Incentive Auction Opportunities for Broadcasters

Prepared for the Federal Communications Commission by

Greenhill

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This presentation is designed to assist broadcasters and their agents in their analysis of the Incentive Auction opportunities, but does not purport to contain all information required by broadcasters or their agents to determine whether to participate in the Incentive Auction, and does not constitute financial, legal, regulatory, tax or accounting advice. Greenhill makes no representation or warranty with regard to this presentation or the Incentive Auction. In preparing this presentation, Greenhill has relied on publicly available information and other information furnished to it by the FCC and has assumed, without independent verification, the accuracy and completeness of all such information. In particular, the estimates and forecasts of auction bids and proceeds contained in this presentation were supplied by the FCC and have been relied upon by Greenhill without any independent verification thereof. Actual results may vary from such estimates and forecasts and such variations may be material.

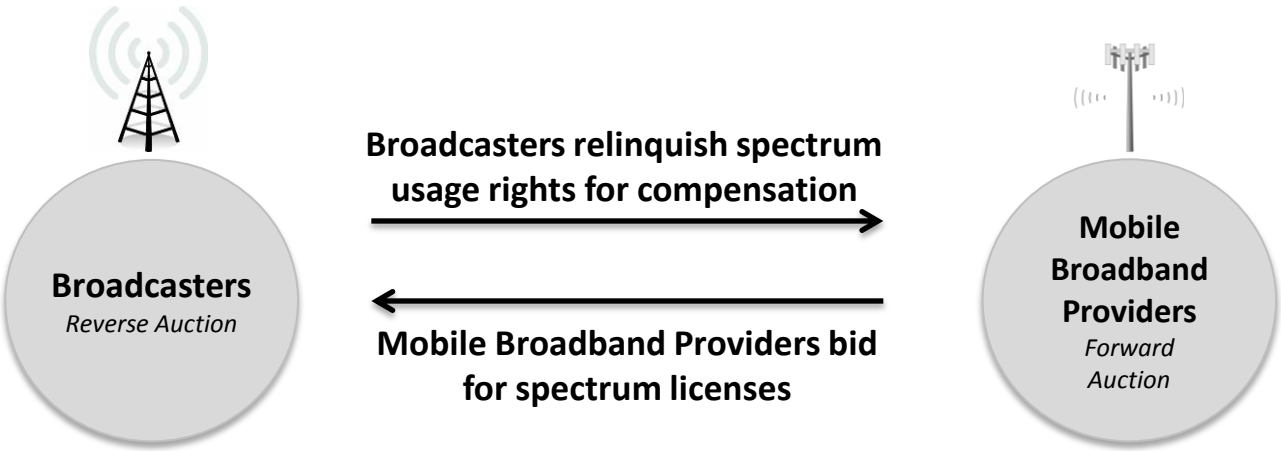
This presentation is for informational purposes only, is not intended to provide the sole basis for evaluating the Incentive Auction opportunities, and should not be considered a recommendation, opinion, or advice of any kind with respect to the Incentive Auction opportunities. Broadcasters are strongly urged to conduct their own independent investigation and due diligence regarding the Incentive Auction opportunities and make any decisions based on the advice of their own financial, legal, regulatory, tax, accounting and other advisors.

Note: These slides present an unofficial summary of the Incentive Auction Report and Order and Rules dated May 15, 2014 and the Broadcast Incentive Auction Comment Public Notice dated December 17, 2014. Should this summary vary from the Report and Order, Rules or Comment Public Notice as released, the official documents govern. Final auction procedures have not yet been adopted by the Commission.

What is the Incentive Auction?

The Incentive Auction Represents a Unique Opportunity for Broadcasters to Monetize the Value of their Spectrum

- The Incentive Auction is a market-based approach to repurposing the 600 MHz spectrum band that will provide Broadcasters the opportunity to sell their spectrum usage rights while retaining the flexibility to remain on the air
- The Incentive Auction is comprised of a Reverse Auction and a Forward Auction, which together will create a structured spectrum marketplace for Broadcasters and Mobile Broadband Providers
- The FCC has the unique ability to unlock value for Broadcasters by reorganizing the 600 MHz spectrum band into contiguous blocks on a nationwide basis and reallocating it for wireless use



Source: FCC

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Why Should You Participate?

The Incentive Auction Offers a Compelling Opportunity for Broadcasters

Unique Opportunity

- The FCC has the unique ability to unlock spectrum value through its authority to repurpose broadcast spectrum for wireless use and reorganize the 600 MHz Band on a nationwide basis
- A private sale of spectrum is not an option
- The FCC has no other Incentive Auctions planned or expected

Attractive Valuation Levels

- Recent trends (including the AWS-3 auction and other spectrum transactions), suggest highly attractive spectrum valuation levels
- Independent studies have estimated robust proceeds from the Forward Auction
- **Broadcasters in large and small markets are pivotal to clearing spectrum on a nationwide basis**

Voluntary with the Potential for Significant Upside

- Participation is strictly voluntary – Broadcasters decide whether to participate after they see the opening bid price offered by the FCC and have the flexibility to drop out in any subsequent round
- The FCC has committed to keep all information identifying Broadcasters who participate and drop out or are not chosen confidential for two years
- Furthermore, Broadcasters who participate and drop out remain protected (as if they had not participated)
- With multiple bidding options, participation does not mean a Broadcaster has to exit its business – Channel Sharing and moving to VHF are flexible ways to reap auction proceeds and stay on the air
- The IRS has provided guidance on the tax implications for each bidding option[1]

Source: FCC

(1) Federal Tax Principles Applicable to the FCC's Proposed Broadcast Incentive Auction, Internal Revenue Service (July 3, 2014) , available at wireless.fcc.gov/incentiveauctions/learn-program/docs/irs-letter.pdf . A summary of this guidance can be found in the attached Appendix.

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How the Incentive Auction Will Affect Broadcasters

Congress Authorized the FCC to Reorganize ("Repack") Broadcasters That Are Not Selected or Do Not Participate in the Auction

Stations that Participate and are Selected

- Broadcasters receive cash proceeds for relinquishment of their spectrum usage rights based on final bids
- If a Broadcaster accepts a license relinquishment or Channel Sharing bid, it is required to vacate its existing channel within three months of receiving proceeds
- If a Broadcaster accepts a UHF to VHF or High VHF to Low VHF transition bid, it must cease operations on its pre-Auction channel within 39 months

Stations that Participate and are Not Selected

- Broadcasters retain spectrum usage rights subject to repacking
- After the Incentive Auction, the final channel assignments will be released
- Broadcasters will be treated as if they had not participated in the Auction
- If a Broadcaster's channel is changed during the repacking process, it must cease operations on its pre-Auction channel within 39 months
  - Broadcasters will receive a portion of the $1.75 billion Relocation Fund to reimburse them for relocation costs

Stations that Choose Not to Participate

- Broadcasters retain spectrum usage rights subject to repacking
- After the Incentive Auction, the final channel assignments will be released
- If a Broadcaster's channel is changed during the repacking process, it must cease operations on its pre-Auction channel within 39 months
  - Broadcasters will receive a portion of the $1.75 billion Relocation Fund to reimburse them for relocation costs

Source: FCC

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Unique Opportunity for Broadcasters

The Incentive Auction Represents a Unique Opportunity for Broadcasters to Monetize their Spectrum

- The FCC has the unique ability to unlock broadcast spectrum value
  - ✓ Value unlocked as a result of FCC-backed repurposing and reorganization of broadcast spectrum for wireless broadband use
- There are several advantages for Broadcasters participating in the Reverse Auction
  - ✓ Ability to receive compensation by relinquishing spectrum, while retaining the flexibility to stay on air through Channel Sharing and UHF-to-VHF options
  - ✓ The FCC will conduct the Auction, enabling Broadcasters to avoid complexity and costs associated with repurposing spectrum

Given the FCC's one-time authorization for this Incentive Auction, Broadcasters who choose not to participate will miss this unique opportunity to unlock value

Source: FCC

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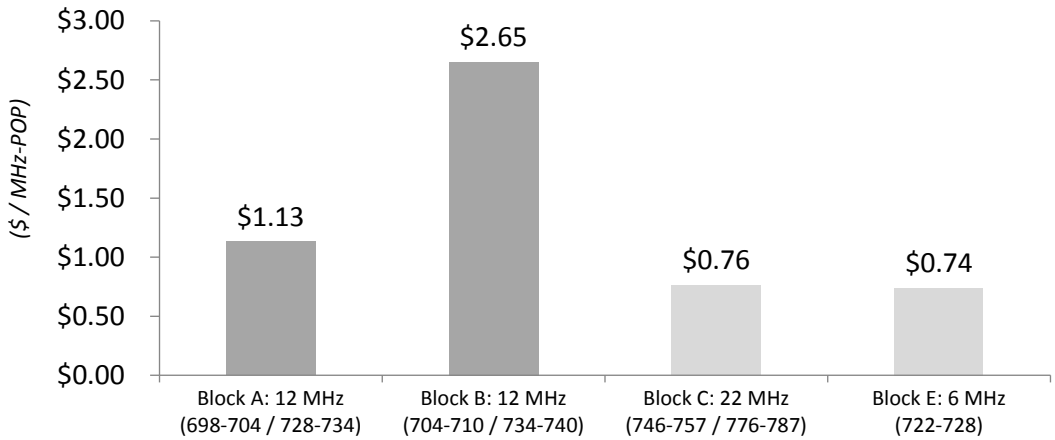
Your Low-Band Spectrum Usage Rights are Valuable

- Increased demand for wireless communication, greater coverage and increased speeds have driven wireless carriers to continue to build out their networks
  - Global mobile data traffic is forecasted to increase at a CAGR of 61% from 2013-2018[1]
- UHF spectrum currently being utilized by television Broadcasters is a rare and valuable resource
  - Low band spectrum, such as the 600 MHz band, has the ability to travel for longer distances and penetrate buildings better than higher-band spectrum – as such, low band spectrum transactions have drawn higher MHz-POP prices, and those prices have continued to trend upwards
- With the potential for unexpected technological shifts and uncertainty about future broadcast technical standards (e.g., Advanced Television Systems Committee ("ATSC") 3.0), the Incentive Auction provides Broadcasters an opportunity to maximize value today

Last Auction of Comparable Low-Band Spectrum[2]



The 2008 700 MHz auction (Auction 73) raised **$19 billion**

- Average unit price for all blocks: $1.28 per MHz-Pop
- Average unit price for paired blocks *(most comparable to 600 MHz band plan)*: **$1.35 per MHz-Pop**

(1) Cisco Visual Networking Index: Forecast and Methodology, 2013–2018 (June 10, 2014); Compound annual growth rate - year-over-year growth rate of mobile data traffic from 2013 to 2018
(2) Source for all Auction 73 data: FCC
Source: FCC

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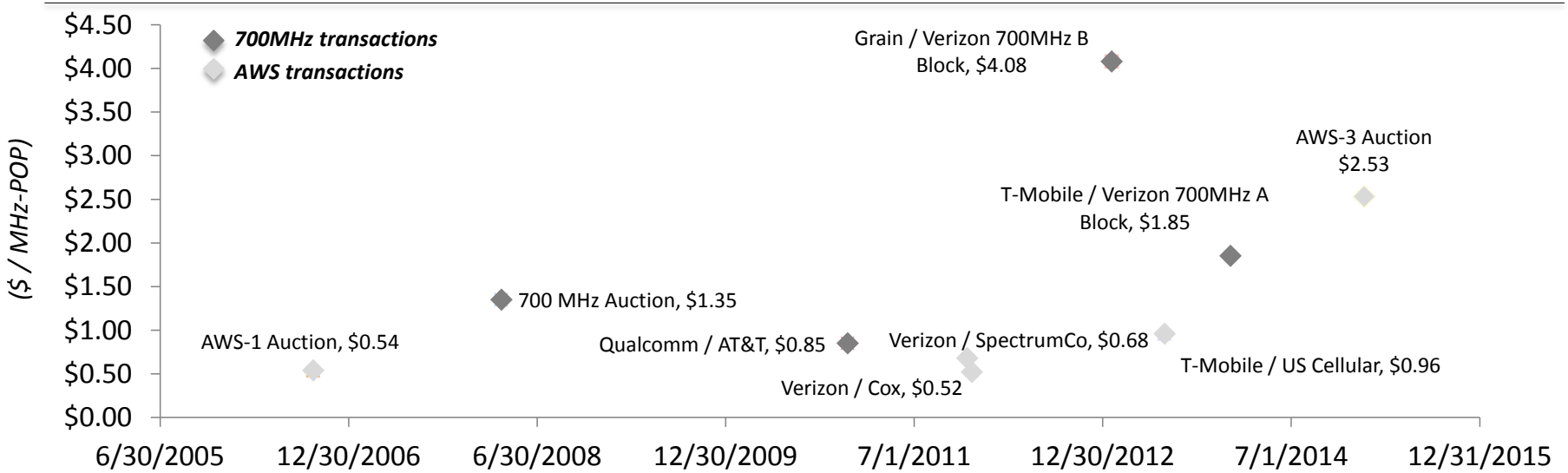
Wireless Spectrum Prices Have Continued Trending Upwards

- Over $9 billion in secondary market transactions over the past five years
- Major recent transactions include:

Dec 2010	*Dec 2011*	*Jan 2013*	*Jun 2013*	*Jan 2014*
ATT-Qualcomm	**Verizon-SpectrumCo**	**Verizon-Grain**	**T-Mobile-USCC**	**T-Mobile-Verizon**
700 MHz Band	AWS Band	700 MHz Band	AWS Band	700 MHz Band
$1.9 Billion	$3.6 Billion	$189 Million	$308 Million	$3.3 Billion

- MHz-POP unit prices for spectrum licenses have increased at an approximately 6% CAGR over auction prices, or approximately 33% over a five-year period
- The AWS-3 auction ended in January 2015 with $41.3 billion in total net bids and $39.5 billion for paired bands

$ / MHz-POP Figures from Recent Comparable Transactions – 700MHz and AWS



Source: FCC, Public press releases

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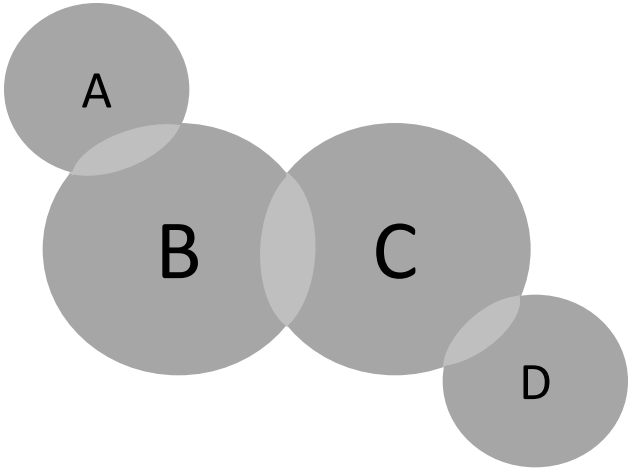
Robust Participation From All Sized Markets is Key to the Incentive Auction's Success…

Due to the "Daisy Chain" Nature of Interference, Stations in Mid to Smaller-Sized Markets will be able to Derive Substantial Value

Illustrative Interference Effect Across Multiple Markets



- Interference from Broadcasters in smaller markets can affect nearby larger markets
- For example, relinquishment of spectrum usage rights by Station A would enable the repacking of Station B and thereby free up more channels in Station B's market for sale in the Forward Auction
- That in turn could facilitate the repacking of Station C or other stations in Station C's market
- Participation by Station D could have the same effect

Select Commentary

Participation of More Than 200 Broadcasters is Needed

"…under the assumption of full participation, we learn that to clear 84 MHz of spectrum, **a minimum of roughly 200 voluntary Broadcaster exits are needed ignoring the domain constraints as identified by the FCC, and approximately 250 exits, if those constraints are considered"**

AT&T Computational Study (June 18, 2014)

Source: FCC

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…Which Unlocks Value for Broadcasters in Markets of all Sizes

Proposed Opening Bid Prices Indicate Compelling Value for Eligible Full Power Broadcasters Across the Nation, Not Just in Top Markets

Top 10 DMAs(1)

DMA	FCC's Proposed Opening Bid Prices Per Broadcaster ($mm)	
	Maximum	- Median
New York, NY	$870	$660
Los Angeles, CA	630	560
Chicago, IL	610	520
Philadelphia, PA	680	490
Dallas-Ft. Worth, TX	350	290
San Francisco-Oakland-San Jose, CA	540	410
Boston, MA	540	420
Washington, DC	490	410
Atlanta, GA	470	380
Houston, TX	290	270

DMAs Below the Top 30(1)

	DMA	FCC's Proposed Opening Bid Prices Per Broadcaster ($mm)	
		Maximum	- Median
38	West Palm Beach-Ft. Pierce, FL	$360	$290
43	Harrisburg-Lancaster-Lebanon-York, PA	420	310
46	Greensboro-High Point-Winston Salem, NC	480	350
52	Buffalo, NY	210	170
53	Providence, RI-New Bedford, MA	430	340
68	Flint-Saginaw-Bay City, MI	360	190
71	Tucson, AZ	140	100
86	Harlingen-Weslaco-Brownsville-McAllen, TX	90	86
98	Burlington, VT-Plattsburgh, NY	160	63
113	Youngstown, OH	390	360

Opening bid prices for going off-air have been calculated using the methodology that has been proposed by the Commission in the Incentive Auction Comment PN, with a 33% discount from the UHF relinquishment price for High-VHF stations and a 67% discount for Low-VHF stations. The proposed methodology, including discounts for VHF stations, is currently subject to public comment and final approval by the Commission. Final opening bid prices will depend on final determination of the constraints each station imposes on repacking. Actual compensation will be determined through the auction bidding process. Markets and stations needed in the Reverse Auction will depend on which stations choose to participate; low VHF stations are least likely to be selected in the auction because of the availability of low VHF channels. The Appendix includes a chart showing the maximum and median opening bid prices per station for each television market.

(1) DMA rankings per Nielsen 2013-2014

Source: FCC

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Class A Stations Could Also Receive Significant Compensation in Many Markets

Likewise, Proposed Opening Bid Prices are Compelling for Eligible Class A Broadcasters in All Sized Markets

Top 10 DMAs(1)

DMA	FCC's Proposed Opening Bid Prices Per Broadcaster ($mm)	
	Maximum	- Median
New York, NY	$460	$380
Los Angeles, CA	510	410
Chicago, IL	450	360
Philadelphia, PA	340	240
Dallas-Ft. Worth, TX	280	270
San Francisco-Oakland-San Jose, CA	260	240
Boston, MA	270	260
Washington, DC	280	130
Atlanta, GA	290	220
Houston, TX	270	250

DMAs Below the Top 30(1)

	DMA	FCC's Proposed Opening Bid Prices Per Broadcaster ($mm)	
		Maximum	- Median
34	Milwaukee, WI	$170	$160
38	West Palm Beach-Ft. Pierce, FL	140	84
53	Providence, RI-New Bedford, MA	120	120
55	Fresno-Visalia, CA	120	110
71	Tucson, AZ	93	89
78	Rochester, NY	120	100
86	Harlingen-Weslaco-Brownsville-McAllen, TX	72	41
125	Monterey-Salinas, CA	87	72
157	Wheeling, WV- Steubenville, OH	82	41
178	Harrisonburg, VA	62	17

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Reverse Auction Description

The Reverse Auction will use a Descending Clock Format to Make Participation Easy and Transparent for Broadcasters

Illustrative Reverse Auction Example where 2 Stations are Needed

(Assumes technically identical stations)

Round	Bid Price	Stations Accepting Bid Price	Stations in Excess of Clearing Target	
1	$$$$$$		3 stations	
2	$$$$$		1 station	Dropped Out Participants Repacked into Pre-Auction Band
3	$$$$		1 station	
4	$$$		0 stations ✓	Market Clears / Dropped Out Participants Repacked into Pre-Auction Band

Note: Not all stations willing to accept an offered price will be selected to relinquish their licenses. Since all stations are not technically identical, as is assumed in this slide, stations are not perfectly substitutable in the repacking process. The auction system will take into account bid amount and the feasibility of repacking stations into the broadcasting band when it selects stations to receive a relinquishment payment. Source: FCC

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Significant Flexibility for Broadcasters Through Multiple Bidding Options

The Reverse Auction is Structured so Broadcasters Can Receive Compensation, but also Retain the Optionality to Continue Broadcasting

License Relinquishment	✓ Relinquish entire 6 MHz channel and go off the air ✓ Highest level of proceeds for winning bidders ✓ Enables Broadcasters to reallocate proceeds to support other operations, reinvest in more strategic markets or return capital to stakeholders ✓ Potential for long-term capital gains tax treatment[1]
Channel Sharing	✓ Relinquish entire 6 MHz channel and negotiate a commercial arrangement with another Broadcaster to share channels / facilities and stay on the air ✓ Winning bidders will receive the same level of Auction proceeds as in a License Relinquishment bid, prior to any effect of sharing arrangement ✓ Remain on the air and receive proceeds from the Auction with no loss of licensee status ✓ Maintain cable carriage rights ✓ Lower operating costs and capital expenditures through facility sharing ✓ Immediate value in markets in which commonly owned Broadcasters can pair up ✓ Broadcasters in dozens of markets already transmit two top-4 network signals on the same 6 MHz channel, and Sinclair recently announced that it will transmit two network signals on the same channel[2] ✓ Channel sharing by two different licensees was successfully validated in a trial conducted in early 2014 ✓ May qualify for tax deferral for the portion of the gain associated with moving to a shared channel[1]
UHF to VHF / High VHF to Low VHF Move	✓ Relinquish 6 MHz UHF or high VHF channel in exchange for another channel ✓ Remain on the air and receive proceeds from the auction with no loss of licensee status ✓ Maintain cable carriage rights ✓ Flexibility to limit bids to a high or low VHF channel ✓ May be able to defer taxes on a portion of gain through like-kind exchange [1]

"The framework established in the Report and Order offers a **win-win for Broadcasters to generate revenue and continue to broadcast over the air**, while ensuring that consumers will benefit from more robust competition among wireless carriers."

DISH Network (July 9, 2014)

(1) Federal Tax Principles Applicable to the FCC's Proposed Broadcast Incentive Auction, Internal Revenue Service (July 3, 2014)
(2) FCC 2014 Quadrennial Review Further Notice of Proposed Rulemaking; Sinclair press release (March 20, 2014)

Source: FCC

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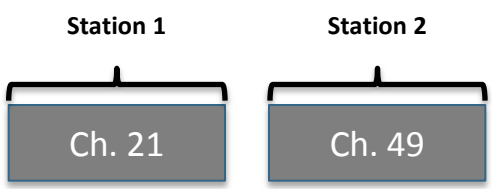
Overview of the Channel Sharing Option

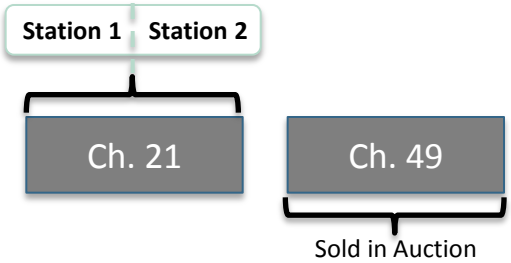
Enables Broadcasters to Remain on the Air While Also Receiving Substantial Compensation Through the Incentive Auction

- Under this option, a Broadcaster will relinquish its existing 6 MHz channel in the Reverse Auction as if it were to go off the air and, after the auction, move to a shared channel
- The opening bid prices published in the Incentive Auction Opportunities for Broadcasters document apply to Channel Sharing participants, who will receive a full valuation for their UHF 6 MHz
  - The Broadcaster relinquishing its 6 MHz license will receive auction proceeds and must agree on how to share these proceeds with its Channel Sharing partner
  - For **commonly owned Broadcasters** in the same market, the Channel Sharing option drives **immediate value** without having to share proceeds with a third party
- This option enables Broadcasters to **remain on the air, receive proceeds with no loss of licensee status, and reduce operating costs and capital expenditures through facility sharing**
  - Channel sharing can take place in the UHF or VHF band
- Each shared station remains a **primary FCC licensee on a 6 MHz channel with all current licensee rights, including must carry**
  - Broadcasters will **privately negotiate** financial, operational and technical arrangements regarding sharing of channel and transmission facilities

Standalone



Illustrative Channel Share



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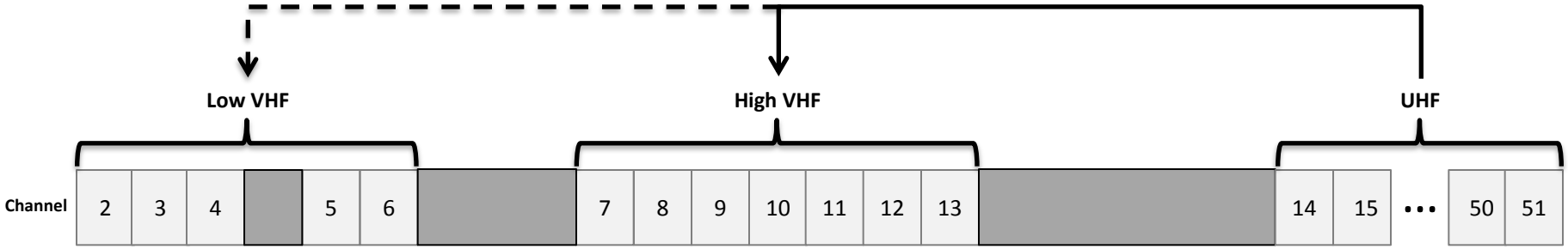
Overview of the UHF to VHF Band Change

Unique Opportunity to Receive Portion of Auction Proceeds, Remain on the Air and Maintain Current Coverage Standards

- Under this option, a Broadcaster will bid to relinquish its UHF spectrum in the Reverse Auction and be assigned a **full 6 MHz channel in the VHF spectrum – enabling delivery of the same services as on UHF**
  - UHF to VHF bidders have the flexibility to limit their bids to a high or low VHF channel
- Broadcasters will remain on the air and receive auction proceeds **with no change to licensee status**
- Pursuant to statute, **Broadcasters will retain must carry rights** at their new channel
  - Broadcasters could also utilize online delivery for programming for which they hold the applicable distribution rights
- The FCC will make all reasonable efforts to preserve a Broadcaster's population served and coverage area on its VHF channel, under the same standards applicable to repacking
- The FCC will work with winning UHF to VHF bidders seeking to modify their operations in order to mitigate any over-the-air reception issues
- For Broadcasters who rely largely on cable and satellite to reach their audience, there will be **little loss of viewership** from the switch to the VHF band
  - Likewise, Broadcasters in less dense locales may be able to generate significant payouts with little to no effect on existing coverage
- Allows Broadcasters to defer immediate taxation on a portion of the received auction proceeds
- Broadcasters can also elect to relinquish a high VHF channel in exchange for a low VHF channel



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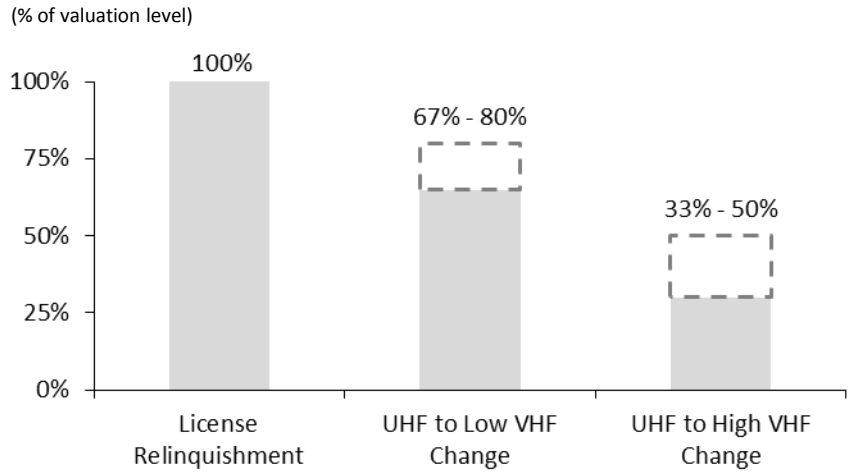
Opening Bid Prices for UHF to VHF Band Change

- The Opening Bid Prices published in this document are for UHF 6 MHz license relinquishments
- For the UHF to VHF band change option, a discount relative to the license relinquishment opening bid levels can be expected, though the final valuation levels for UHF to VHF band changes will depend on auction demand
- The discount will vary depending on whether a High VHF or Low VHF channel is requested by the Broadcaster
  - The FCC has tentatively concluded that the discount for a change to low VHF should be in the range of 20% to 33%
  - The FCC has tentatively concluded that the discount for a change to high VHF should be in the range of 50% to 67%
  - The FCC will adopt a final discount percentage within each range prior to the Auction

FCC Estimate of Opening Bid Prices for UHF to VHF Band Change Option



Illustrative Example	$100 million	$67 – $80 million	$33 – $50 million

Source: FCC

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How Broadcasters Should Prepare for the Auction

It is Important for Broadcasters to Understand and Prepare for the Unique Opportunity the Incentive Auction Presents

- Broadcasters should review materials prepared by the FCC and third parties, including the Report & Order, the Comment Public Notice and the LEARN website, to better understand the Incentive Auction bid options and the opportunities they present
- The FCC has proposed providing opening bid prices 60 days in advance of the Auction participation application due date, in order to allow Broadcasters to sufficiently prepare to participate
- Broadcasters should determine the current value of their spectrum usage rights and establish an internal "walk away" price at which they would elect not to participate, which may guide auction strategy
  - Broadcasters may consider many factors including, but not limited to:
    - Current and future profitability of a Broadcaster's television business
    - Trends in spectrum valuation and the impact of possible disruptive or new technologies that may affect the broadcast business
    - Opportunities for channel sharing in their market
    - Population shifts and trends in a station's coverage area
    - Competitive broadcasting and video landscape and viewership trends
    - Potential opportunities for content distribution through other mediums, including programming agreements with remaining Broadcasters
    - Intangible social value and community-wide branding from providing broadcast services
    - Potential developments in broadcast technology
- Additionally, the FCC has committed to being available throughout the Reverse Auction to answer any questions and provide Broadcaster support

Source: FCC

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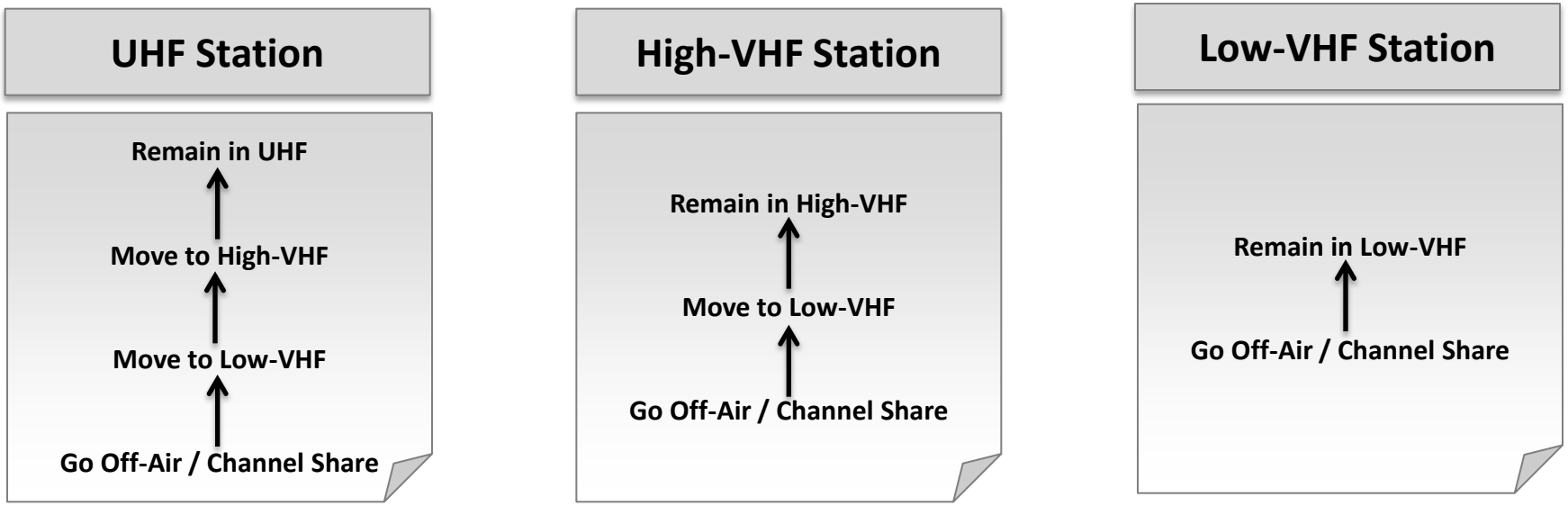
Proposed Hierarchy of Reverse Auction Bid Options

- Bid options will be arranged in a hierarchy based on the nature of the spectrum rights to be relinquished
  - The availability of options depends on a station's pre-auction band
- The auction system will permit a bidder to move up the ladder from round to round, from greater relinquishment to less, but not down
  - For example, if a UHF station initially selects "Move to Low-VHF" as its preferred bid option, and the auction system accepts that bid, the station could not switch its bid to "Go Off-Air" in a later round



Source: FCC

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Proposed Selection of Reverse Auction Options

- A participating Broadcaster must select at least one bid option for each participating station, and may select multiple options
  - Broadcasters who are choosing to channel share will bid to Go Off-Air, following the same bidding procedures as bidders that wish to Go Off-Air without retaining a license
- A Broadcaster that selects multiple bid options must identify a preferred bid option
  - A Broadcaster may also specify alternative options which would be used in the event that the auction system cannot accommodate the preferred option
- Specifying an option will constitute a commitment to relinquish the spectrum usage rights at the opening price associated with that option in the event that the auction system can accommodate that preference
  - For example, specifying "Go Off-Air" as an alternative to the preferred option of "Move to Low-VHF" binds a station to the former in the initial round if the latter is not feasible
  - If the auction system cannot accommodate a station's preferred option or any of its alternatives, then that station will be assigned a channel in its pre-auction band, as if it had not participated in the auction at all

Source: FCC

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Post-Auction Transition and Payments

The FCC Plans to Pay Funds to Winning Broadcasters As Soon As Practicable

Payment Timing	– The FCC has said it intends to disburse Incentive Auction proceeds as quickly and efficiently as possible after spectrum licenses have been granted to winning Forward Auction bidders • Spectrum licenses after the Auction will be granted on a rolling basis as license applications become ready for grant
Transition Requirements	– Participating Broadcasters who relinquish spectrum or channel share will have three months from payment to go off the air – Broadcasters relocating to a new channel after the Incentive Auction closes will have up to 39 months to cease operating on their pre-auction channel
Final Channel Assignments	– Final channel assignments will be determined based on factors that minimize the impact of repacking on Broadcasters, including: • Maximizing the number of stations assigned to their pre-auction channel • Minimizing the number of stations predicted to receive aggregate new interference above one percent • Avoiding reassignments of stations with high anticipated relocation costs in order to minimize total relocation costs

Source: FCC

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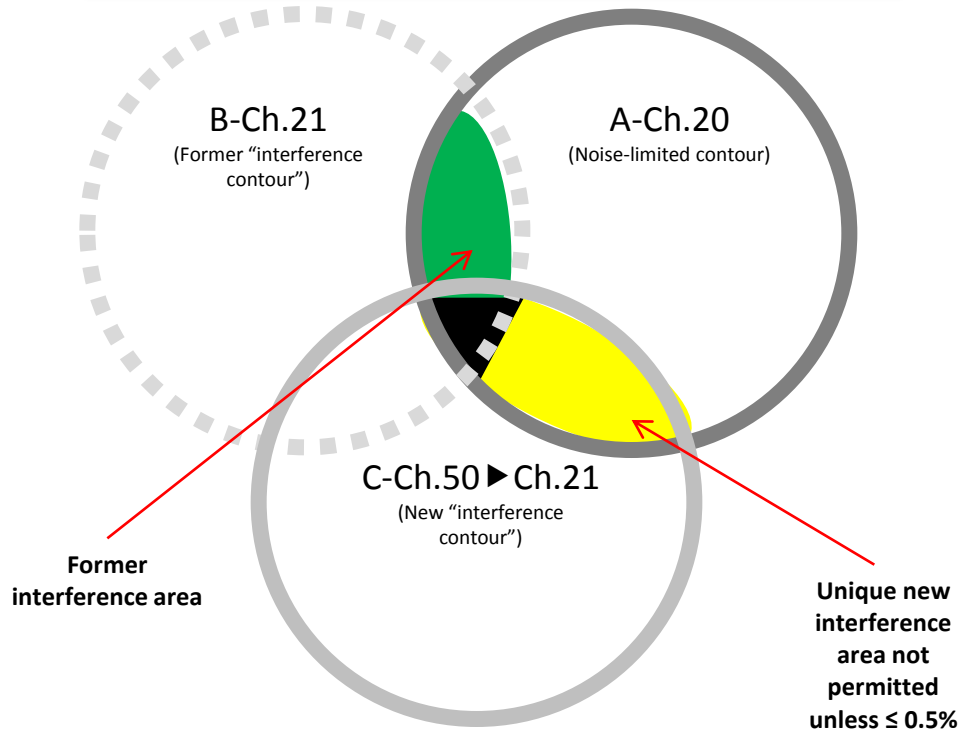
Repacking Process is Designed to Preserve Population and Coverage Area

- Non-participating Broadcasters and those that do not have bids accepted will continue to operate in their pre-auction spectrum bands following the Incentive Auction
- The FCC will "repack" Broadcasters so that television stations occupy a smaller portion of the UHF band
- This will allow the FCC to reconfigure a portion of the UHF band into contiguous blocks of spectrum suitable for wireless use
- In carrying out the repacking, the Spectrum Act requires the FCC to make "all reasonable efforts" to preserve broadcast station "coverage area" and "population served" as of February 22, 2012 (the date of enactment)

Key Repacking Dynamics



- Channel assignment not permitted if new interference would reduce population served by more than 0.5% (*yellow*)
- Predicted areas of no change *(black)*
- Station's coverage area will replicate original channel as closely as possible

Source: FCC

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Overview of Relocation Reimbursement Fund

- Congress established a $1.75 billion TV Broadcaster Relocation Fund to pay reasonable relocation costs of TV stations and MVPDs
  - Non-participating Broadcasters and those that do not have bids accepted are eligible for reimbursement from the fund if they are repacked
- Reimbursement funds will be available to stations and MVPDs as they incur expenses
  - The initial allocation of reimbursement funds will be based on estimated costs
- The Media Bureau has developed a list of eligible expenses and estimated costs
- The goal is to balance expediency with avoidance of waste, fraud and abuse
- Fund expires three years after completion of the auction

Source: FCC

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Why You Should Participate in the Auction

Unique Spectrum Marketplace –
Unlikely to Occur Again

Spectrum Value Unlocked – FCC's Sole Authority to Repurpose and Reorganize Spectrum

Potential for Attractive Valuation Levels – Recent Auctions and Transactions Have Been Driven by Unprecedented Spectrum Demand

Multiple Bidding Options – Flexibility to Receive Compensation While Continuing to Stay on the Air

Participation is Completely Voluntary and Provides
the Potential for Significant Financial Upside

Source: FCC

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FCC Proposed Opening Bid Prices

($ in millions)

Set forth below are the FCC's proposed opening bid prices for going off-air. In the actual auction, prices will be bid down in many markets and the actual payouts to many winning bidders will be lower as a result. On a nationwide basis, it is anticipated that forward auction revenues will exceed the winning bid amounts and the other requirements specified by the final stage rule. Those additional revenues will be deposited in the Public Safety Trust Fund to advance the financial goals identified by Congress in the Spectrum Act.

DMA	FCC's Proposed Opening Bid Prices per Broadcaster ($mm)					
	Full Power			Class A		
	Maximum	-	Median	Maximum	-	Median
1 New York, NY	$870		$660	$460		$380
2 Los Angeles, CA	630		560	510		410
3 Chicago, IL	610		520	450		360
4 Philadelphia, PA	680		490	340		240
5 Dallas-Ft. Worth, TX	350		290	280		270
6 San Francisco-Oakland-San Jose, CA	540		410	260		240
7 Boston, MA	540		420	270		260
8 Washington, DC	490		410	280		130
9 Atlanta, GA	470		380	290		220
10 Houston, TX	290		270	270		250
11 Detroit, MI	380		360	310		180
12 Phoenix, AZ	200		190	220		110
13 Seattle-Tacoma, WA	210		190	n.a.		n.a.
14 Tampa-St Petersburg-Sarasota, FL	400		320	220		190
15 Minneapolis - St. Paul, MN	230		140	180		180
16 Miami - Ft. Lauderdale, FL	300		280	300		240
17 Denver, CO	250		220	190		83
18 Orlando-Daytona Beach-Melbourne, FL	350		320	220		150
19 Cleveland-Akron, OH	360		300	120		63
20 Sacramento-Stockton-Modesto, CA	470		370	170		150
21 St. Louis, MO	230		220	130		97
22 Portland, OR	190		170	140		130
23 Pittsburgh, PA	330		280	230		94
24 Raleigh-Durham, NC	390		340	160		65
25 Charlotte, NC	400		310	150		93
26 Indianapolis, IN	300		250	170		140
27 Baltimore, MD	590		480	140		140
28 San Diego, CA	220		200	160		100
29 Nashville, TN	260		220	120		60
30 Hartford-New Haven, CT	420		350	140		130
31 Kansas City, KS-MO	200		200	n.a.		n.a.
32 Columbus, OH	310		290	170		72
33 Salt Lake City, UT	140		110	140		73
34 Milwaukee, WI	$310		$280	$170		$160
35 Cincinnati, OH	320		270	200		200
36 San Antonio, TX	250		200	170		140
37 Greenville-Spartanburg, SC-Asheville, NC	270		220	n.a.		n.a.
38 West Palm Beach-Ft. Pierce, FL	360		290	140		84
39 Grand Rapids-Kalamazoo-Battle Creek, MI	280		190	140		55
40 Austin, TX	280		250	190		71
41 Oklahoma City, OK	150		130	120		110
42 Las Vegas, NV	150		84	130		120
43 Harrisburg-Lancaster-Lebanon-York, PA	420		310	n.a.		n.a.
44 Birmingham, AL	260		200	120		79
45 Norfolk-Portsmouth-Newport News, VA	230		180	160		110
46 Greensboro-High Point-Winston Salem, NC	480		350	n.a.		n.a.
47 Albuquerque-Santa Fe, NM	99		51	89		75
48 Jacksonville, FL	170		160	87		71
49 Louisville, KY	270		200	150		86
50 Memphis, TN	180		150	130		79
51 New Orleans, LA	190		160	110		110
52 Buffalo, NY	210		170	70		44
53 Providence, RI-New Bedford, MA	430		340	120		120
54 Wilkes Barre-Scranton, PA	290		190	38		16
55 Fresno-Visalia, CA	190		160	120		110
56 Little Rock-Pine Bluff, AR	150		110	99		83
57 Richmond-Petersburg, VA	250		200	n.a.		n.a.
58 Albany-Schenectady-Troy, NY	200		130	120		45
59 Mobile, AL-Pensacola, FL	190		150	55		55
60 Tulsa, OK	170		130	110		97
61 Knoxville, TN	260		210	n.a.		n.a.
62 Ft. Myers-Naples, FL	230		190	85		60
63 Lexington, KY	190		130	n.a.		n.a.
64 Dayton, OH	380		330	n.a.		n.a.
65 Charleston-Huntington, WV	180		120	n.a.		n.a.
66 Roanoke-Lynchburg, VA	210		170	61		61

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DMA	FCC's Proposed Opening Bid Prices per Broadcaster ($mm)					
	Full Power			Class A		
	Maximum	-	Median	Maximum	-	Median
67 Wichita - Hutchinson, KS	$110		$29	$60		$60
68 Flint-Saginaw-Bay City, MI	360		190	n.a.		n.a.
69 Honolulu, HI	100		60	83		83
70 Green Bay-Appleton, WI	160		130	12		12
71 Tucson, AZ	140		100	93		89
72 Des Moines-Ames, IA	160		92	71		44
73 Spokane, WA	77		65	8		8
74 Omaha, NE	160		140	n.a.		n.a.
75 Springfield, MO	150		120	50		50
76 Toledo, OH	240		220	120		120
77 Columbia, SC	200		170	n.a.		n.a.
78 Rochester, NY	140		140	120		100
79 Huntsville-Decatur-Florence, AL	200		190	87		75
80 Portland-Auburn, ME	170		99	n.a.		n.a.
81 Paducah-Cape Girardeau-Harrisburg-Mt Vernon	150		100	43		36
82 Shreveport, LA	160		130	60		41
83 Madison, WI	230		200	92		92
84 Champaign-Springfield-Decatur, IL	210		130	37		37
85 Syracuse, NY	220		170	91		78
86 Harlingen-Weslaco-Brownsville-McAllen, TX	90		86	72		41
87 Chattanooga, TN	340		160	120		110
88 Waco-Temple-Bryan, TX	320		160	75		62
89 Colorado Springs-Pueblo, CO	190		170	39		39
90 Cedar Rapids-Waterloo-Iowa City-Dubuque, IA	160		120	n.a.		n.a.
91 El Paso, TX	65		52	n.a.		n.a.
92 Savannah, GA	130		110	61		48
93 Baton Rouge, LA	230		170	120		61
94 Jackson, MS	140		130	n.a.		n.a.
95 Charleston, SC	130		120	64		45
96 South Bend-Elkhart, IN	250		210	n.a.		n.a.
97 Tri-Cities, TN-VA	190		150	89		56
98 Burlington, VT-Plattsburgh, NY	160		63	1		1
99 Greenville-New Bern-Washington, NC	250		140	n.a.		n.a.
100 Davenport, IA-Rock Island-Moline, IL	$170		$110	n.a.		n.a.
101 Ft. Smith-Fayetteville-Springdale-Rogers, AR	140		120	84		64
102 Myrtle Beach-Florence, SC	240		170	110		110
103 Johnstown-Altoona, PA	240		150	110		65
104 Evansville, IN	140		110	80		66
105 Lincoln-Hastings-Kearney, NE	140		35	n.a.		n.a.
106 Tallahassee, FL-Thomasville, GA	150		140	70		16
107 Reno, NV	81		59	43		43
108 Tyler-Longview, TX	150		120	n.a.		n.a.
109 Ft. Wayne, IN	170		160	43		43
110 Boise, ID	61		42	55		39
111 Sioux Falls-Mitchell, SD	110		26	n.a.		n.a.
112 Augusta, GA	220		120	85		78
113 Youngstown, OH	390		360	n.a.		n.a.
114 Springfield-Holyoke, MA	280		270	54		54
115 Lansing, MI	330		230	n.a.		n.a.
116 Fargo-Valley City, ND	60		21	n.a.		n.a.
117 Peoria-Bloomington, IL	180		110	n.a.		n.a.
118 Macon, GA	150		120	57		57
119 Traverse City-Cadillac, MI	110		55	n.a.		n.a.
120 Montgomery, AL	150		120	63		45
121 Eugene, OR	90		69	59		54
122 Lafayette, LA	180		140	76		76
123 Santa Barbara-Santa Maria-San Luis Obispo, CA	210		90	53		37
124 Yakima-Pasco-Richland-Kennewick, WA	77		43	49		25
125 Monterey-Salinas, CA	260		200	87		72
126 Columbus, GA	230		130	72		72
127 Bakersfield, CA	140		98	84		84
128 La Crosse-Eau Claire, WI	160		91	45		45
129 Corpus Christi, TX	75		54	52		31
130 Amarillo, TX	47		28	11		11
131 Wilmington, NC	170		160	n.a.		n.a.
132 Chico-Redding, CA	84		70	87		57

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	Full Power			Class A				Full Power			Class A		
	Maximum	-	Median	Maximum	-	Median		Maximum	-	Median	Maximum	-	Median
133 Columbus-Tupelo-West Point, MS	$120		$95	$36		$34	166 Yuma, AZ-El Centro, CA	$40		$26	n.a.		n.a.
134 Topeka, KS	110		94	46		46	167 Hattiesburg-Laurel, MS	98		85	n.a.		n.a.
135 Wausau-Rhinelander, WI	97		68	n.a.		n.a.	168 Billings, MT	25		16	n.a.		n.a.
136 Rockford, IL	220		190	n.a.		n.a.	169 Clarksburg-Weston, WV	210		68	n.a.		n.a.
137 Monroe, LA-El Dorado, AR	120		74	13		13	170 Quincy, IL-Hannibal, MO-Keokuk, IA	68		45	n.a.		n.a.
138 Columbia-Jefferson City, MO	91		68	n.a.		n.a.	171 Utica, NY	210		100	12		12
139 Duluth, MN-Superior, WI	56		39	n.a.		n.a.	172 Dothan, AL	160		98	n.a.		n.a.
140 Medford-Klamath Falls, OR	45		28	34		19	173 Rapid City, SD	24		19	n.a.		n.a.
141 Beaumont-Port Arthur, TX	100		91	n.a.		n.a.	174 Elmira, NY	100		75	n.a.		n.a.
142 Salisbury, MD	140		110	n.a.		n.a.	175 Lake Charles, LA	120		110	51		51
143 Lubbock, TX	60		52	41		39	176 Watertown, NY	65		47	32		23
144 Wichita Falls, TX -Lawton, OK	69		59	24		24	177 Jackson, TN	120		120	n.a.		n.a.
145 Minot-Bismarck-Dickinson, ND	26		15	n.a.		n.a.	178 Harrisonburg, VA	210		110	62		17
146 Anchorage, AK	39		22	37		37	179 Alexandria, LA	150		87	n.a.		n.a.
147 Sioux City, IA	110		90	n.a.		n.a.	180 Marquette, MI	37		23	n.a.		n.a.
148 Palm Springs, CA	87		69	200		44	181 Jonesboro, AR	160		85	n.a.		n.a.
149 Erie, PA	110		82	n.a.		n.a.	182 Bowling Green, KY	120		85	n.a.		n.a.
150 Odessa-Midland, TX	59		44	n.a.		n.a.	183 Charlottesville, VA	230		120	72		72
151 Albany, GA	83		72	n.a.		n.a.	184 Laredo, TX	23		22	25		24
152 Joplin, MO-Pittsburg, KS	120		78	n.a.		n.a.	185 Grand Junction-Montrose, CO	19		16	15		15
153 Rochester, MN-Mason City, IA-Austin, MN	120		93	n.a.		n.a.	186 Meridian, MS	130		67	n.a.		n.a.
154 Panama City, FL	150		68	43		41	187 Lima, OH	120		120	69		69
155 Terre Haute, IN	130		100	n.a.		n.a.	188 Butte-Bozeman, MT	15		13	17		17
156 Bangor, ME	37		26	n.a.		n.a.	189 Lafayette, IN	160		160	n.a.		n.a.
157 Wheeling, WV- Steubenville, OH	240		220	82		41	190 Greenwood-Greenville, MS	86		81	n.a.		n.a.
158 Bluefield-Beckley-Oak Hill, WV	130		86	n.a.		n.a.	191 Great Falls, MT	14		12	n.a.		n.a.
159 Binghamton, NY	110		110	6		6	192 Twin Falls, ID	29		22	n.a.		n.a.
160 Biloxi-Gulfport, MS	170		140	n.a.		n.a.	193 Bend, OR	21		19	22		20
161 Sherman, TX - Ada, OK	160		130	n.a.		n.a.	194 Parkersburg, WV	93		93	n.a.		n.a.
162 Idaho Falls-Pocatello, ID	36		32	1		1	195 Eureka, CA	14		13	n.a.		n.a.
163 Gainesville, FL	190		150	54		41	196 Cheyenne, WY-Scottsbluff, NE	150		61	6		6
164 Missoula, MT	30		21	21		16	197 Casper-Riverton, WY	9		6	n.a.		n.a.
165 Abilene-Sweetwater, TX	62		48	n.a.		n.a.	198 San Angelo, TX	26		21	17		17

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	Full Power			Class A		
	Maximum	-	Median	Maximum	-	Median
199 Mankato, MN	$61		$61	n.a.		n.a.
200 St. Joseph, MO	170		140	n.a.		n.a.
201 Ottumwa, IA-Kirksville, MO	110		72	n.a.		n.a.
202 Fairbanks, AK	16		14	10		10
203 Victoria, TX	76		56	n.a.		n.a.
204 Zanesville, OH	160		160	n.a.		n.a.
205 Helena, MT	25		23	n.a.		n.a.
206 Presque Isle, ME	7		6	n.a.		n.a.
207 Juneau, AK	2		2	n.a.		n.a.
208 North Platte, NE	16		12	9		6
209 Alpena, MI	51		37	n.a.		n.a.
210 Glendive, MT	2		2	n.a.		n.a.
Puerto Rico	300		220	200		83

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Description of Proposed Methodology for Opening Bid Prices

Consistent with the FCC's determination in the *Incentive Auction Report & Order*, its proposed methodology for calculating opening bid prices is designed to yield prices that reasonably approximate the value of television stations to the auction. If a station has many constraints and blocks many other stations from being repacked, then its opening price will reflect that contribution to the auction's ability to clear spectrum. The population component complements the interference metric by enabling the clearance of more spectrum in markets where the forward auction value of relinquished spectrum usage rights is apt to be higher. The proposed formula is not based on a station's market or enterprise value.

The opening price methodology calculates a station's opening bid price by multiplying the station's volume times a base clock price.

A station's volume is calculated using this formula: Station Volume = $(\text{Interference})^{0.5} \times (\text{Population})^{0.5}$. *Interference* is equal to the number of co- and adjacent channel constraints a station would impose on repacking on a pairwise basis. For each station pairing, the formula would determine the maximum number of constraints that can exist between the two stations on any channel in bands into which both stations can be repacked. Thus, between two UHF stations, all channels in the UHF, High-VHF or Low-VHF bands (channels 2-51) are considered to determine the maximum number of constraints that exist between the two stations consistent with the hierarchy of relinquishment options discussed above. Between a UHF station and a High-VHF station, only channels in the High-VHF band (channels 7-13) and Low-VHF band (channels 2-6) are considered to determine the maximum number of constraints that exist between the two stations. Between a UHF station and a Low-VHF station, only channels in the Low-VHF band (channels 2-6) are considered to determine the maximum number of constraints that exist between the two stations. These maximums are then summed up for each station to set its interference metric. *Population* is measured as the number of people residing within the station's interference-free service area.

The base clock price is a constant amount per unit of volume. The base clock price will be set so as to yield an opening bid of $900 million for this station.[1] To do this, volume for all stations will be calculated and then rescaled so that the maximum station volume is one million. Dividing the $900 million opening bid price for the highest volume station by one million results in a base clock price of 900. The base clock price will drop in each round of the reverse auction, while a station's volume will remain constant. The price offered to a bidder to go off air in a given round will be the product of the base clock price in that round and the station's volume. The markets and stations needed in the reverse auction will depend on which stations choose to participate, and actual compensation to stations will be determined by the auction.

Under the Commission's proposed methodology, opening bid prices for moving from the UHF band to the Low-VHF or to the High-VHF band (the "VHF options") will be set at a value relative to the opening price for going off-air. The Commission is seeking on comment on these relative prices. For moving from UHF to Low-VHF, the Commission has tentatively concluded that a station's opening price should be between 67 and 80 percent of the station's price to go off-air. For moving from UHF to High-VHF, it has tentatively concluded that a station's opening bid price should be between 33 and 50 percent of the station's off-air price. Final opening bid prices will depend on determination of the constraints each station imposes on repacking.

(1) It should be noted that if this highest volume station is not in UHF, its base clock price would be decreased by the discount applied to its pre-auction band.

Source: FCC

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Tax Implications Applicable to Incentive Auction Proceeds / Reimbursements

The IRS Has Provided a Letter Identifying Potential Tax Implications for Proceeds / Reimbursements from the Incentive Auction and Repacking Process

Relinquishment of Spectrum:

- If the relinquished spectrum usage rights are not depreciable or amortizable assets, the gain from the sale of the Broadcaster's spectrum usage rights is treated as a long-term capital gain, if the rights were held for longer than one year
- If the spectrum usage rights are depreciable or amortizable assets, the gain is first subject to depreciation recapture, which would be treated as ordinary income; additional gain would be a § 1231 gain and net § 1231 gain is generally taxed as a long-term capital gain

Channel Sharing:

- Federal tax implications of Channel Sharing arrangements will depend on the agreement between the parties, their actions, and other facts and circumstances regarding their arrangement
- Two possible tax alternatives are that a Channel Sharing arrangement could be treated as a partnership between the sharing parties or as a cost-sharing arrangement
  - Cost-sharing arrangement would mean that the relocating party may qualify for deferral from tax for the portion of the gain associated with moving to a shared channel
  - The character for federal income tax purposes of the gain resulting from the receipt of the cash "boot" (payment from the FCC for relinquishing existing spectrum rights) would be determined in the same manner as the payment for relinquishing spectrum rights described above

UHF to VHF / High VHF to Low VHF Move:

- Broadcasters may be able to defer immediate taxation of a portion of the gain resulting from the relinquishment of existing spectrum usage rights in exchange for a VHF channel under the like-kind exchange provisions of the Internal Revenue Code
  - The payment from the FCC for relinquishing existing spectrum rights under this option would constitute "boot," and any gain attributable to such "boot" must be reported in gross income by the Broadcaster
  - The character for federal income tax purposes of the gain resulting from the receipt of the cash "boot" by the Broadcaster would be determined in the same manner as the payment for relinquishing spectrum rights described above

Reimbursement for Repacking:

- Broadcasters who are repacked may not be required to include the reimbursement payments from the FCC in income, as the reimbursement provided by the FCC could be viewed as an amount realized by the Broadcaster from an involuntary conversion of the Broadcaster's property
  - The cost of new equipment, capitalized modifications to existing equipment, engineering studies, and construction services in connection with the channel change may be treated as the cost of property that is similar or related in service or use to the property so converted

Source: Federal Tax Principles Applicable to the FCC's Proposed Broadcast Incentive Auction, Internal Revenue Service (July 3, 2014).

Neither the IRS letter nor the summary above constitutes tax advice. As the IRS notes, the federal income tax law is complex, and tax consequences depend highly on particular facts and circumstances, including how a Broadcaster structures its particular transaction. Broadcasters will need to consult their tax advisers for specific advice.

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Los Angeles Channel Sharing Pilot Results

KLCS and KJLA Demonstrated Channel Sharing can be Successful on Both a Virtual and Physical Level

- In early 2014, KLCS and KJLA, both based in Los Angeles, tested the feasibility of having two non-affiliated broadcast television stations sharing a single 6 MHz radio frequency channel
- The trial was a success on both a virtual and physical level
  - On a virtual level, all the TVs and tuners tested were able to receive and correctly parse all the required information. This included virtual channel ratings (both major and minor), audio configuration, codecs, program titles and descriptions
  - On a physical level, testing demonstrated that it is technically feasible for two 720p high definition ("HD") streams, among other combinations, to be combined into a single Advanced Television Systems Committee ("ATSC") channel
  - After the trial, KLCS and KCET announced on September 10, 2014 they had agreed to enter into a Channel Sharing Agreement as part of the upcoming Incentive Auction
- ATSC 3.0, if implemented, will give each Broadcaster in a shared environment approximately 14 Mbps – roughly equivalent to what a single Broadcaster has today

Demonstrated Feasibility of Multiple Channel Streams on Shared Channel

- Testing demonstrated that it is technically feasible for the following streaming combinations
  - 2 HD (720p) streams with several variations of additional SD program streams
    - Up to two additional SD streams are possible without major impact to the quality of experience of the overall material
  - 3 HD streams
  - 1 HD stream and up to 7 SD streams
- Future technological improvements could increase the available streaming combinations to Broadcasters

Source: FCC, KCET 9/10/2014 Press Release commenting on KLCS/KJLA trial and KCET's planned Channel Sharing Arrangement with KLCS for purposes of Auction participation

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Key Channel Sharing Agreement Terms

To Submit a Channel Sharing bid, Broadcasters Must Execute a Privately Negotiated Channel Sharing Arrangement
Third Parties Have Developed Template Agreements to Assist Potential Bidders

Incentive Auction Proceeds

- The opening bid prices published in the Incentive Auction Opportunities for Broadcasters document apply to Channel Sharing participants, who will receive a full valuation for their UHF 6 MHz
  - The Broadcaster relinquishing its 6 MHz license will receive auction proceeds and must agree on how to distribute these proceeds with its Channel Sharing partner
- Bidders will be able to decide which channel will be retained / shared and which channel will be offered in the auction depending on valuation, facilities in place and other considerations

Content Delivery and Bitstream Division

- Each Channel Sharing licensee must be able to provide at least one Standard Definition (SD) program stream at all times
- Subject to the foregoing requirement, Broadcasters will be able to decide how the 6 MHz will be utilized (for example, whether it will be a fixed or dynamic agreement) based on their own unique circumstances
- The multitude of channel streams proven in the Los Angeles pilot program allows Broadcasters many options when negotiating current and future channel streaming agreements
- The characteristics of the video content to be transmitted by the two parties may affect a Broadcaster's decision whether to channel share

Business Operations

- Each Channel Sharing Agreement should address the operation of the shared channel, including the following:
  - Access to facilities by each Channel Sharing licensee, including access to the shared transmission facilities
  - How maintenance and repair of the station facilities will be managed and how day-to-day operating decisions will be made
  - How future investments in the facilities will be made
  - Potential for termination of agreement and rights of each party in the event of business failure or change of control

Source: FCC

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