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Tuesday 2 and Wednesday 3 December 2014

Kindly hosted by Verizon Communications
1300 I Street, NW, 4th floor (West Tower) Washington, DC 20005

Programme

Forum presentations are on the record but subsequent discussions are under the Chatham House Rule*

Tuesday 2 December 2014

09:10 - Welcome & Opening Remarks



Fabio Colasanti, President, International Institute of Communications



Jacquelynn Ruff, Vice President, International Public Policy and Regulatory Affairs, Verizon Communications

Keynote executive briefing session: What do international policy, strategy, regulatory affairs VPs need to know?

09:30 - In the Chair



Dr Robert Pepper, Vice President, Global Technology Policy, Cisco Systems

Domestic perspective: The U.S. Broadband Incentive Auction: Update from the FCC



Howard J Symons, Vice Chair Incentive Auction Task Force, Federal Communications Commission |

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International Perspective: 9th iGF / ICANN 51 / IETF 91: de-brief and looking forward



Ambassador Daniel A. Sepulveda, US Coordinator for International Communications and Information Policy

Keynote panel discussion: Policy and regulation for the networks, platforms, services and applications of the future – implications for a Communications Act re-writ

11:15 - In the Chair



Blair Levin, Non-resident Senior Fellow of the Metropolitan Policy Project, Brookings Institute; Executive Director, Gig.U: The Next Generation Network Innovation Project

Expert speakers



Rebecca Arbogast, >Senior Vice President, Global Public Policy, Comcast NBCUniversal



Markham C. Erickson, General Counsel,> The Internet Association; Partner, Steptoe & Johnson LLP



Larry Irving, Co-Founder, The Mobile Alliance for Global Good; Principal, The Irving Group



Brent Olson, Vice President Public Policy, AT&T

Incentive Auction gathers pace - views from all stakeholders

14:00 - In the Chair



Robert B. Kelly, Partner, Squire Patton Boggs (US) LLP |
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Expert speakers



Jeffrey A Marks, Senior Counsel, Director of Regulatory Affairs, Public Affairs Americas Region, Alcatel-Lucent |
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Harold Feld, Senior Vice President, Public Knowledge



Leora Hochstein, Executive Director, Federal Regulatory Affairs, Verizon Communications |
[DOWNLOAD PRESENTATION A \(LOGIN REQUIRED\)](#) | [DOWNLOAD PRESENTATION B \(LOGIN REQUIRED\)](#)



Preston Padden, Executive Director, Expanding Opportunities for Broadcasters Coalition |
[DOWNLOAD PRESENTATION \(LOGIN REQUIRED\)](#)



Grant Spellmeyer, Vice President, Federal Affairs and Public Policy, US Cellular |
[DOWNLOAD PRESENTATION \(LOGIN REQUIRED\)](#)

Technology Futures and blue sky thinking: What are the future applications, platforms, services and devices that will drive demand in the converged communications field?

16:00 - In the Chair



Eric Miller, Vice President, Policy, Innovation and Competitiveness, Canadian Council of Chief Executives (CCCE)

Expert speakers



Dr Robert Kubik, Director, Engineering and Technology Policy, Samsung Electronics America



Brian Rice, Director Public Policy, Facebook



Jonathan Zuck, President, ACT | The App Association

Wednesday 3 December 2014

16:00 - In the Chair

Fabio Colasanti, President, International Institute of Communications

A responsible internet - Privacy, safety, security and etiquette in an era of big data and disruptive technology

09:30 - In the Chair

Nancy C. Libin, Partner, Wilkinson Barker Knauer LLP

Expert speakers



Julie Brill, Commissioner, Federal Trade Commission



David A Hoffman, Director of Security Policy and Global Privacy Officer, Intel Corporation



Rick Lane, Senior Vice President, Government Affairs, 21st Century Fox



Aster Lu, Senior Policy Counsel, Tencent; Public Policy Researcher, Tencent Internet and Society Research Institute (TISI) |

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Nuala O'Connor, President & CEO, Center for Democracy & Technology

Panel discussion:ITU Plenipotentiary: de-brief and looking forward

11:30 - In the Chair

Ambassador David A. Gross, Attorney At Law, Wiley Rein LLP

Expert speakers



Jamie Hedlund, Vice President Strategic Programs, Global Domains Division, ICANN



Chris Hemmerlein, Policy Specialist, Office of International Affairs, National Telecommunications and Information Administration



Kathryn O'Brien, Assistant bureau Chief, International Bureau, Federal Communications Commission



Sally Shipman Wentworth, Vice President of Global Policy Development, Internet Society



Aparna Sridhar, Counsel Google

Investment and financing of national broadband plans & universal service funds - policy updates from across the Americas

14:00 - In the Chair

Professor Antonio García Zaballós, Telecommunications Lead Specialist - Leader of the Broadband Program, Institutions for Development (IFD), Capital Markets and Finance (CMF), Inter-American Development Bank

Expert speakers



Artur Coimbra de Oliveria, Director of the Department of Broadband, Ministry of Communications, Brazil



Natalija Gelvanovska, Senior ICT Policy Specialist, Transport & ICT, The World Bank



Karime Kuri, Deputy Director of Digital Development, IFT - Federal Institute of Telecommunications, Mexico |
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Siyabonga Mahlangu, Group Executive, Regulatory Affairs & Government Relations, Telkom SA |
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The U.S. Broadcast Incentive Auction: Update from the FCC

Howard J. Symons
Vice Chair, Incentive Auction Task Force

IIC Telecommunications & Media Forum
December 2, 2014



What are Spectrum Incentive Auctions?

- Incentive auctions are a voluntary, market-based means of repurposing spectrum by encouraging licensees to voluntarily relinquish spectrum usage rights in exchange for a share of the proceeds from an auction of new licenses to use the repurposed spectrum.



Incentive Auction Structure

- Reverse and forward auctions will be integrated in a series of stages; each stage will consist of a reverse and forward auction bidding process
- Prior to the first stage, an initial clearing target will be set
- The reverse auction will use a descending clock to be transparent and make broadcaster participation easy
- The forward auction will incorporate innovative design features, including a clock format and bidding for generic blocks
- The “final stage rule” will determine when the auction closes and will allow market forces to determine the amount of spectrum cleared and revenues raised

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Federal Communications Commission



Channel Sharing Option

Enables Broadcasters to Remain on the Air While Receiving the Same Level of Compensation as in the License Relinquishment Option

- Under this option, a Broadcaster will relinquish its existing 6 MHz channel in the Reverse Auction and share a channel with another station
- Potential for Broadcasters to remain on the air, receive proceeds with no loss of licensee status, and 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 Broadcast Group has announced that it will transmit two network signals on the same channel
 - Channel sharing by two different licensees providing 2 HD streams was successfully validated in a trial conducted in early 2014
- Each shared station remains a primary FCC licensee with all current licensee rights
 - The FCC guarantees that Channel Sharing Broadcasters will retain must-carry rights
- Broadcasters privately negotiate financial, operational and technical arrangements regarding sharing of channel and transmission facilities
- A Broadcaster will have up to 3 months after it receives proceeds to cease operations on its pre-Auction channel



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Federal Communications Commission

Note: These slides present an unofficial summary of the Incentive Auction Report and Order and rules dated May 15, 2014. Should this summary vary from the Report and Order or rules as released, the official document governs. Final auction procedures have not yet been adopted by the Commission.

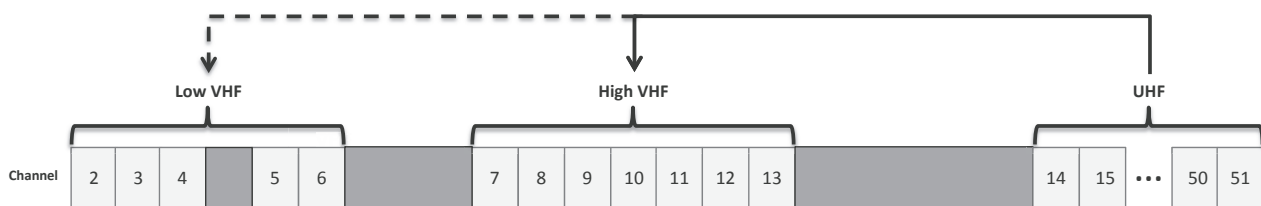


UHF to VHF Band Change Option

Moving from UHF to VHF is Another Way for Broadcasters to Receive Auction Proceeds and Remain on the Air

- Under this option, a Broadcaster will bid to relinquish its UHF spectrum in the Reverse Auction and be assigned a frequency in the VHF spectrum
 - 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 proceeds with no loss of licensee status
- Pursuant to statute, Broadcasters will retain must carry-rights at their new channel
- 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
- A Broadcaster will have up to 39 months after the Incentive Auction ends to move to the new channel

Illustrative UHF to VHF Option



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Note: These slides present an unofficial summary of the Incentive Auction Report and Order and rules dated May 15, 2014. Should this summary vary from the Report and Order or rules as released, the official document governs. Final auction procedures have not yet been adopted by the Commission.

Federal Communications Commission



Repacking

- Contiguous blocks of spectrum (contiguous channels) will best facilitate broadband deployment
- Non-participating broadcast stations 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 reassign (“repack”) TV stations that remain on the air so that they 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
- Spectrum Act requires the FCC to take “all reasonable efforts” to preserve broadcast station “coverage area” and “population served” as of February 22, 2012 [date of enactment]

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Federal Communications Commission



The 600 MHz Band Plan Framework

- Down from 51 plan, all FDD paired, 5x5 MHz blocks
- "Partial Economic Area" licenses that nest into larger EAs
- Flexible design ("near-nationwide clearing target") to accommodate some variation in the amount of spectrum recovered in different geographic areas
- Technically reasonable guard bands, including a uniform 11 MHz duplex gap, to protect licensed services from harmful interference
- Unlicensed use of guard bands and Channel 37 permitted



Transition

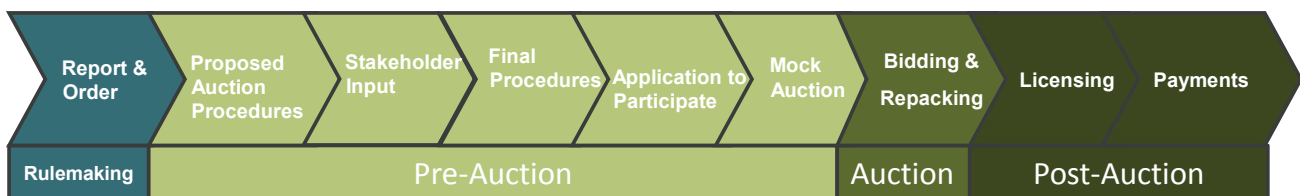
- 39-months for reassigned stations to cease operation on pre-auction channels, with individual deadlines for reassigned stations to modify facilities
- 3-months for winning off air and channel sharing bidders to cease operation on pre-auction channels
- LPTV may operate in newly licensed spectrum unless and until displaced
- Wireless microphones and unlicensed devices may operate in cleared spectrum during transition period

FC Reimbursement

- \$1.75 billion TV Broadcaster Relocation Fund to pay reasonable relocation costs of TV stations and MVPDs
- Reimbursement funds will be provided to stations and MVPDs on estimated cost basis before expenses must be paid out
- Media Bureau has developed a list of eligible expenses and estimated costs
- Goal is to balance expediency with avoidance of waste, fraud and abuse
- Fund expires three years after auction “completion”

FC Broadcast Incentive Auction: Process

Incentive Auction Process Timeline



FCC Adopts the Policy Framework

In May 2014, the FCC adopted a Report and Order that established a policy framework addressing the...

- 600 MHz Band Plan
 - Down from 51 plan, all paired, 5x5 MHz Blocks
- Repacked Television Bands
 - Preserves coverage area and population served of eligible TV broadcasters
- Incentive Auction Process
 - Staged structure for simplicity and speed
- Post Auction Transition

Implementation Actions

- Since May 2014, the Commission has adopted orders or proposed rules for:
 - Interference Issues
 - Between broadcasters and wireless providers
 - Among repacked broadcasters
 - Low Power Television and Translators
 - To help mitigate effects from repacking process
 - Operation of devices to be used in post auction 600 MHz band (also known as Part 15 rules)
 - Wireless microphone users – both licensed and unlicensed



Next Steps: Determining Auction Procedures

- Auction Comment Public Notice
 - Asks for public input on detailed proposals relating to the conduct of the auction
 - Establishing reverse auction prices
 - Benchmarks for auction closing
 - Application of rules to promote competition among wireless providers
 - Defining “impairments”
- Auction Procedures Public Notice
 - Establishes the procedures based on public input
- Given the novel nature of the Incentive Auction, both items will be voted on by the full Commission



Coordination with Our Neighbors

- International coordination along the border with Mexico and Canada is critical to the success of the Incentive Auction
- To that end, the FCC Chairman, Commissioners, and staff continue to engage in on-going and productive discussions with Canadian and Mexican government representatives
- These discussions will result in a band plan that provides an opportunity for future regional harmonization, as well as possible global harmonization



Coordination with Our Neighbors

- Benefits of a Joint “Band Plan of the Americas”
 - More spectrum for mobile broadband
 - Economies of scale
 - Potential for a 600 MHz band plan that could be adopted globally, creating greater international harmonization



Looking Forward

- Importance of Broadcaster Participation
 - Engaged investment banking firm Greenhill & Co.
 - Last month, the FCC provided every eligible station owner with an information package
 - Included the high-end estimate compensation value for every television market area as generated by FCC staff
 - Beginning in January, FCC staff will be going out into the field to meet with interested broadcasters
- Projected Timing
 - Application Process Fall 2015
 - Auction/Start of Bidding Early 2016



EXPANDING
OPPORTUNITIES
FOR
BROADCASTERS
COALITION

Getting It Right:

Allowing Market Forces To Achieve A Successful Incentive Auction

Expanding Opportunities for Broadcasters Coalition

- 80+ stations; largest markets
 - 48 MHz in NY, 48 MHz in LA
- Want to help achieve auction success
- Supported the FCC and the Incentive Auction Task Force
- Intervened on behalf of the FCC in Sinclair appeal
- Coalition stations and their views are important to the chances for auction success



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Observations In Anticipation of FCC Auction Comment Public Notice

- FCC must be prepared to pay broadcasters in line with unmistakable market signals from AWS-3 auction
- Proposal for calculating starting prices (as described in press accounts) can be improved
- “Dynamic Reserve Pricing” likely to:
 - Exacerbate impairment;
 - Destroy spectrum value;
 - Wildly complicate auction; and
 - Breed additional broadcaster distrust
- FCC must pay more than “lip service” to use of market forces to achieve auction success



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FCC Must Be Prepared to Pay Broadcasters In Line With Unmistakable Market Signals From AWS-3 Auction

- The FCC repeatedly has recognized that a successful incentive auction must be market-driven:
 - “Incentive auctions can provide a practical, market-based way to reassign spectrum, shifting a contentious process to a cooperative one.” National Broadband Plan
 - “Incentive auctions are an innovative market-based tool to repurpose for mobile broadband valuable spectrum in the broadcast television band” Speech by Fmr. Chmn. Genachowski, Oct. 4, 2012
 - “[T]he Incentive Auction will allow market forces to determine the highest and best use of spectrum” Chmn. Wheeler Blog Post, Apr. 18, 2014



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FCC Must Be Prepared to Pay Broadcasters In Line With Unmistakable Market Signals From AWS-3 Auction (cont.)

- By adhering to the fundamental principle of a market-driven auction that pays market-clearing prices to broadcasters, the FCC can:
 - Reallocate 126 MHz for the benefit of wireless consumers;
 - Generate substantial funds for the U.S. Treasury; and
 - Bask in the glow of auction success



FCC Must Be Prepared to Pay Broadcasters In Line With Unmistakable Market Signals From AWS-3 Auction (cont.)

- Paragraph 2 of Auction *R&O*:

“Our central objective in designing this incentive auction is to harness the economics of demand for spectrum in order to allow market forces to determine its highest and best use”
- The unmistakable price signals from the AWS-3 auction are the “market forces” to which the FCC says it will defer in paying broadcasters who relinquish spectrum



FCC Must Be Prepared to Pay Broadcasters In Line With Unmistakable Market Signals From AWS-3 Auction (cont.)

- Whatever FCC thought was market price for spectrum when Comment PN was circulated should at least be doubled based on market signals from AWS-3
- Efforts to limit prices to broadcasters below market levels would inefficiently reduce the amount of spectrum that gets repurposed for mobile broadband



Improving the Method for Calculating Starting Prices

- According to press reports, Comment PN will propose using POPs covered as significant factor in calculating stations' initial offers
- Our Coalition has explained that “scoring” based on POPs – a managed cap on what a station may receive – is inconsistent with statutory mandate:
“The Commission shall conduct a reverse auction to determine the amount of compensation that each broadcast television licensee would accept in return for voluntarily relinquishing some or all of its broadcast television spectrum usage rights”



Improving the Method for Calculating Starting Prices (cont.)

- On March 26, 2013, August 16, 2013, December 4, 2013, December 20, 2013 and April 21, 2014, Coalition submitted hard data showing that covered POPs not valid measure of stations' effect on clearing spectrum



- AT&T, Verizon and CEA all agreed
- Only FCC response in *R&O* was “we disagree”
 - This is not reasoned rulemaking



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Improving the Method for Calculating Starting Prices (cont.)

- POP-based scoring is based on two flawed premises:
 - Claim 1: “[U]se of population in scoring could reflect the fact that the value of a broadcasting license depends in part on its population served.” Milgrom, *et al.*, *Incentive Auction Rules Option and Discussion* (Sept. 2012)
 - “Value of a broadcasting license” sounds like “enterprise value” – yet, in *Auction R&O*, FCC said “we do not intend to set prices to reflect the potential market or enterprise value of stations, as opposed to their impact on the repacking process”
 - As FCC recognized, the value of a broadcast license is the value of the spectrum that it is assigned (its preclusive effect)

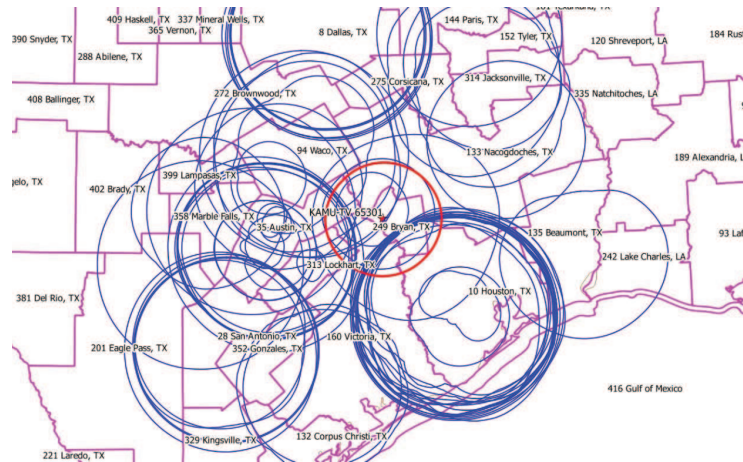


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Improving the Method for Calculating Starting Prices (cont.)

- Consider KAMU-TV, College Station, TX:
 - Interference free POPs: 330,386
 - Blocks stations in four most populated Texas markets (Dallas, Houston, San Antonio, Austin)



Improving the Method for Calculating Starting Prices (cont.)

- POP-based scoring is based on two flawed premises:
 - Claim 2: “Ranking bids and paying winning bidders in relation to their population served . . . may reduce the amount that the Commission would have to pay to repurpose broadcast television spectrum.” Milgrom, *et al.*
 - The results of the AWS-3 auction demonstrate that there will be an abundance of revenue to pay broadcasters willing to relinquish some or all spectrum rights
 - The FCC should focus on how to attract broadcasters to the auction; not how to reduce payments to broadcasters
 - Market forces, not managed caps, should determine how much each broadcaster receives

Improving the Method for Calculating Starting Prices (cont.)

- A station's preclusive effect in preventing the clearing of spectrum is the only true measure of its value in the auction
 - Two ways to measure: (1) reverse auction mechanism itself; or (2) weighting based on preclusive effect
- Cramton Associates has run thousands of simulations; we will submit recommendations in response to Comment PN on valid methods for measuring a station's preclusive effect and establishing starting prices to assure a successful auction

Dynamic Reserve Pricing: Managed Prices In Lieu of Market Forces

- It appears that DRP would permit prices to continue to decline, even as broadcasters reject those prices, until some percentage of population is impaired
 - The Comment PN will detail DRP and the percentage of impairment the Commission is prepared to tolerate
- Embracing DRP would be a clear sign that the FCC is not genuinely committed to market forces
 - DRP is only necessary if the FCC fails to offer market-based prices

Dynamic Reserve Pricing: Managed Prices In Lieu of Market Forces (cont.)

- **DRP only necessary if FCC wants to “low ball” stations and cause auction failure**
 - **DRP will destroy spectrum value: carriers don’t want impaired spectrum**
 - **Unquestionably, DRP would add incredible complexity to an already complicated auction**
- **The idea that DRP would reduce payments to some broadcasters is illusory**
 - **Broadcasters will not sell at reduced prices**
 - **Milgrom 2004: “bidders may simply refuse to participate in designs that they consider strange or unfair” *Putting Auction Theory to Work 26***



Dynamic Reserve Pricing: Managed Prices In Lieu of Market Forces (cont.)

- **This is not just about impairment, it is about overall participation**
 - **Broadcasters will see DRP for what it is: a ham-handed way to attempt to limit payments to broadcasters**
 - **The resulting distrust will inevitably keep some broadcasters away**
 - **There is no persuasive way to explain variable, illusive prices that the FCC has no intention of paying**
- **DRP Should Be Renamed:**
 - **“Discourage Robust Participation”**
 - **“Dynamically Rigged Pricing”**



The Good News: DRP Is Not Necessary

- FCC has not yet committed to DRP
 - Auction *R&O* ¶ 463: “We also could adopt a dynamic version of reserve prices . . .”
- Scoring based on preclusive effect sets station-specific reserve prices and protects the FCC against excessive payments where there is an absence of competition
- Prices can and should be set from the competitive exit decisions of the broadcasters; this is how auctions work
- Conducting an auction that encourages substantial impairment is crazy: it destroys the band plan and destroys social welfare



Prescription for Auction Success

- An unbiased reverse auction that pays market-clearing prices to broadcasters
- Competitive bidding without Dynamic Reserve Pricing



The Look of Auction Success

- Robust broadcaster participation
- Auction design freezes at high prices those stations most important to spectrum clearing
- 126 MHz reclaimed with impairments only in a few border markets
- Substantial reallocation of spectrum for consumers
- Huge forward auction revenues (>\$75 billion based on AWS-3 prices for INFERIOR spectrum)
- Plenty of \$\$\$ to pay market-clearing prices to broadcasters and contribute to federal treasury
- FCC basks in the glow of success



Prescription for Auction Failure

- Badly designed scoring rule that assigns prices inconsistent with market-based clearing value
- "Dynamic Reserve Pricing" that causes impairments in major markets and (futilely) attempts to administratively reduce payments to broadcasters below market-clearing levels



The Look of Auction Failure

- Broadcasters stay away in droves (including members of our Coalition)
 - Stations can wait for FCC's second try or pursue other options to monetize their spectrum
- Meager, or no, reallocation of spectrum for consumers
- Meager forward auction revenue - shortchanging Federal Treasury
- A "pennywise, dollar foolish" failure



Closing On A Positive Note

- Our Coalition is grateful for the access and transparency the IATF has provided to all stakeholders
- We will continue to work constructively with FCC staff
- We want to help achieve auction success
- The AWS-3 auction shows that by paying market-clearing prices to broadcasters, the FCC can reallocate 126 MHz for the benefit of wireless consumers and generate substantial funds for the U.S. Treasury
- In other words: A wonderfully successful incentive auction remains possible

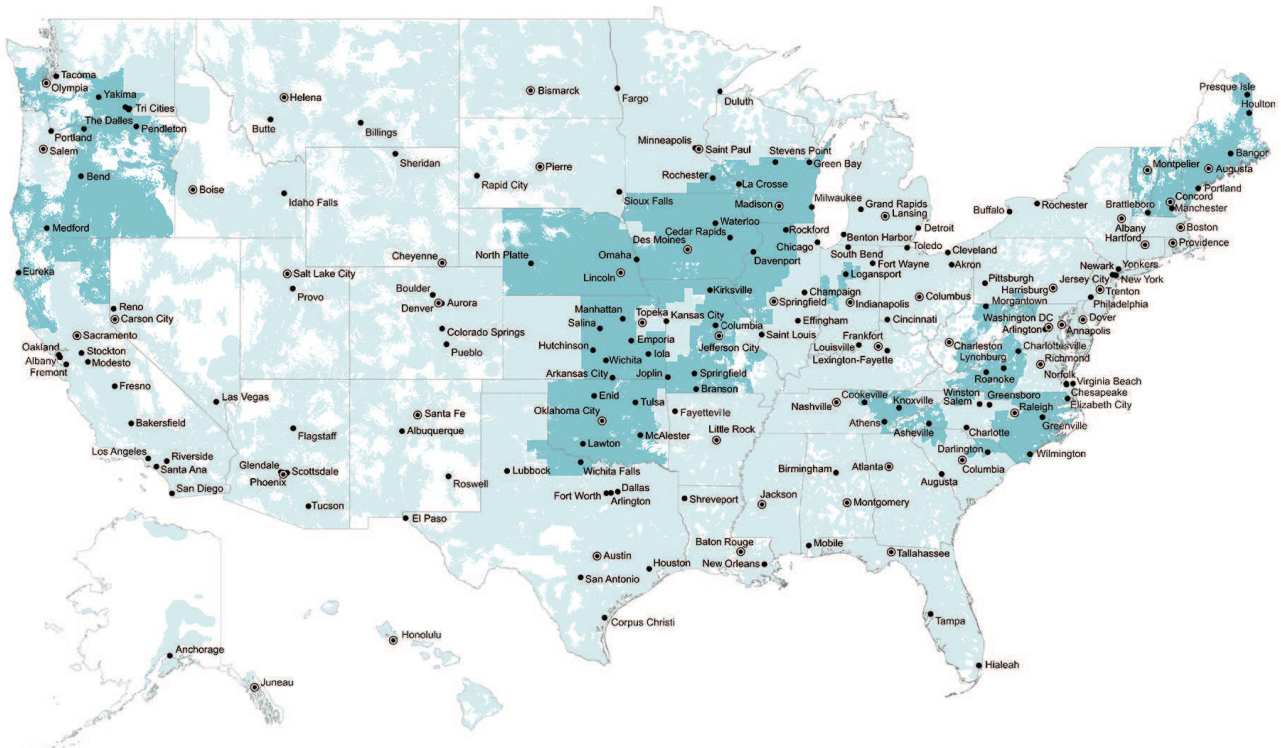


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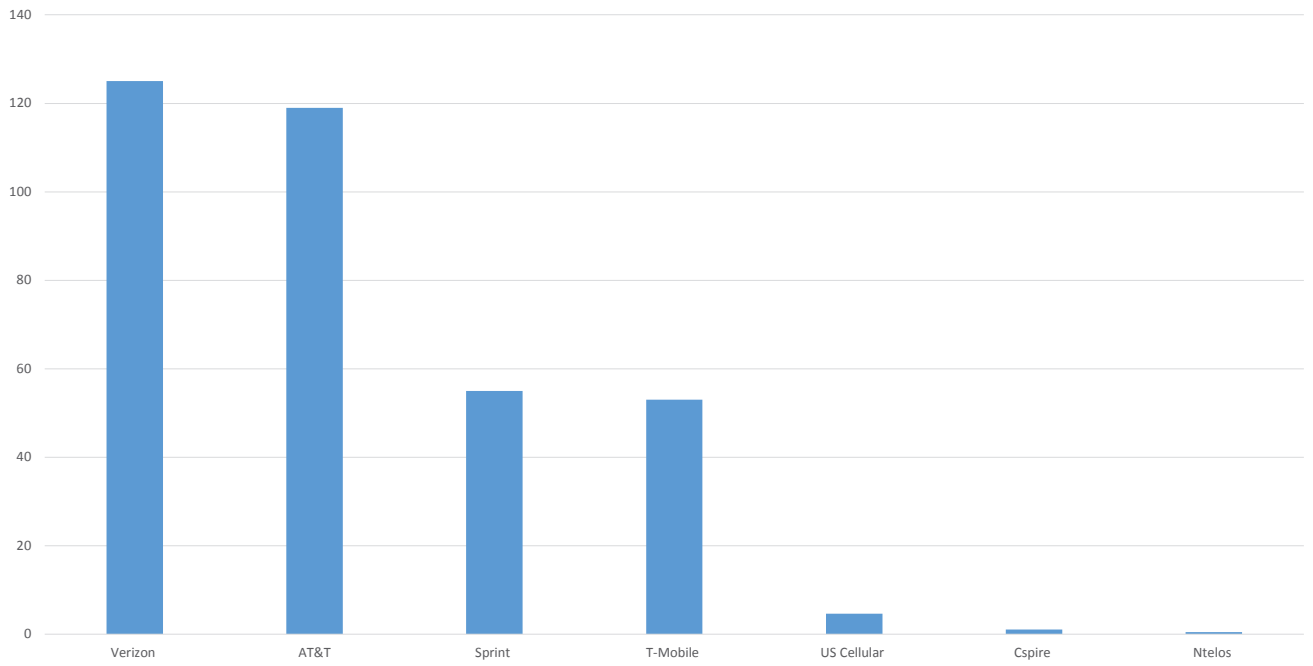
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US Wireless Carriers





Voluntary Incentive Auctions

Jeffrey Marks, Senior Counsel - Director, Regulatory Affairs

December 2, 2014

..... Alcatel-Lucent 

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600 MHz Band Today

- TV Broadcast operations from 470-698 MHz
 - TV Channels 14-51; 6 MHz Channels; up to 3 video feeds per channel
 - Adjacent to 700 MHz mobile broadband operations
- Inefficient use of spectrum
 - White spaces, especially in rural areas
 - Failing broadcasters who would like to sell
 - Most broadcasters don't need full 6 MHz
 - Ideal spectrum for mobile broadband
- Prime spectrum for mobile broadband, but currently limited to broadcast uses
 - Why not just let broadcasters provide broadband?
 - Would provide a patchwork of geographies at best

Solution: VIA Authorized by Congress

- Interrelated steps: Buy spectrum back; create a contiguous block of spectrum; and auction it off
- Broadcasters sell in a “reverse auction”
 - The FCC will make an offer to all broadcasters participating, and each decides whether to sell at that price.
 - FCC will start with the highest offer seeking maximum spectrum (perhaps, 120 MHz).
 - *Channel sharing or move to VHF also are options.*
- Band plan developed considering:
 - Broadcasters that sell; “Repacking” remaining broadcasters
 - *Repacking is NOT voluntary!*
 - National band plan expected; variation for constrained markets
- Carriers buy in a traditional forward auction
- Closing conditions met?
 - Are forward auction bids sufficient to cover reverse auction, repacking, and other costs?
 - If yes, great.
 - If not, start over with a lower band-clearing target.

Many tough issues to get to 2016 Auction

- How to maximize broadcaster participation?
- Band Plan issues:
 - Based on 5 MHz (paired) blocks. TV Bands were 6 MHz blocks.
 - Incumbent uses in and around Channel 37: Radio astronomy, Wireless Medical Telemetry Systems, Wireless Microphones.
 - Unlicensed operations in duplex gap and guard bands.
- Interference Due to Band Plan Variability
 - Not all markets will clear exactly the same amount, especially “constrained” markets
 - Largest markets
 - Border Markets
 - Separation Distances?
 - Auctioning of “impaired” spectrum?
- Caps on participation - “low band” spectrum
- Repacking rules for broadcasters that do not sell
 - Current law suit led by NAB and Sinclair
 - Compensation; timeline; service area once repacked



Wireless Open Access Network

IIC Telecommunications & Media Forum
December 3rd, 2014

Karime Kuri
Federal Institute of Telecommunications,
Mexico



The Mexican Telecommunications Reform puts
human beings, and NOT networks,
at the center of telecom policy

Connectivity: elevated to fundamental right





Two main tools to make this possible:

1. Backbone optic fiber network

2. **Wireless Open Access Network**

- Wholesale network
- 90MHz of the 700 band
- Adopt LTE technology
- Public policy principles: QoS, coverage, affordable prices
- NOT state-owned company
- NO subsidies



Wireless Open Access Network

In Mexico...

90MHz of the 700MHz band
will be allocated to **one**
wholesaler with
stringent coverage obligations

The policy objectives will be aligned with the public policy such as the **National Broadband Plan** and the **Digital Strategy**


Wireless Open Access Network

A **profit driven**, lean, full IP,
low cost wireless bitstream factory
will be built with **private funds**

a **non discriminatory** wholesaler who
cannot commercialize in the retail market

all retail services in the 700MHz band
will be through **virtual networks**


Wireless Open Access Network

We seek intense
network-based competition
in the **wholesale** market

We seek intense competition
whether it is **service-based** or **network-based**
in the **retail** market

MVNOs have faced a natural uphill battle

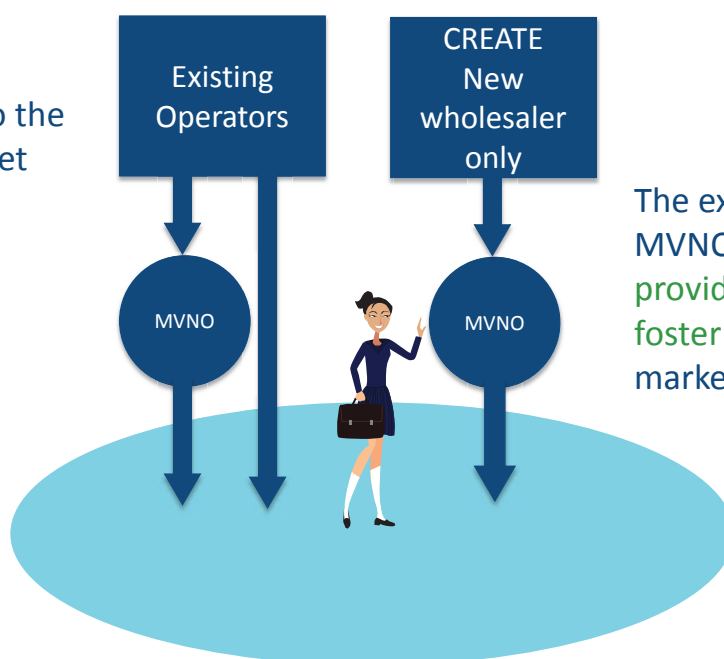
It seems that
having as few intermediaries as possible
is the winning option for operators

A rational operator would think:

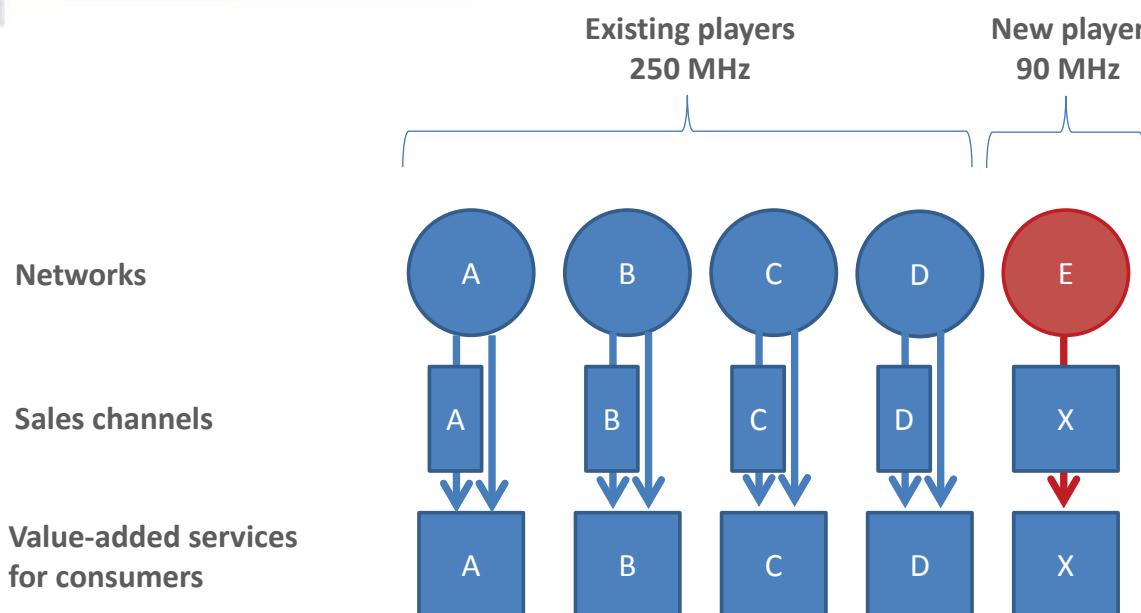
Get the most of the market through your own channels,
And load the ultra difficult niche markets
through a handful of MVNOs

How can we trigger competition effectively?

Entry barriers to the
telecomm market



The existence of as many
MVNO`s as possible will
provide variety and
foster competition to the
market.



Entrance of a **new player** : **catalyst** for competition at different levels of the telecommunications market.

May create **alliances** between the existing operators and as a consequence, enhance competition in the wholesale market.

Process for the network deployment

Constitutional Reform

the State, in coordination with the IFT, will guarantee the instalation and operation **(2013)** :

IFT, currently working on the **regulatory framework** of the spectrum license and telecomm services consession **(as we speak)**

Contest will be launched by the Ministry of Communications and Transportation **(3rd qtr 2015)**



Regulatory framework

Online international consultation will be launched 1st
qtr January 2015

Foster transparency and consolidate a democratic
process

Details on the project and the regulatory framework
will be public

We welcome feedback from experts and stakeholders



Medium and Long term Impacts

Benefits for Mexico and its citizens

- Price erosion of the services
- Better QoS
- Low Transaction Costs

Economic **spill off** in more productive sectors

Enabling Mexico's growth in many sectors:
e-commerce, e-education, e-government,
telemedicine, IoT.



KEEP YOUR EYES ON MEXICO!

Investment and Financing of National Broadband Plans and Universal Service

Siyabonga Mahlangu

3 December 2014



1. National Broadband Plans – Common Themes

While the technical details and implementation schedules of the national broadband plans and initiatives differ, globally there are some common features and themes that emerge from these NBPs. These include:

- Emphasis on high-speed or ultra broadband;
- Open access requirements and non-discriminatory access;
- Transparency and openness;
- Embracing convergence and technology neutrality;
- Environmentally friendly;
- Promote connectivity and broadband deployment to public sectors;
- Emphasis on consumer protection and cyber security;
- Promote broadband content and applications; and
- Often linked to universal service funds.

2. Encouraging Broadband Rollout

Attracting investment requires providing attractive conditions which in turn depends on establishing a regulatory framework allowing investors to enter the market and compete on a fair basis.

Strong emphasis on infrastructure has proven to be key to the take-up and effective use of broadband.

Some of the ways that governments have encouraged investment in roll out of national broadband networks include via:

- private and public sector roles;
- spectrum policies;
- access to conduits, ducts, poles and rights of ways; and
- reducing barriers to entry.

3. Governments have utilised a number of methods to financially support NBN – there is no single way

Lever	Benefits	Examples
<ul style="list-style-type: none"> • Direct Government subsidy 	<ul style="list-style-type: none"> • Provides investment in areas where private investors choose not to invest 	<ul style="list-style-type: none"> • Sweden: R8.6 bn for access networks • India: R28.5bn on rural fibre rollout • Korea: R12.7 bn for fibre network • NZ: R8 bn co-invest in fibre • US: USD7.2 bn for stimulus package • Australia: AUD43 bn for national NBN + wireless/satellite for rural areas
<ul style="list-style-type: none"> • Corporate income tax benefits • CAPEX tax benefits (i.e, duty waivers) • Low interest loans 	<p>Incentivise investment</p>	<ul style="list-style-type: none"> • Japan: Corporate tax redemption, 6-18% • Japan: 20-25% reduction in CAPEX tax • Korea: R8.5 bn for last mile
<ul style="list-style-type: none"> • Indirect subsidy/Master Developer support 	<ul style="list-style-type: none"> • Minimises/substitutes direct Government subsidy 	<ul style="list-style-type: none"> • UAE: e.g., EMAAR solely finances telecom infrastructure • Bahrain
<ul style="list-style-type: none"> • Regulatory Forbearance 	<ul style="list-style-type: none"> • Allows exclusive use of new investments 	<ul style="list-style-type: none"> • Malaysia: 7 year deferment on LLU on high speed broadband facilities • Germany: Access holiday

4. The keys to achieving universal service

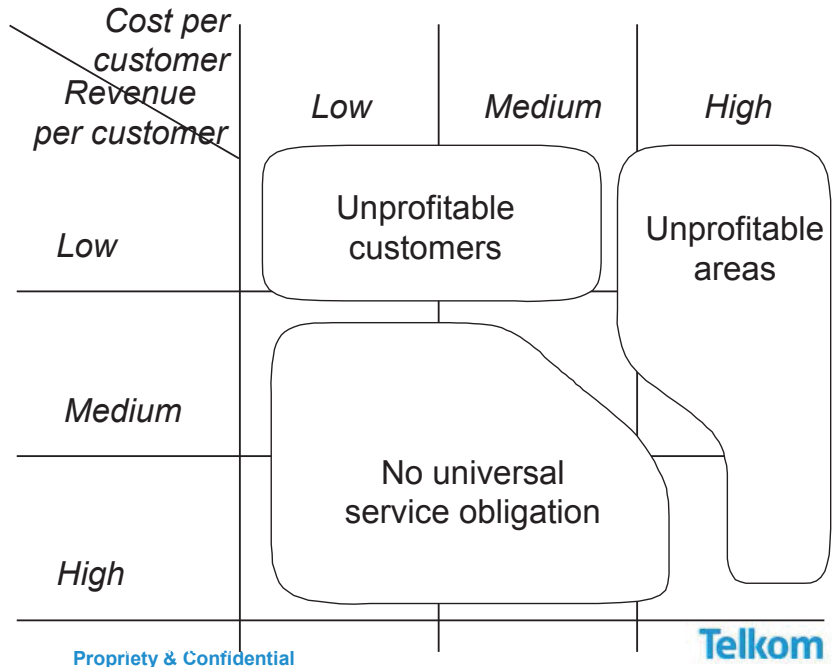
The starting point of achieving universal service is broad industry policy that creates the right environment:

- Effective national competition creates the market dynamics which will incentivise service to customers;
- Effective spectrum management allows operators the opportunity to optimise frequencies and technologies to offer services; and
- Policy support for infrastructure sharing reduces the cost to serve poorer customers in rural and remote areas.

Where a USO is required then subsidies should be targeted on uneconomic/high cost regions.

Funding from USO Funds should be:

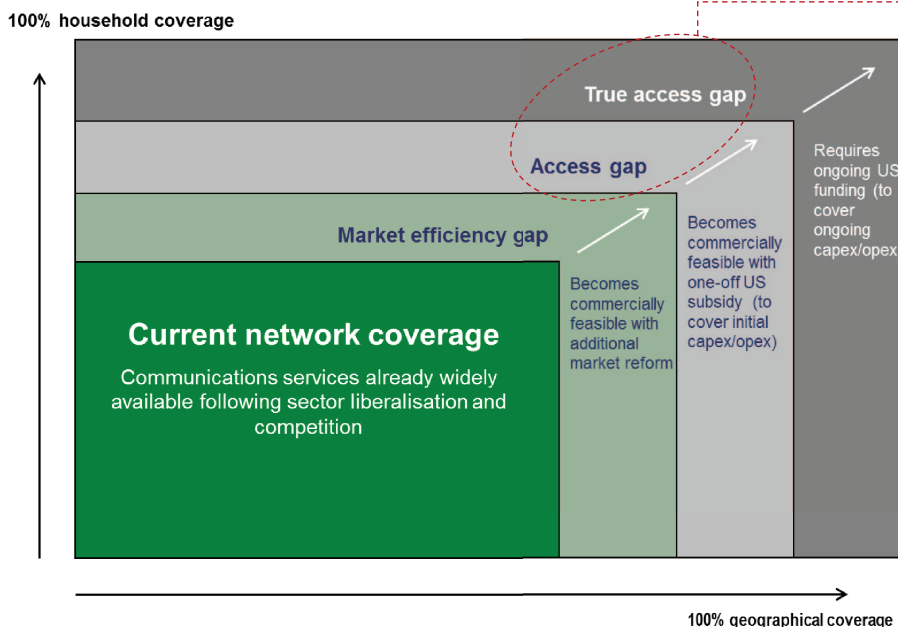
- Efficient and effective
- Should not accumulate without disbursing,
- Have a high degree of transparency and
- Be technology neutral.



5. The “Access Gap” should narrow as technology and economic situations develop but access should not be chanced

Purpose of universal service regulation: to close the “access gap” i.e. where service provision is only commercially viable with additional funding:

- one-off subsidy
- ongoing funding (for true access gap)



Not static; should narrow as:

- Technological developments allow services to be provided at less cost
- Economic developments allow consumers to afford the services

Government must coordinate the transition

To maximise the value and use of spectrum, Governments must coordinate the transition to digital transmission. This means mandating a cut-off date for analogue transmission, after which broadcasters may only transmit in digital signals.

- Countries must manage this process carefully and timely to take full advantage of the benefits of DTV and maximise the use of valuable spectrum.
- Broadcasters must have sufficient time to relocate to other parts of the spectrum and switch to digital transmission. Consumers must have time to switch to digital reception (digital TV or set-top-box).
- Government must manage spectrum restacking process - clearing digital broadcast services from the digital dividend band. Ensuring broadcasters have contiguous blocks of spectrum in the new digital broadcast band.
- Regulator and transmission carriers must coordinate restack of channels for digital broadcast. Development of digital channel plans and new licensed areas for digital television.

The model of a single (or a limited) number of broadcasting infrastructure providers is the exemplar approach in a number of foreign markets. If there are multiple digital television providers, migration, undertaking the digital restack and securing the digital dividend is more complex, time-consuming and costly

7. Securing the digital dividend – the challenges (2)

Technical and engineering requirements

Implementation of digital TV requires significant engineering effort. Required technical skills, infrastructure and capacity are available from a limited number of businesses globally. Planning and implementation will involve the public and commercial broadcasters at a number of levels:

- Interactions between broadcasters and spectrum regulators along with other broadcasters, to agree on a workable spectrum plan and restacking process.
- Design of all infrastructure components to provide the agreed coverage, capacity and quality of service.
- Negotiations between broadcasters and infrastructure providers are needed for access to the appropriate hill top sites. Negotiations with all broadcasters to define the coverage, capacity, quality of service and pricing for the platform.
- Selection of suppliers capable of providing through-life support;
- Establishment of a highly skilled and well equipped maintenance workforce, as well as a fully staffed network operations centre to provide continuous monitoring and reporting of network status.



8. Digital TV switchover is hard: Transition just completed in Australia is a good example

附件七



- Involved 428 sites (of which 150 are BA sites, others TXU)
- Approximately 1,500 services affected (515 BA services)
- Input changes – antenna replacement, receiver retune/replacement
- Output changes – transmitter return/replacement; combiner modification/replacement; antenna replacement
- First restack Adelaide on-air 2 April 2013
- Completion – December 2014
- Excludes decommissioning 23 high power UHF antennas – likely to extend to 2015/16
- Cost approximately AUD100 million