TV SPECTRUM AUCTION: WHAT PUBLIC RADIO NEEDS TO KNOW
Briefly review the auction process and who might benefit

Talk about the future of television

Pose recommendations: what you should do now and in the coming months.

Clarify and discuss.
Need to make a flight? Here’s the nub:

- The spectrum auction will impact radio.
- Advanced Television will impact radio.
- Start planning now!

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First... some context!
IT STARTED WITH A PERCEIVED SPECTRUM CRISIS
**OR... MAYBE IT’S ABOUT MONEY?**

- **Martin Cooper, inventor of the cell phone**
  - “Every two and a half years, every spectrum crisis has gotten solved, and that’s going to keep happening.... We already know today what the solutions are for the next 50 years.”
  - Just one technique: “Improved antennas and techniques for offloading traffic to Wi-Fi networks could multiply the number of mobile devices that carriers can serve by tenfold.”

- **David P Reed, SVP SAP Labs**
  - Arguing that the nation could run out of spectrum is like saying it was going to run out of a color.” Spectrum is a 1920s understanding of how radio communications work.
  - Carriers haven’t argued for new spectrum-efficient technologies because they want to retain their monopolies.

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REPORTS OF TV’S DEATH HAVE BEEN GREATLY EXAGGERATED.

- Over-the-air television broadcast has been growing in importance.

- Interest is growing in Ultra-high definition content. Free UHD could be an important differentiator for public television.

- Advanced television -- ATSC 3.0 -- is right around the corner and will be a game-changer.
OTA’S GROWING IMPORTANCE

Number of Broadcast-only Households

Source: Nielsen Cross Screen Reports, nielsenMedia calculations

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CORD-CUTTING IS REAL....

FierceCable

Topics: Service Provider Strategies

Cord-cutting reached 357K in Q3 based on huge, masked Dish losses, analyst said

November 10, 2015 | By Daniel Frankel

MoffettNathanson analyst Craig Moffett has upwardly revised his estimate of third quarter pay-TV customer losses from 226,000 to 357,000, based on what he said were satellite TV subscriber losses by Dish Network (NASDAQ: DISH) that were masked by its IP-video service, Sling TV.
OTA REACHES MINORITY VIEWERS

- 14.7% of US TV households;
- 17.6 Million homes and 46.2 Million people;
- 22% of African-American households – an 83% increase from 2010;
- 25% of Latino households;

Source: GfK’s Home Technology Monitor 2013 & 2015 Reports

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PTV AFTER THE DIGITAL TRANSITION

- 120 licensees operating 300+ full power stations
- Hundreds of translators
- Multiple streams on each transmitter. Typical is PBS HD plus two or three streams from:
  - Create SD
  - World SD
  - V-ME SD
  - State gavel-to-gavel C-SPAN style services
  - FNX (Native American channel)
- Community engagement and education are major services
- PTV hit hard by recession but has been recovering
- Overlap and efficiency a concern in traditional TV context.

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The Auction Process
Purpose: convert the upper UHF TV band to wireless broadband. Pay TV stations an “incentive” to give up spectrum.

The “incentive” auction is:
- Voluntary
- A reverse auction for broadcasters
- A forward auction for wireless companies
- Forward proceeds must be adequate to cover all station purchases, plus $1.75 billion repacking fund, + $1 billion FCC cost.

The FCC will purchase just enough stations to squeeze everyone left into in the reduced TV band.
December 18:
- Apply to participate.
- “Quiet Period” begins.

March 29: final commitment to participate.

Late spring: FCC chooses clearing target. Bidding begins.

Late 2016
- Auction concludes
- Quiet period ends.

2017 – 2020 +/- UHF Band repacking.
REALITY CHECK #1
NAB STUDY: NO WAY!

The study concludes that the Commission’s three-month window for filing for construction permits (CP) falls well short of the actual time needed to submit and process the applications for the 860 to 1,164 stations that will likely be required to move to new channels (This study estimates 12-18 months). Likewise, the study concludes it is not possible that an industrywide transition of such a large number of TV stations to new channels can be completed in the three-year window currently required. In fact, the study's research and analysis estimates a far greater amount of time to accomplish the transitions. This study forecasts that, at best, between 297 and 445 stations can complete the required tasks in that time period, assuming normal conditions.

The Challenges to Nationwide Repacking

Below is a high-level explanation of the most significant issues that DTC projects will result in a process that is anticipated to take far more than the 39 months currently allotted by the FCC and cost between $1.98 billion and $2.94 billion. The accompanying detail in the body of this report provides in-depth analysis of these conditions and circumstances.
REALITY CHECK #2
“SHOW ME THE MONEY!”

- FCC opening bids total $350 billion.
- FCC will have less than $60 billion to spend buying stations.

But --

FierceWireless

Analysts: 600 MHz incentive auction could generate $60 billion…

- Ergo: opening bids overstate station auction potential by something like $300 billion
# POTENTIALLY BIG DOLLARS FOR SOME

## New York
- **WNJN**: 476 Million
- **WNJU**: 775 Million
- **WNJE**: 443 Million
- **WLIW**: 672 Million
- **WNJB**: 476 Million
- **WNJN**: 770 Million

## Phila +
- **WHYY**: 344 Million
- **WYBE**: 585 Million
- **WLVT**: 476 Million
- **WNJT**: 581 Million
- **WNJS**: 501 Million
- **WVIA**: 308 Million

## Boston
- **WGBH**: 476 Million
- **WGBX**: 453 Million

## Chicago
- **WTTW**: 515 Million
- **WYCC**: 474 Million

## Detroit +
- **WTVS**: 481 Million
- **WCMZ**: 421 Million

## LA
- **KCES**: 492 Million
- **KCLS**: 550 Million
- **KOC**: 581 Million
- **KVC**: 629 Million

## SF +
- **KQED**: 400 Million
- **KQE**: 446 Million

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WHERE?

U.S. UHF TV Station Density

Full Power & Class A
$4 billion possible

Most money will land in a few congested regions
  - New York, Boston, Philadelphia, and adjoining congested areas
  - Los Angeles, San Francisco, San Diego
  - Chicago, Detroit, and border areas

Funds go to licensee, not necessarily to public television.
  - And funds benefit the station, not necessarily the system.
In most areas of the country, the FCC will be able to repack the UHF band without purchasing ANY stations in the auction. Many stations that opt to participate in the auction will not have bids accepted.

In most areas of the country, those who have bids accepted will receive FAR less than they might anticipate from the opening bid.

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Threat to universal service:
- Licensee could sell sole service PTV station.
- Translators WILL be forced off the air and may not have a channel to relocate to.

The Billion Dollar Question:
- How will this money be perceived by funders?

Winners and Losers:
- Winners: some major market stations and duopolies.
- Losers: Rural providers, state networks, stations licensed to challenged institutions.

Complications associated with repacking:
- Potential unfunded capital costs
- Massive diversion of management effort and logistics

No mechanism to address auction in a coordinated way.
So, why should public television stations keep spectrum, anyway?
THE HISTORY OF TELEVISION:
CLIFFNOTES VERSION

1941 – 2017: The Age of Linear Television

2017 - ????: The Age of Internet Protocol Television (ATSC 3.0)
COMING 2018 +/-
ADVANCED TELEVISION – ATSC 3.0

- TV Transmitters become IP Data Transmitters;
- Home Routers with TV receivers;
- Ultra High Definition: 4K, 8K video;
- Robust and Addressable Emergency Alerting;
- Channel “bonding.”

- Pearl Group: ATSC 3.0 will drive significant net revenue gains for commercial television.
PUBLIC TELEVISION’S UNIQUE VALUE PROPOSITION

- Massive power to transmit IP data from hardened facilities;
- Large area coverage patterns.
- One-to-many delivery
  - IP = addressable delivery
  - IP = ability to mix and match TV, wireless, wired broadband sources

PTV can leverage these assets to create new levels of public service and associated public and financial benefits.
Might we have:

- Delivery of public media content directly, OTT, to a home router free and over-the-air?
- Specialized OTT content frameworks: educational content, university applications?
- Robust, addressable emergency alert and public safety applications? “AWARN”
- Highly reliable command and servicing of “Internet of Things” for public service purposes?
OPPORTUNITY: EMERGENCY ALERT

- Potential for robust safety applications delivering rich media that don’t fail when cell phone networks crash in emergency situations.

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**Sandy’s Toll on Telecom**

NYC TV broadcasters stay on-air during Sandy — TV Technology

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**AWARN**

ADVANCED WARNING AND RESPONSE NETWORK ENABLES LIVE VIDEO EMERGENCY ALERTS

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Content, delivered through ATSC 3.0 receiver using Dash 3 interface or in-car navigation systems.
- Location-aware.
- Addressable.
IDC Research: $1.7 trillion market by 2020.
ATSC 3.0 offers the potential to deliver for free and without cable or wireless intermediaries:

- Reimagined distance learning initiatives.
- Netflix-style on-demand public service content.
- Data and spectrum leases to internal and external parties.
- “Internet of Things” management and control of public facilities over a wide area.
PTV can greatly expand its public service with ATSC 3.0

But there are challenges:

- PTV’s mixed UHF – VHF network will limit ability to reach mobile devices in some areas
- Some capital costs associated with the transition to ATSC 3.0 and developing new service infrastructures
- Distraction posed by the auction and repacking
- Failure of FCC so far to harmonize repacking with approval and roll-out of ATSC 3.0.
So, why is all of this important for radio?
Because:
- Our inside baseball is largely irrelevant to our stakeholders,

And
- We are all one family (believe it or not).
Everyone, plus...

- Those in congested markets
- Joint Licensees
- Those who share towers with TV stations
- Those planning transmission site moves or upgrades.
- Those more dependent on federal or local government funding
#1 ISSUE: COMMUNICATIONS

- Addressing confusion about who everybody is:
  - NPR, PBS, multiple TV and radio stations in a market
- Explain: why you participated or didn’t participate
- Reaffirming need and relevance
  - But didn’t you just got a lot of money?"
  - If your service is so critical, why are you selling spectrum?
- Case: why individual support is still essential
  - If your licensee sold spectrum
  - If your licensee held onto its spectrum
- Case: why state and federal support is still necessary

- All while complying with quiet period restrictions.
In Auction Markets:
- Informed and misinformed reporting, by others and potentially by you.
- Public service basis for decisions
- Potential reduction of service
- How is what you’re doing best for the public and not a venal money grab

Joint Licensees:
- Dealing with the massive management distraction
- For news operations: issues of editorial judgment and independence
MORE LOGISTICAL CHALLENGES

- Those on shared towers
  - Will you have tower space after the repack?
  - Renters: will your landlord still be in business?
  - Maintaining service during repack-related tower work.

- Those planning moves, upgrades, or maintenance
  - Where will you find a tower crew or consulting engineer?
  - Will the FCC be processing applications?

- Everyone: mitigating impact of auction publicity on fundraising.

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Before December 18th

- Communications:
  - Consult your FCC attorney about permitted and prohibited communication – especially joint licensees.
  - Discuss communications challenges and messaging with other public broadcasting licensees in your community
    - Strictly informative messaging (not prohibited disclosures) about the ABCs of the auction, of public broadcasting in the market, of public accountability.

- Logistics:
  - If you share a tower with a television station, talk to them NOW!
  - Start talking to your major funders.

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Understand who is on your tower and other nearby towers.
- Assess: Will your landlord still be around? Will there still be space and tower capacity for you?
- Develop your own contingency plans for service during outages caused by tower work.
- Ensure adequate firewall between news department and station management. Talk to FCC attorney.

Are you planning facilities upgrades? Prepare for the crunch!
- FCC approval times
- Tower crews
- Consulting engineers.

Are you a participating joint licensee? Develop post-auction communications strategy.
- Publicly confirm service commitment and need for support.
- Internal consensus on radio-tv messaging.
- Address why what you’re doing (or not doing) is the right thing for all audiences
ONCE AGAIN, THE TAKEAWAY

- The spectrum auction will impact our entire industry, including radio.
- Advanced Television will impact radio.
- Start planning now!
Thank you!

vinnie@breakthroughpm.org
The FCC has issued an opening bid.
- Agreeing to enter the auction gives the FCC an option to buy the station at the opening price.

Thereafter the FCC may:
- Exercise its option to buy the station, or
- Offer a lower bid, or
- Inform the station it is not needed and is out of the auction.

In each bidding round the station may:
- Accept the FCC’s lower bid, giving it the option (but not the obligation) to buy the station at the lower amount;
- Decide the price offered by the FCC is too low and inform the FCC it is exiting the auction. (The station will then be guaranteed a post-auction UHF channel assignment.)
The amount of UHF spectrum the FCC decides to reallocate:
- Most aggressive, 128 mHz: vacate UHF channels 30 - 51;
- Least aggressive, 60 mHz: vacate UHF channels 42 - 51;
- Most likely, 84 mHz: vacate UHF channels 37 - 51;

The number of television stations in or near any given market;

The number of stations in the market that decide to participate in the auction;

The “walk-away” (reserve) price of stations competing in the auction.
- The lower a commercial station’s net operating revenue, the more likely it is to participate and the lower its reserve price is likely to be.
Robust student safety applications that don’t disappear when cell networks crash in emergency situations.

Delivery of rich media to students to supplement classroom presentations.

Distance learning. Register for a class; get a pre-configured router with a built-in TV receiver.

OTA - OTT delivery systems that support specific university objectives:
  - College sports
  - Content designed to increase alumni engagement
  - Continuing professional education: MDs, attorneys, others.
- Confusion
- Relevance
- Risk

- Short term: distraction, confusion, quiet period restrictions
- Medium term
  - Potential loss of tower space
  - Shortage of qualified tower crews and engineers
  - Disruption to service during repacking
- Long term: More competition; New services competing for listeners’ attention,
Audio-Video Adoption in USA Households

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