

June 15, 2017

Ex Parte

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions; Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37, and Amendment of Part 74 of the Commission's Rules for Low Power Auxiliary Stations in the Repurposed 600 MHz Band and 600 MHz Duplex Gap, Amendment of Parts 15, 73 and 74 of the Commission's Rules to Provide for the Preservation of One Vacant Channel in the UHF Television Band For Use By White Space Devices and Wireless Microphones, GN Docket No. 12-268, ET Docket No. 14-165, MB Docket No. 15-146

Dear Ms. Dortch:

On June 13, 2017, Paula Boyd and Paul Garnett of Microsoft Corporation, and Paul Caritj and myself of Harris, Wiltshire & Grannis, LLP, met separately with Erin McGrath, Legal Advisor to Commissioner O'Rielly; Daudeline Meme, Legal Advisor to Commissioner Clyburn; and the following representatives of the Office of Engineering and Technology and the Incentive Auction Task Force: Jean Kiddoo (Chair, IATF), Sasha Javid (IATF), Brian Smith (IATF), Ira Keltz (OET), Geraldine Matise (OET), Paul Murray (OET), Jamison Prime (OET), Mark Colombo (OET), and Martin Doczkat (OET).

In these meetings, we discussed the importance of the Commission's proposal to preserve one UHF white space channel in each market after the transition phase and the post-auction repack of broadcasters. The record is clear that this white space channel is critical to ensuring that the United States has the minimum three white space channels needed to support investment by semiconductor and device makers and to enable broadband Internet access for rural and underserved Americans. White-spaces technology is already in use to connect rural communities, improve the competitiveness of American farmers, and improve wireless broadband. But without regulatory certainty, innovators like Microsoft and its partners cannot increase investment, produce equipment at scale, and drive down prices to levels that allow pervasive nationwide availability of white spaces devices, technologies, and broadband access.

We discussed a new Microsoft study, detailed in the slides attached, which confirms that preserving a single UHF white space would have virtually no impact on low-power broadcasters or translators. Microsoft's analysis took into account the actual outcome of the Incentive Auction—the 84 MHz recovered, the specific stations that will be leaving the VHF and UHF bands, and the channel reassignments announced for the full power and Class A stations that will remain. Microsoft conservatively focused on the markets that the National Association of Broadcasters had predicted would be severely affected: New Mexico, Utah, and the Tennessee/North Carolina border. The study determined the number of low power and translator stations that may be affected by preserving a single white space as a percentage of the total number of such stations serving a given market today.

LPTV companies anticipate that the repack of the full-power and Class A stations will adversely affect the ability to accommodate low power stations in the repacked broadcast band. Therefore, it is important to distinguish the impact of preserving a white space channel from the far-different impact of the Congressionally mandated repack of the full-power and Class A broadcast stations. We urged the Commission to disregard submissions that conflate the effect on low-power broadcasters of preserving a white space channel and the effect of repacking full-power and Class A stations below 600 MHz. Any analysis that fails to distinguish these two factors is fatally flawed.

There is no need to wait before adopting rules to protect a single white space channel in each market. The Commission need not preserve the *same* white space channel nationwide, so there is no need to delay until final TV assignments for all parties are in place. Acting now is important because the Commission's proposed rule would provide the certainty needed to support white-spaces investment that has suffered from regulatory uncertainty.¹ Indeed, the record makes clear the need for quick action to promote certainty and investment and overwhelmingly demonstrates that the Commission may take this step immediately without affecting a single broadcaster throughout the vast majority of the country.

Sincerely,




Paul Margie
Counsel for Microsoft Corporation

Encl.

cc: meeting participants

¹ *Amendment of Parts 15, 73 and 74 of the Commission's Rules to Provide for the Preservation of One Vacant Channel in the UHF Television Band for Use By White Space Devices and Wireless Microphones*, Notice of Proposed Rulemaking, 30 FCC Rcd. 6711, ¶¶ 41-43 (2015).



Post-Auction Analysis of Vacant Channel Proposal Effect on Full-Power and Low-Power Broadcasters

Microsoft Corporation

June 13, 2017

The Vacant Channel Rule is Crucial to Investment in Wireless Broadband

- ▶ Despite ongoing regulatory uncertainty, TVWS has already demonstrated its power to connect rural communities, extend school networks, and make American farmers more efficient and competitive.
- ▶ In order to scale these innovations, it is critical to promote regulatory certainty, and to ensure that the minimum of three UHF channels necessary to make investment commercially feasible are available throughout the country.
- ▶ Preserving a vacant channel proposal is necessary to meet this minimum given the Commission's substantial reduction in the number of white spaces
 - ▶ Preserving a vacant channel will have no impact on any full-power broadcaster
 - ▶ Microsoft's post-auction analysis demonstrates that preserving a vacant channel will have no impact on low-power broadcasters in most areas and a minimal impact on low-power broadcasters even in the worst-case scenarios.
 - ▶ Because the proposal is critical to advancing wireless broadband and would have no or minimal impact on broadcasters the FCC should adopt it now to promote regulatory certainty and investment.

Methodology

- ▶ Examined the 84 MHz spectrum recovery produced by the Incentive Auction.
- ▶ Only removed from the band broadcasters that sold their licenses or agreed to share a channel in the reverse auction.
- ▶ Locked full-power stations to the channels actually assigned in the Channel Reassignment PN.
- ▶ Simulation accounted for co-channel and adjacent-channel constraints that apply between broadcasters, faithfully applied the vacant channel rule as proposed in the NPRM, and accounted for other complicating factors.
- ▶ Simulated New Mexico, Utah, and North Carolina—markets NAB's pre-auction comments identified as potentially problematic—plus the Cleveland metro area.
 - ▶ New Mexico, Utah, and North Carolina are representative of markets where NAB has claimed that the effect will be the most serious. Focus on these markets ensures that the analysis addresses worst-case scenarios.
 - ▶ Cleveland was chosen to represent a more typical urban market.

Results

El Paso/Albuquerque Charlotte/Greensboro

0.0%

0.0%

Salt Lake City

0.5%

Cleveland

0.0%

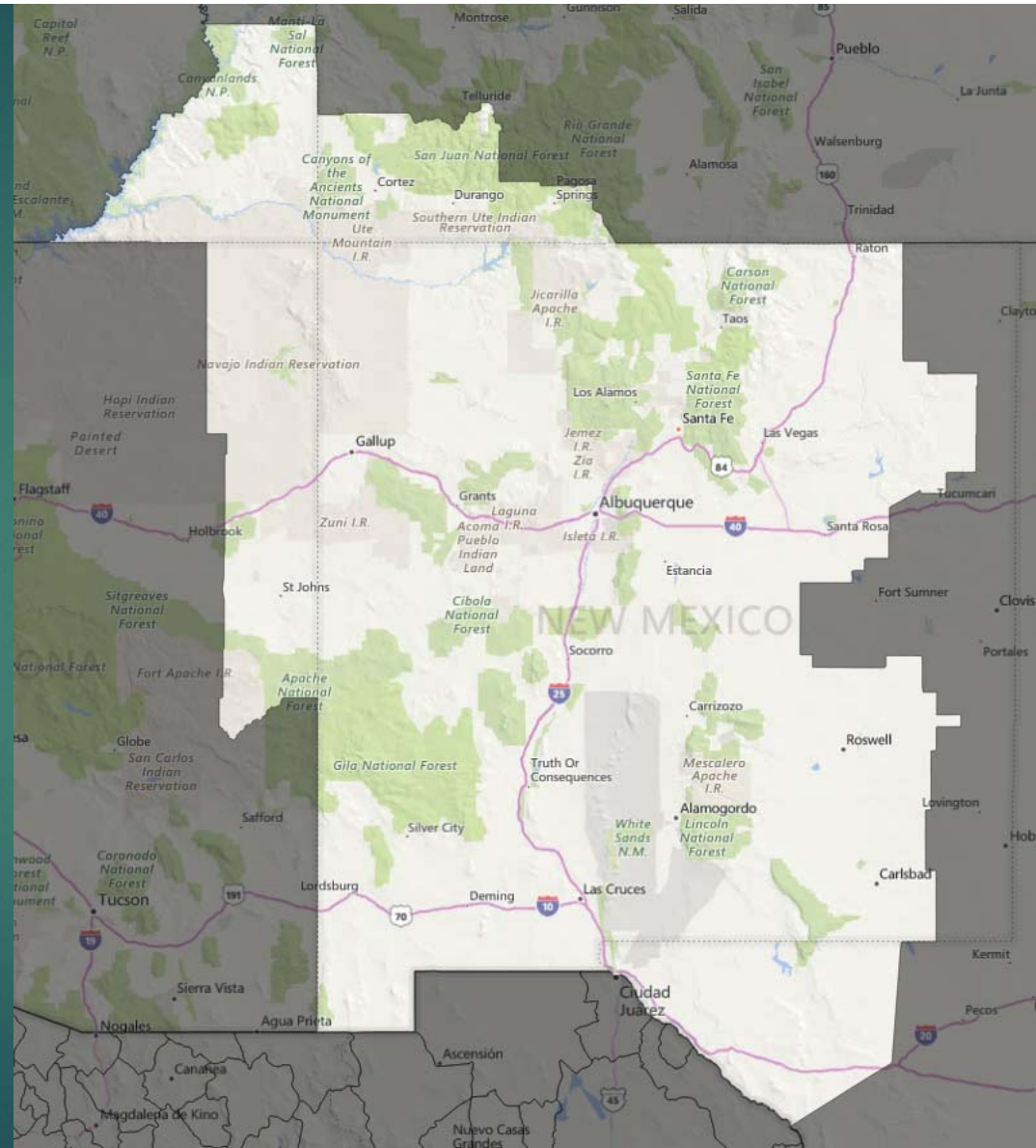
- ▶ 1,000 simulations were conducted for each market.
- ▶ Microsoft's analysis predicts no affect at all in three out of these four markets.
- ▶ In Salt Lake City, the impact is minimal.
- ▶ The percentages are the total number of stations affected, on average, across all simulations in a market, divided by the number of low-power/translator stations that serve that market.

Results – El Paso / Albuquerque

Stations affected:

0%

- ▶ No station affected by the vacant channel rule.
- ▶ Even in the most spectrum constrained parts of this market, at least one channel is likely to remain after all low-power stations are repacked.

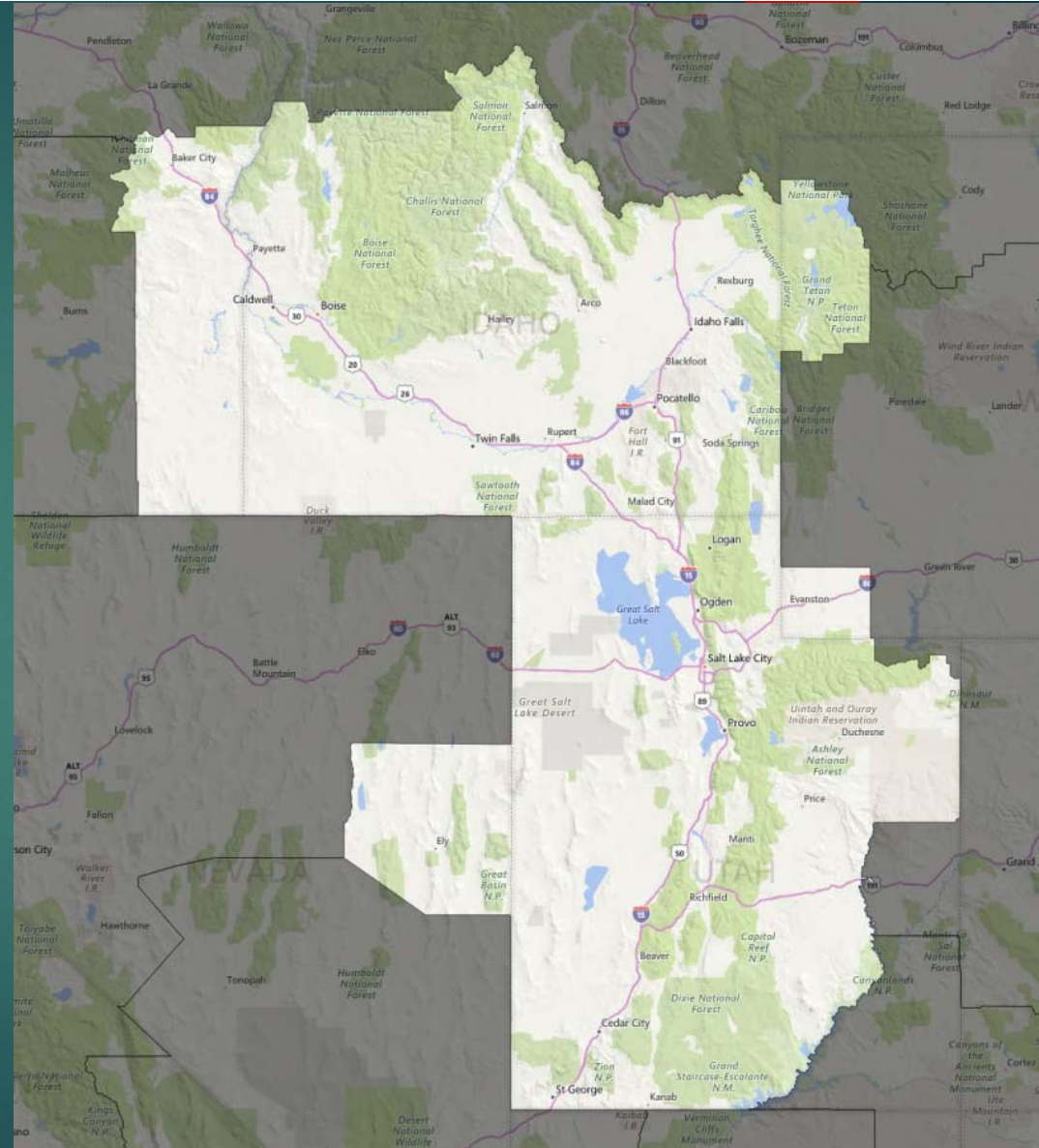


Results – Salt Lake City

Stations affected:

0.5%

- ▶ Even in the worst-case market, the effect is minimal.
- ▶ The few affected stations are in areas where the band is extremely crowded with stations, meaning many other stations are available to viewers everywhere in the areas affected.
- ▶ And even these stations need not go off the air. The Commission has created alternatives such as channel sharing.

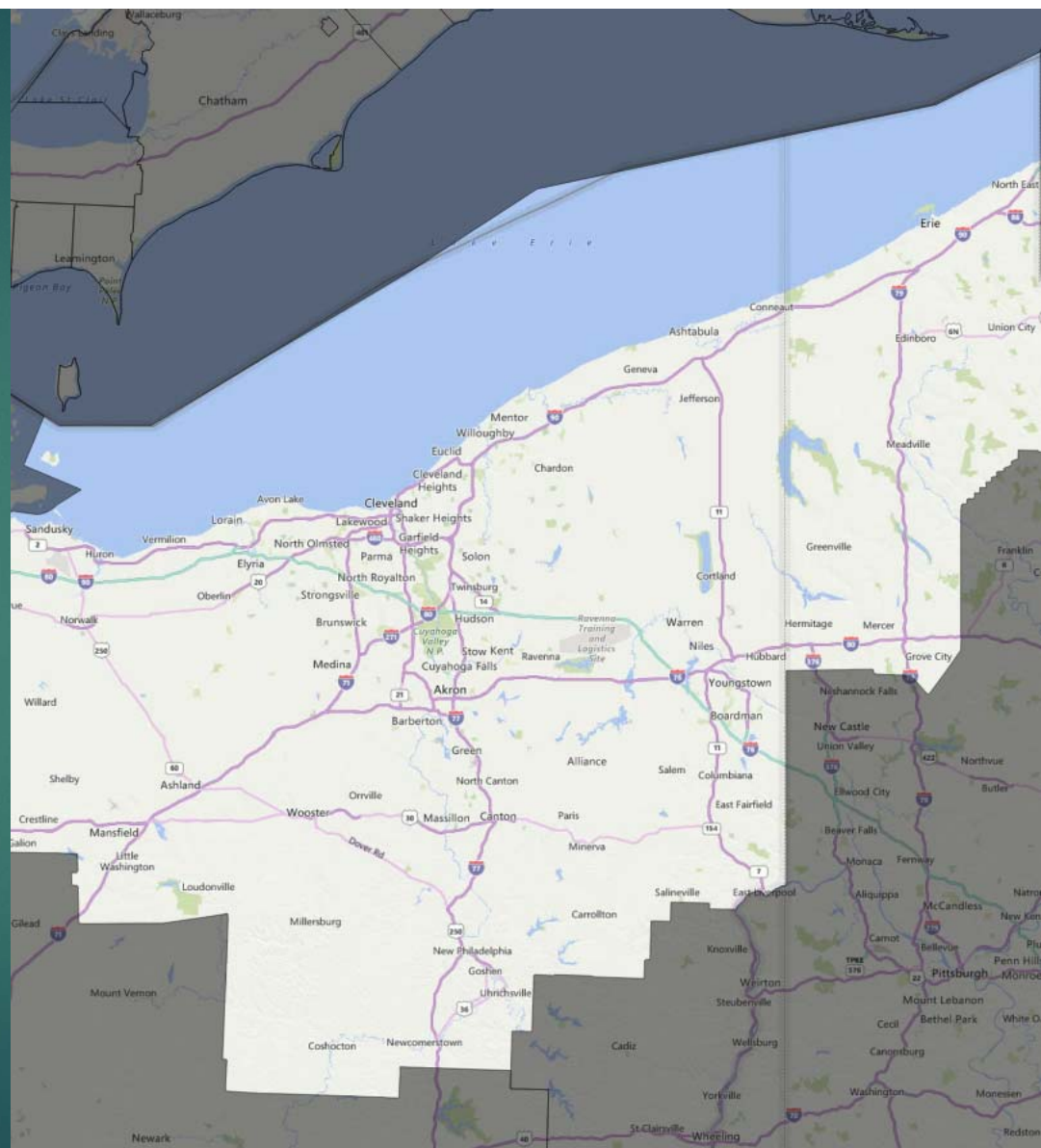


Results – Cleveland

Stations affected:

0%

- ▶ No station affected by the vacant channel rule.
- ▶ Even in the most spectrum constrained parts of this market, at least one channel is likely to remain after all low-power stations are repacked.

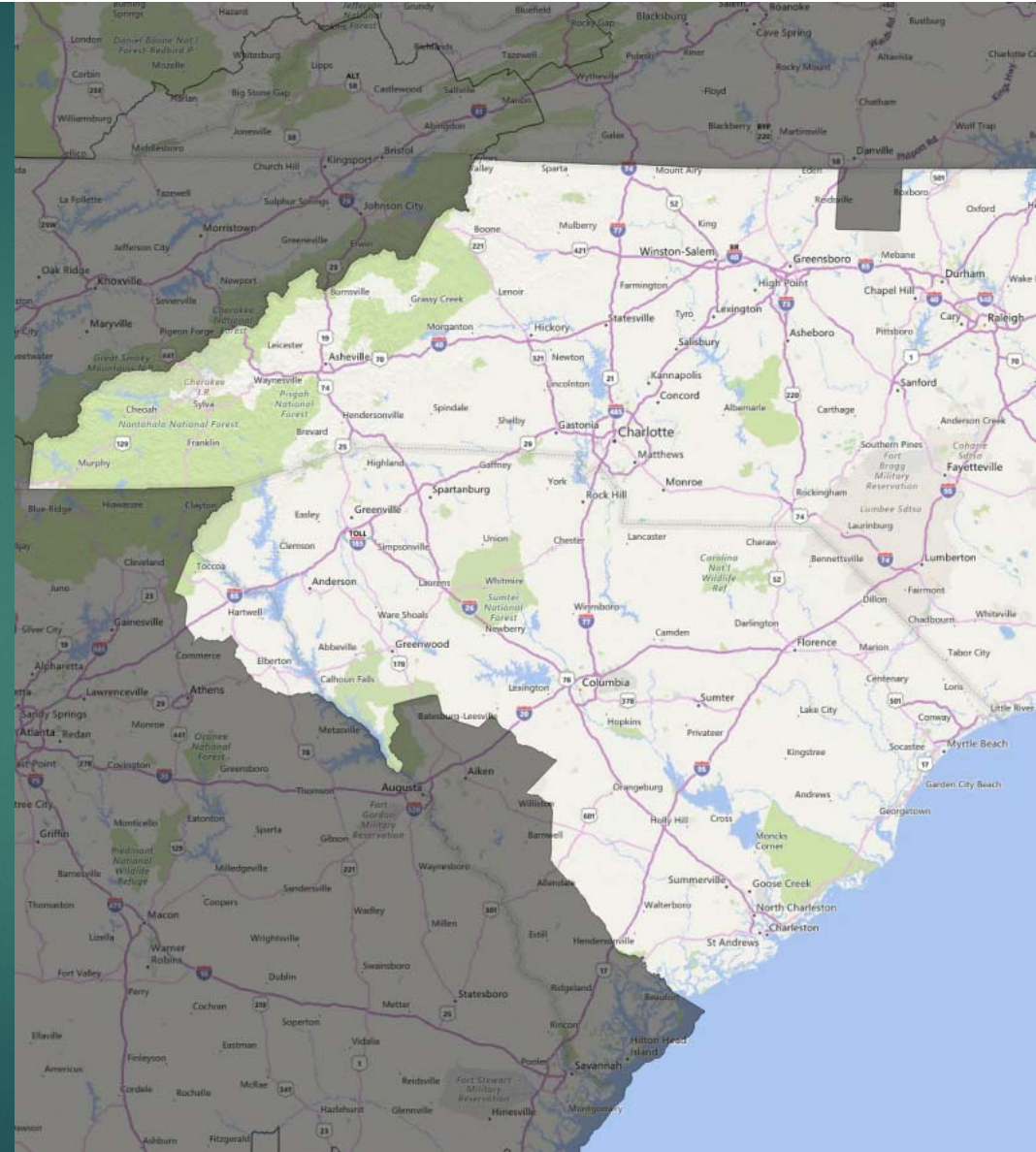


Results – Charlotte/Greensboro

Stations affected:

0%

- ▶ No station affected by the vacant channel rule.
- ▶ Even in the most spectrum constrained parts of this market, at least one channel is likely to remain after all low-power stations are repacked.



Results

- ▶ The very few stations that may be affected may be able to stay on the air through channel sharing, etc. So the impact is even smaller than the numerical results may suggest.
- ▶ Broadcasters' also may coordinate and minimize the collective affect of the repack and the proposed vacant channel rule.
 - ▶ But Microsoft's simulations conservatively assumed that stations will coordinate to minimize the effect of the repack, but not the vacant channel rule.
 - ▶ Microsoft's results are therefore conservative, because only channels that remain on the air after the repack can be affected by the vacant channel rule.

Reviewing the Record

- ▶ Microsoft's analysis also serves as a post-auction confirmation Google's pre-auction probabilistic analysis, which previously was the only substantive analysis on the record.
- ▶ These two analyses are the only transparent and methodologically sound record evidence on the record.
- ▶ NAB's filings, rather than providing analysis, have simply made conclusory statements or sought to muddy the water:
 - ▶ NAB made the elementary error of failing to distinguish between the effect of the repack and the vacant channel proposal. Only the latter is currently under consideration. The former was mandated by Congress. Asserting that the FCC should not adopt the vacant channel proposal because of separate LPTV displacement by the repack is unjustifiable.
 - ▶ Lacking real analysis, NAB provided the FCC with no substantive explanation of its methodology to allow the Commission and other interested parties to understand or evaluate its analysis.
 - ▶ The Commission must reject a filing that fails to distinguish between the effect of the repack and the effect of the vacant channel rule, and which fails to provide any useful methodological details.