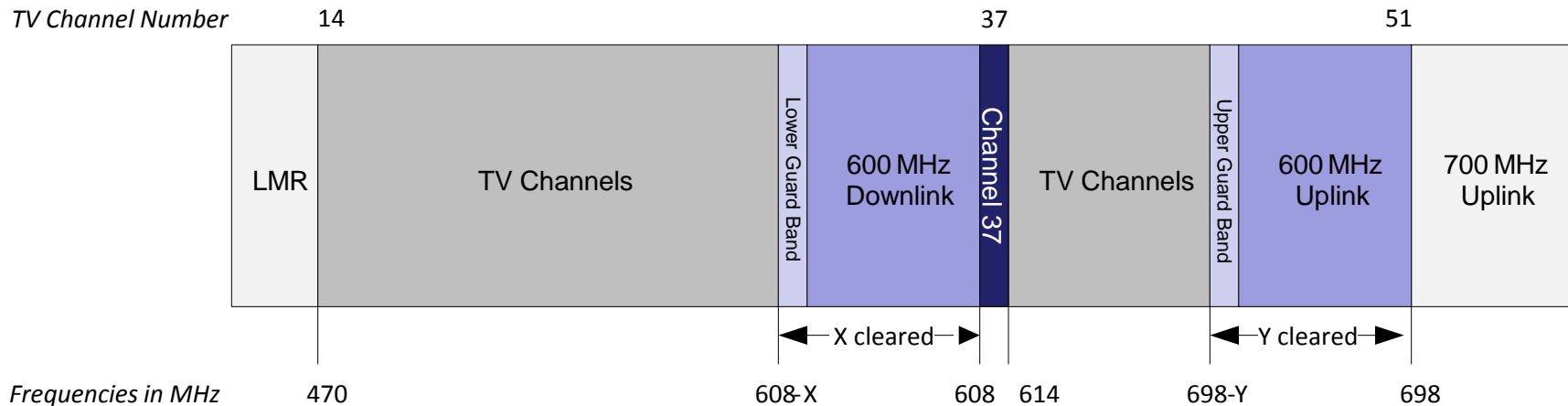
Ruth Milkman

Chief

Wireless Telecommunications Bureau

**Reconfiguring the UHF Band
– Wireless Band Plan**

600 MHz Wireless Band Plan – Lead Proposal



- Amount of spectrum available is auction-dependent: “X cleared” (downlink) and “Y cleared” (uplink)
- Uplink located at channel 51 (698 MHz) and expands downward
- Downlink located at channel 36 (608 MHz) and expands downward
- 5 megahertz blocks proposed, paired wherever possible
- 6 megahertz guard bands proposed, available for unlicensed use

Plan Allows for Non-Nationwide Clearing of Spectrum

LMR (IB&PS)	TV	G B	Downlink	37	TV	G B	Uplink	700 MHz
Market 1 (fewest cleared channels)				All markets have same downlink (same device filter)				Allow market variation in how much uplink is cleared
Market 2								
Market 3								
Market 4								
Market 5 (most cleared channels)								

- Proposes fixed amount of downlink spectrum nationwide to allow for the same receiver filters in all devices, reducing cost and promoting interoperability
- Allows for variation in amount of uplink spectrum to accommodate different quantities of cleared spectrum in different geographic areas
- Gives greater flexibility than other band plans that require clearing of uniform amount of spectrum nationwide

Fixed Broadcast Auxiliary Operations

- Fixed Broadcast Auxiliary Operations (BAS) are authorized as a secondary service in existing television broadcast spectrum
- NPRM proposes to allow fixed BAS to remain in the repacked TV bands if it does not interfere with broadcasters
- NPRM proposes to require BAS to relocate from reclaimed broadcast spectrum that is used for wireless services
- As a secondary service, BAS must relocate at its own expense

Proposals for Unlicensed Spectrum

NPRM proposals would provide a substantial amount of unlicensed spectrum, much available on a nationwide basis

Specifics:

- Continue to allow unlicensed operation on unused channels in the repacked television broadcast bands (white spaces)
- Remove reservation of two channels for wireless mics, making more available for white space devices
- Allow unlicensed use of two guard bands of 6 MHz each
- Allow unlicensed use in channel 37, with exclusion zones to protect radio astronomy and wireless medical telemetry

Questions?
