

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
Expanding the Economic and Innovation) MB Docket No. 13-249
Opportunities of Spectrum)
Through Incentive Auctions)

LPTV Spectrum Rights Coalition
Revitalization of the AM Radio Service & LPTV
March 20, 2014

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March 20, 2014

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth St, S.W.
Washington, DC 20554

Re: Revitalization of the AM Radio Service & LPTV

Dear Ms. Dortch:

The LPTV Spectrum Rights Coalition¹ would like to provide relevant research and comments into the 13-249 Docket, *the Revitalization of the AM Radio Service*. We want to show how TV channels 5 and 6 will not be available for potential AM use for the foreseeable future, how the new proposed ATSC 3.0 broadcast television standard could create a new radio service opportunity, and how existing ATSC 8VSB transmission services can be used today to provide a large expansion of the FM service. While our Coalition represents the LPTV and TV translator segments of the broadcast television service, we will also refer to the primary service full-power and non-commercial stations in our analysis.

I. INTERSERVICE INTERFERENCE RESEARCH NEEDED

It is common RF engineering knowledge that channels 5 and 6 would be a technically good place for the AM radio service to operate due to excellent propagation

¹ The LPTV Spectrum Rights Coalition is a research, advocacy, and lobbying effort by more than 100 independent low power television FCC licenses with more than 650 stations and construction permits in 33 states. They air hundreds of diverse content channels to urban, suburban, and rural audiences. <http://www.lptvcoalition.com>

characteristics². However, as the FCC is discovering in the Voluntary Incentive Auction 12-268 Proceedings³, there is the potential for considerable “inter-service interference” between mobile wireless broadband services and the digital television service⁴. When you take into consideration that ATSC 3.0⁵, the next generation digital television standard that is now being formulated, and will enable digital television with similar services as are now being used by mobile broadband operators⁶, the possibility exists that when ATSC 3.0 is deployed, there could be considerable potential interference for TV channels 4, 7 and others with repurposed TV channels 5 and 6 to the AM radio service. Further research would need to be done to see if channels 5 and 6 could be used for both AM and FM radio and to not interfere with a limited number of remaining digital television channels.

II. PROTECTION OF INCUMBENT AND NEWLY RELOCATED DTV LICENSEES

As an example, a March 2014 search of the FCC Media Bureau Consolidated Database System⁷ for digital television primary and low-power licensees, shows that there currently are 204 incumbents. This includes primary commercial, primary non-commercial, Class-A, low-power digital, and TV translators.

LICENSE TYPE	TV CHANNEL 5	TV CHANNEL 6	TOTAL
DTV Full Power	16	8	24
LPTV & TV Translators	94	90	184
			204

² See Broadcast Maximization Committee
<http://www.broadmax.org/>

³ See Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions,
<http://apps.fcc.gov/ecfs/proceeding/view?name=12-268>

⁴ Managing Interference Between Television and Wireless Services,
<http://apps.fcc.gov/ecfs/comment/view?id=6017586105>

⁵ Advanced Television Standards Committee,
<http://www.atsc.org/cms/>

⁶ TV Technology Magazine article: *TV Tomorrow: ATSC 3.0 Advances*,
<http://www.tvtechnology.com/article/tv-tomorrow-atsc--advances/221069>

⁷ FCC Media Bureau Consolidated Database System - Public Access,
http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm

As this example illustrates, any proposed change to TV channels 5 and 6 would have to be done within the context and framework of the Voluntary Incentive Auction process, which does not address in any way channels 5 and 6 repurposed for AM radio.

II. PROPOSED NEW NATIONAL DTV BAND PLANS

The problem is even more dramatic when you take into consideration the new national “band plans” which are now being considered as part of the Voluntary Incentive Auction proceedings. Congress gave the FCC authority to repurpose up to twenty 6-MHz DTV channels (120-MHz of the television spectrum, from channels 51-32). Depending on how many auction eligible DTV stations enter the auction and are sold, there will be post-auction still be more than 1100 full power DTV licensees to repack into the channels 2-31.

Then there will be over 10,000 LPTV and TV translators (currently built and approved construction permits) which will need to repack into the remaining UHF and VHF spectrum. While channel selection and coverage areas are not guaranteed for LPTV and TV translators, they maintain, according to the Spectrum Auction Act, their “right of displacement” which guarantees them the right to file a displacement application for a new channel. And in many markets the VHF channels will be the only ones available for relocating to. Many LPTV actually wants a VHF channel assignment to serve local audiences and because of local terrain.

LPTV licensees and TV translators will do what they always have been allowed to do, to re-engineer themselves back into any available spectrum, either UHF or VHF, so that they can find a population to serve. This means that the repurposing of channels 5 and 6 for AM radio use will not be possible any time soon. How soon? Congress gave the FCC until 2022 to complete TV spectrum auction process, and although the FCC is planning on conducting the auction in 2015, many factors could delay the process from technical issues, legal challenges, and new legislative fixes.

Even the most optimistic timing will not have the LPTV repacking process complete until well into 2020 or beyond. Any potential AM repurposing of channels 5 and 6 would have to wait at least until then. Also by that time frame (2020) ATSC 3.0 should be a firm standard and will start to be deployed into both DTV licensee operations, and into the new consumer electronics devices needed to use it.

III. FUTURE FLEXIBLE USE OF CHANNEL 6 FOR DTV AND FM RADIO

There are currently less than a dozen analog television channel 6 stations which are broadcasting an FM signal on frequency 87.7. The FCC has a firm date of September 2015 for the remaining analog television stations to end transmission in analog format and switch to DTV. This was reaffirmed by a September 2013 Second Memorandum Opinion and Order⁸, which denied a request to extend this date. This Order was finally published in the Federal Register in March 2014 and any appeals must be filed by May 2014. Whether or not a legal appeal challenging the Order is successful remains to be seen.

However, just because the analog station has to convert to digital does not mean that the capability to broadcast an FM 87.7 signal is not possible. Tests have already been conducted to embed an FM signal within the DTV channel using “waste” or an unused portion of the current DTV 8VSB signal⁹. This could as the researcher notes provide a combine FM-DTV channel opportunity on channel 6. With a service waiver from the FCC the researcher predicts this could open up the opportunity for as many as 30 new FM 87.7 channels in each TV DMA. Any future repurposing of channel 6 will need to take this into consideration.

⁸ Amendment of Parts 73 and 74 of the Commission’s Rules to Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations and to Amend Rules for Digital Class A Television Stations – MB Docket 03-185 - September 2013;
http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0927/FCC-13-126A1.pdf

⁹ Richard D. Bogner, MB-13-249 Reply Comments, 2/20/2104,
<http://apps.fcc.gov/ecfs/document/view?id=7521074214>

SUMMARY

While the goal of revitalizing the AM Radio Service needs to be achieved, and the repurposing of TV channels 5 and 6 makes technical sense to many experts, doing so at the cost of more than 400 channels for full power, LPTV, and TV translator channels will not be possible without an addition disruption to the Voluntary Incentive Auction process and subsequent channel repacking process. Maybe by 2020, after the primary/full power and LPTV channel repacking has been completed, there may be an opening to do so. Combined with the approval and roll-out of a new ATSC 3.0 TV transmission standard during 2017-2020, the timing of such a policy change will be critical. However, there exists with today's DTV ATSC standard, 8VSB, the opportunity to create a new combined FM-DTV channel in each TV DMA.

Respectfully submitted,

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Mike Gravino, Director