



September 5, 2013

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: In the Matter of Expanding Economic and Innovation Opportunities of
Spectrum Through Incentive Auctions, GN Docket No. 12-268, Notice of *Ex Parte*
Communication

Dear Ms. Dortch,

On September 4, 2013, Rick Kaplan, Victor Tawil and Bruce Franca of the National Association of Broadcasters ("NAB") met with the following individuals at the Federal Communications Commission ("FCC" or the "Commission"): Gary Epstein and Edward Smith of the Incentive Auctions Task Force; William Scher of the Office of General Counsel; Robert Weller, Mark Colombo and Mathew Hussey of the Office of Engineering and Technology ("OET"); Evan Kwerel of the Office of Strategic Planning; Brett Tarnutzer, Shabnam Javid, Martha Stancill, Margaret Wiener and Jessica Almond of the Wireless Telecommunications Bureau; and William Lake and Rebecca Hanson of the Media Bureau. Alan Stillwell of OET participated by phone.

At the meeting, NAB sought clarification on issues concerning the auction design contemplated in the above-referenced proceeding. In particular, we discussed the use of the FCC's Domain and Interference-Paired Constraint files and the repacking of TV stations. NAB focused on certain anomalous results concerning Class A stations generated from the constraint files and noted various potential errors in those files. NAB also noted the challenge presented by the use of proxy stations and offered to conduct further analysis to improve their efficacy in the process. The attached PowerPoint presentation was used to assist in the discussions.

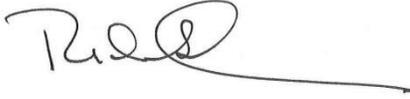
1771 N Street NW
Washington DC 20036 2800
Phone 202 429 5300

Marlene H. Dortch

September 5, 2013

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Rick Kaplan", with a long horizontal line extending to the right.

Rick Kaplan

Executive Vice President, Strategic Planning

National Association of Broadcasters

Attachment

CC: Gary Epstein
Edward Smith
William Scher
Robert Weller
Mark Colombo
Mathew Hussey
Evan Kwerel
Brett Tarnutzer
Shabnam Javid
Martha Stancill
Margaret Wiener
Jessica Almond
William Lake
Rebecca Hanson
Alan Stillwell

Incentive Auction Design

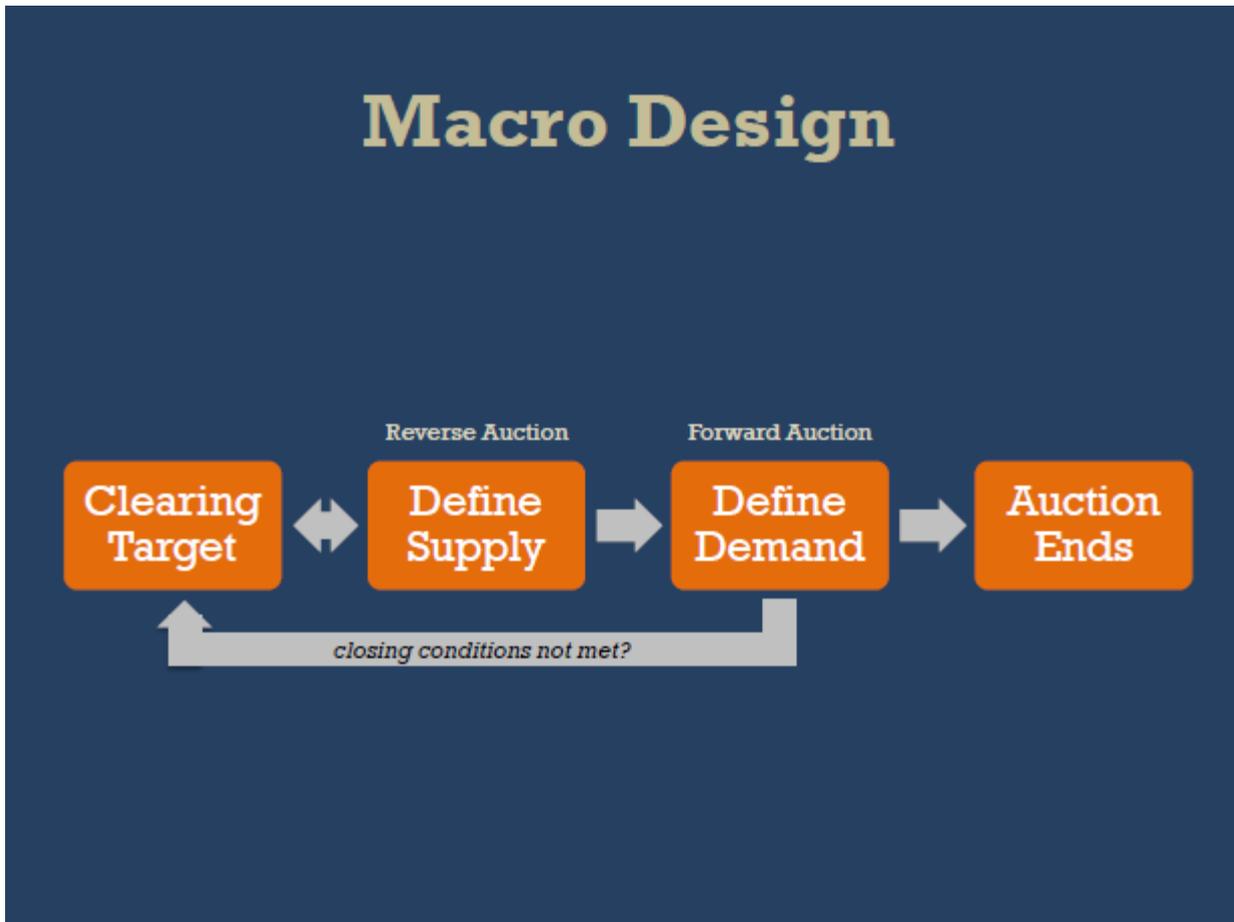
September 4, 2013

NAB

Topics

- Auction Design Discussion
- Repacking and Constraint File issues

Incentive Auction Design*



*Slide from August 16th, 2013 *ex parte* filing by Expanding Opportunities for Broadcasters Coalition

Reverse Auction Design*

Real World Auction Design

Selectively apply computational resources

- Do “hard” things pre- and post-auction
- Limit intra-round computation



*Slide from August 16th, 2013 *ex parte* filing by Expanding Opportunities for Broadcasters Coalition

TV Study And Constraint File Issues

Topics

- TV Study and constraint file issues
- Problems with interference-paired files
 - Co-channel anomalies
- Use of “proxy” channels
- Analog to Digital conversion for Class A stations
- Impact on interference/repacking
- General conclusions

TV Study and Constraint File Issues

- Domain and Interference-pairwise constraint files are key to incentive auction process and eventual repacking
 - Files must be correct
 - Errors can create repacking shortfall
- TV Study-generated constraint files appear to contain errors
 - Results appear counter to radio propagation physics
 - Results contain co-channel anomalies

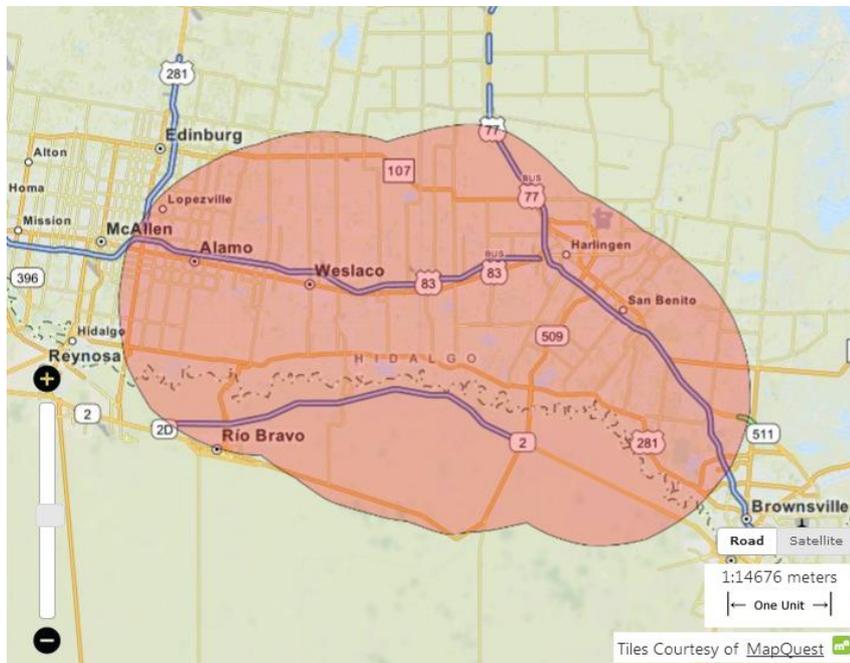
Correct Constraint Files Are Critical

- Domain file shows channels available for each station
- Interference-Paired file shows stations that are prohibited from co- or adjacent channel operation
- Critical areas have either limited channels available or large interference constraint files
- Errors in constraint files could result in shortfall of channels for repacking solution (no channels available for some stations)
- These problems cannot be rectified post-auction!

Co-channel Anomalies

- Under any interference scenario, co-channel operation within another TV station's service area should not be permitted
- FCC's TV white space rules requires 1W unlicensed transmitter to be located 14.4 km **outside** a TV station's contour

Some Co-channel Examples



KCWT-CA

Info

Current Location

Latitude: 26.3126924

Longitude : -97.8854573

[Add a new TV station here](#)

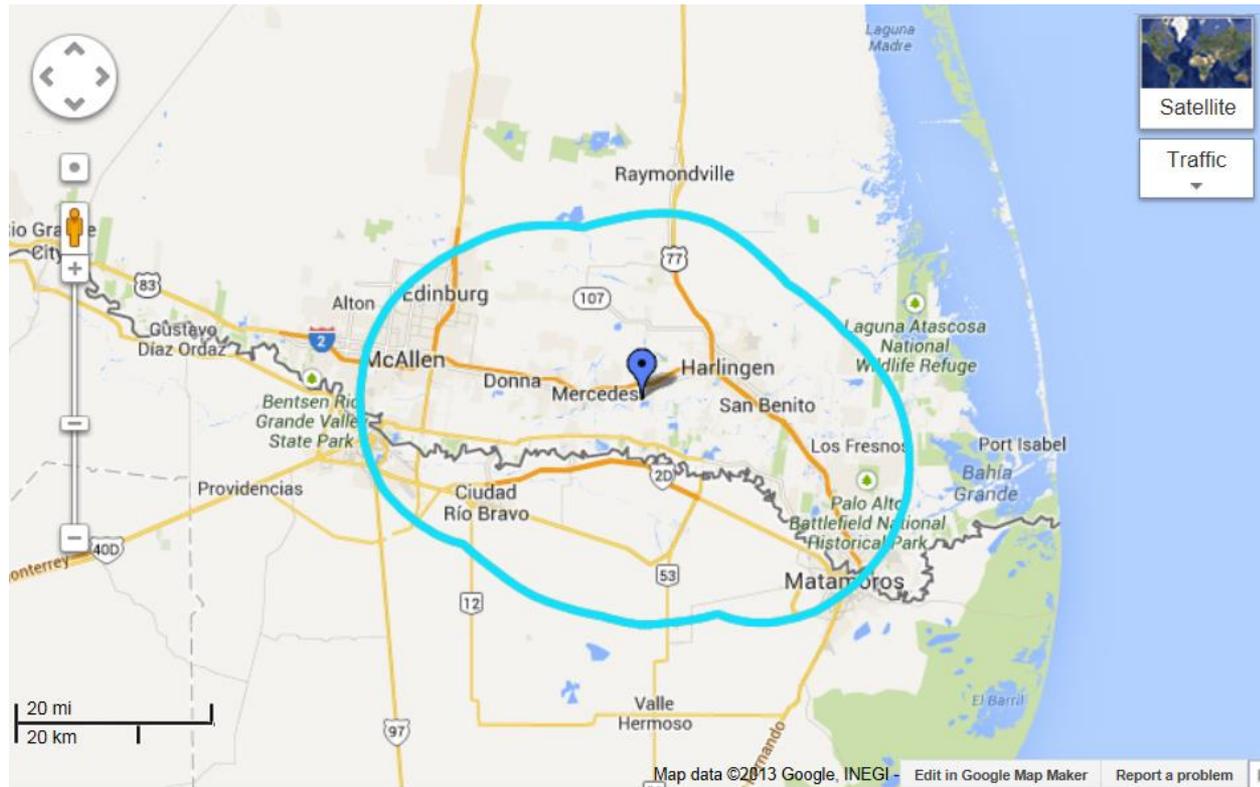
[Use below station as template](#)

- **Channel:** 30
- **CallSign:** KCWT-CA
- **Service:** CA
- **Status:** LICEN
- **Licensee:** ENTRAVISION HOLDINGS, LLC
- **FileNum:** BLTTL19980421JB
- **FacilityId:** 40058
- **Propagation:** Base FCC TV FCurves
- **MaxERP (kW):** 30.3
- **Latitude:** 26° 8' 29.27" N
- **Longitude:** 97° 50' 4.98" W
- **Population (2010):** 509,543
- **Population (2000):** 432,865
- **Area (Sq KM):** 2,658.6

Demographics



Contour from FCC Records



- Contour from FCC files. http://transition.fcc.gov/fcc-bin/contourplot.kml?gmap=2&appid=1319654&call=KCWT-CA&freq=0.0&contour=51&city=LA_FERIA&state=TX.kml

KCWT-CA

- La Fiera Class A TV Station is located in southern tip of Texas and the station's DTV contour covers Alamo, Weslasco, Harlingen and parts of Brownville, Texas (an area with population well over 100,000 people)
- TVStudy suggest that station's population served is ZERO people using 2010 census and 1 arc-second terrain data
 - Note: There is no significant terrain in this area of Texas

TV Study

- TV Study used 30m for antenna height when actual antenna HAAT data is 155 meters

Antenna Height Above Average Terrain Calculations -- Input

Latitude **26 8 28.0 North**
Longitude **97 50 4.0 West** (NAD 27)

Height of antenna radiation center above mean sea level [RCAMSL] = **170.9** meters

Number of Evenly Spaced Radials = 360 0° is referenced to True North

Results:

Calculated HAAT= 155. meters

(Antenna Height Above Average Terrain)
using the 30 second FCC/NGDC terrain data)

KCWT-CA Located in Critical Area

- KCWT-CA is located in critical area
- Limited number of channels are available in Domain file due to Mexican border agreement restrictions
- Only seven channels available for KCWT-CA in Domain file (result is more stations than channels in repack area if spectrum reduced)



DOMAIN	40058	30	CA	US	TX	LA FERIA	KCWT-CA	5	20	22	23	30	31	48
DOMAIN	28280	48	DC	US	TX	MCALLEN	KTFV-CD	5	35	44	48			
DOMAIN	32176	35	CA	US	TX	MCALLEN	KRZG-CA	5	35					
DOMAIN	69692	49	DT	US	TX	MCALLEN	KNVO	5	35	44	48	49		
DOMAIN	12913	34	DT	US	TX	HARLINGEN	KLUJ-TV	5	22	23	34	44	48	
DOMAIN	34457	31	DT	US	TX	HARLINGEN	KGBT-TV	5	20	22	23	31	44	48
DOMAIN	56079	38	DT	US	TX	HARLINGEN	KMBH	5	20	22	23	31	38	48
DOMAIN	62354	40	DT	US	TX	RIO GRANDE CITY	KTLM			3	13	40		
DOMAIN	32179	20	CA	US	TX	BROWNSVILLE	KXFX-CA			4	5	6		

Bigger Problem

- Station ID 12913

Results LR Interference

Filter Reset Export to CSV

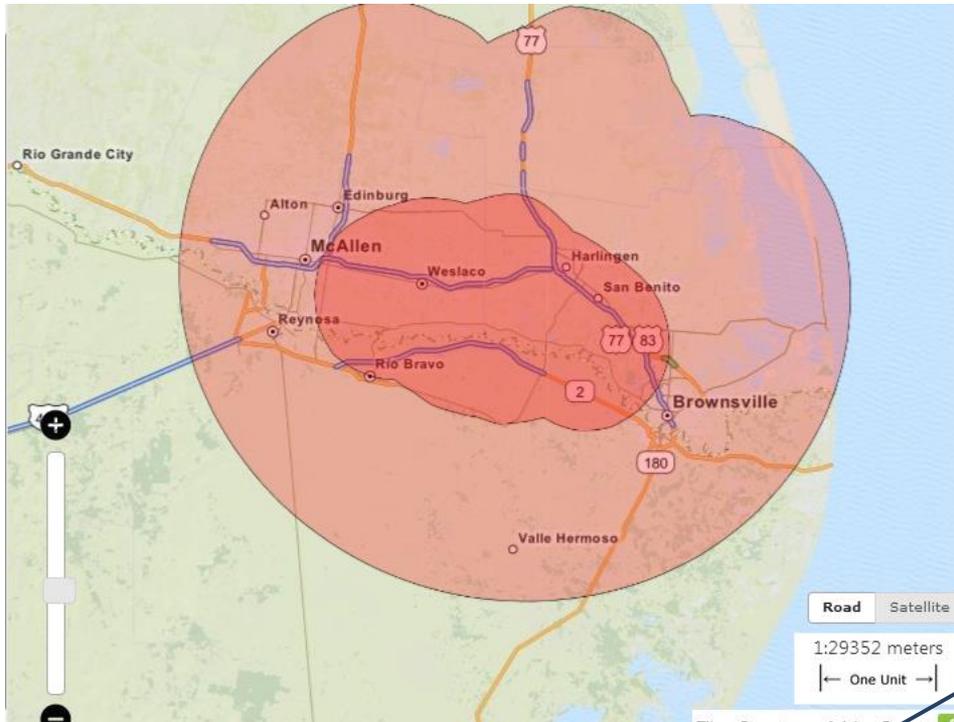
Ch	CallSign	Svc	Status	Licensee
34	KLUJ-TV	DT	LICEN	COMMUNITY EDUCATIONAL TELEVISION, INC.

Showing 1 to 1 of 1 entries

For complex filtered searches the pipe delimiter '|' may be used, e.g. "DT|CA"

Tiles Courtesy of MapQuest

Stations Permitted to be Co-channel in Interference Pair-wise List



Results LR Interference

Filter Reset Export to CSV

Ch	CallSign	Svc	Status	Licensee
34	KLUJ-TV	DT	LICEN	COMMUNITY EDUCATIONAL TELEVISION, INC.
30	KCWT-CA	CA	LICEN	ENTRAVISION HOLDINGS, LLC

Showing 1 to 2 of 2 entries

For complex filtered searches the pipe delimiter '|' may be used, e.g. "DT|CA"

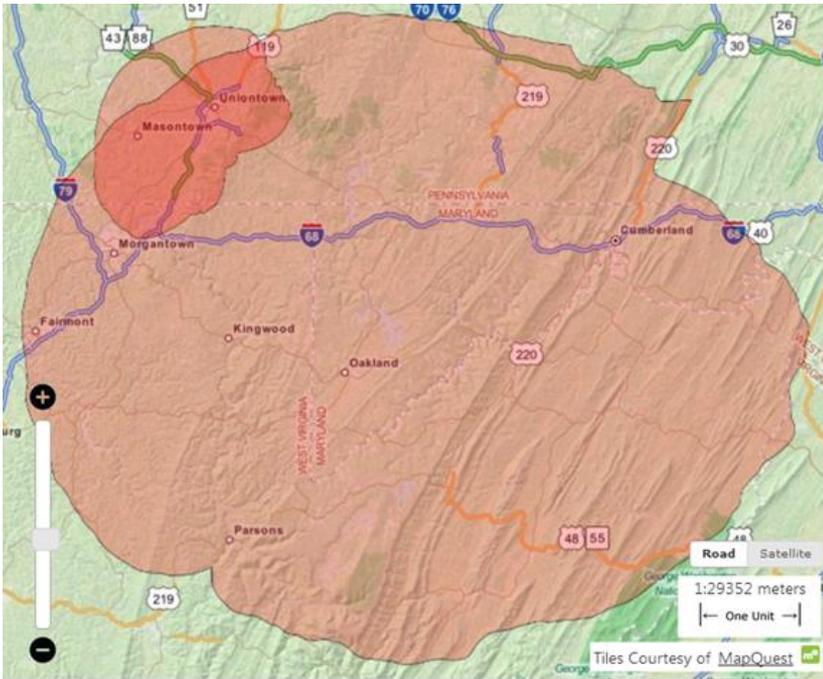
KLUJ-TV is ID 12913

KCWT-CA is ID 40058

Co-channel operation prohibited on VHF but allowed on UHF channels

CO	2	4	40058	12913	28280	32176	32179	62354	69692			
CO	5	6	40058	12913	28280	32176	32179	62354	69692			
CO	7	13	40058	12913	28280	62354	69692					
CO	14	51	40058	28280	32176	32179	62354					

Stations Permitted to be Co-channel in Interference Pair-wise List

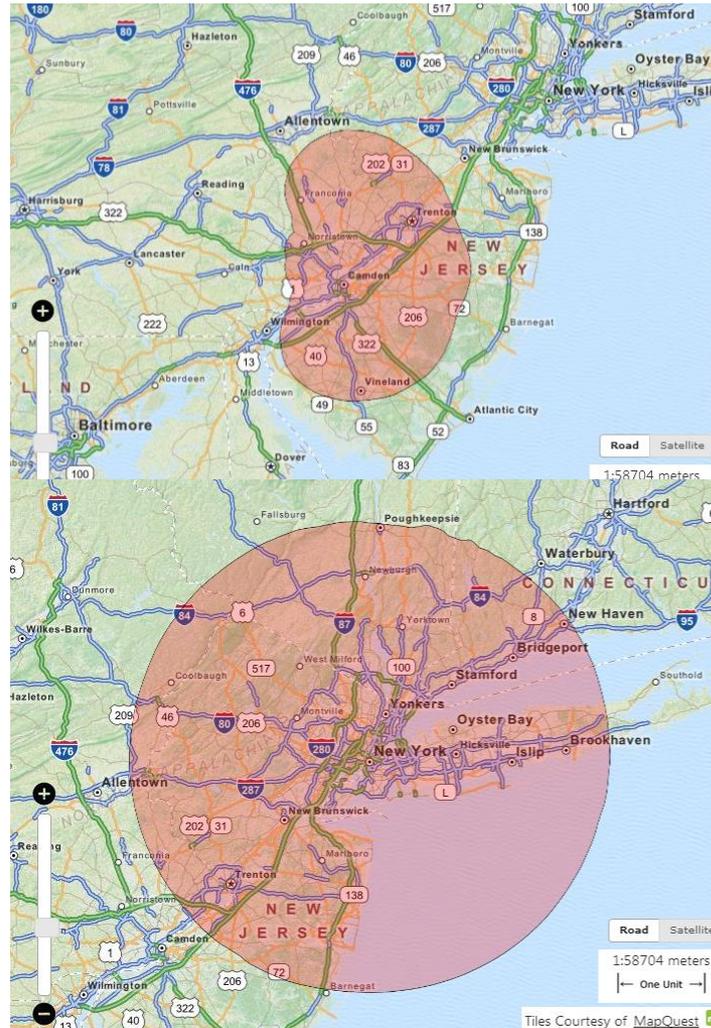


- This channel station pair is the opposite situation
 - WWAT-CA (257)
 - WGPT (40619)
- **Co-channel operation permitted on VHF but not UHF channels**

CO	2	4	257	10976	41314	70592	71220	73875	73910							
CO	5	6	257	10976	41314	70592	71220	73875	73910							
CO	7	13	257	6869	10976	13924	20295	25454	41314	69880	70592	71220	71676	73875	73910	74122
CO	14	51	257	40619	70592	71676										

Another Co-Channel Overlap Case

- Station 53579
- Major service overlap from WABC below
- Station 1328
- Interference-paired list states VHF co-channel operation permitted on channels 2-6



Results LR Interference

Filter Reset Export to CSV

Ch	CallSign	Svc	Status	Licensee
23	WTSD-LP	DC	LICEN	LOCAL MEDIA TV PHILADELPHIA, LLC

Showing 1 to 1 of 1 entries

For complex filtered searches the pipe delimiter '|' may be used, e.g. "DT|CA"

Results LR Interference

Filter Reset Export to CSV

Ch	CallSign	Svc	Status	Licensee
7	WABC-TV	DT	LICEN	AMERICAN BROADCASTING COMPANIES, INC

Showing 1 to 1 of 1 entries

For complex filtered searches the pipe delimiter '|' may be used, e.g. "DT|CA"

Use of Proxy Channels

- TVStudy Pairwise Interference constraints confirms TV stations can receive additional interference (0.5%) from large number of stations particularly in congested areas
- Use of “proxy” channels can mean additional interference is caused above 0.5% limit in many situations (interference on assigned channel may not be same as proxy channel)
- Need better mechanisms to limit interference and preserve service to viewers

Conclusion

- There is a serious co-channel issue that needs to be addressed
 - Further investigation needs to be completed to see if limited to Class A LPTV
- Constraint files show large number of pairwise interferers for stations in congested areas suggesting pairwise considerations severely underestimate interference to individual stations
- Use of “proxy” channel approach also can underestimate actual interference after repacking
- If these issues are not addressed, many stations and viewers will loss substantial service in repacking