November 27, 2013

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

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

Dear Ms. Dortch:

On November 25, 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"): Chris Helzer, Sasha Javid and John Leibovitz of the Wireless Telecommunications Bureau; Julie Knapp, Alan Stillwell, Robert Weller, Matthew Hussey, Martin Doczkat, Aspasia Paroutsas and Barbara Pavon of the Office and Engineering and Technology ("OET"); and Gary Epstein and Edward Smith of the Incentive Auctions Task Force. NAB staff discussed technical aspects regarding the current implementation of the FCC's *TVStudy* software and repacking challenges in the border regions. We also presented NAB's preferred 600 MHz post-auction band plan.

NAB expressed concern that a number of technical aspects of the FCC's proposed repacking process do not meet the "all reasonable efforts" standard set forth in the Middle Class Tax Relief and Job Creation Act of 2012 ("Spectrum Act" or "Act").[1] The Spectrum Act requires the Commission to make all reasonable efforts to preserve, as of the date of the enactment of the legislation, the coverage areas of and populations served by each full power and Class A broadcast television station licensee. NAB explained in detail the ways in which current proposed plans for repacking specifically fail to meet Congress's "all reasonable efforts" standard, and how they could be corrected to comport with the statute.

[1] Pub. L. 112-96, 126 Stat. 156, § 6403(b)(2) (Feb. 22, 2012) (codified at 47 U.S.C. § 1452(b)(2)).

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

The Use of "Proxy Channels" in Calculating Coverage and Interference for Repacking Falls Far Short of the Required "Reasonable Effort"

The use of proxy channels has a dramatic impact on almost every TV station, and thus cannot represent a reasonable effort – let alone "all reasonable efforts" – to preserve stations' coverage areas and populations served. Rather than calculating each station's coverage area and the interference between stations on their *actual* operating channels, the current *TVStudy* software calculates coverage areas using a single, so-called "proxy" channel. The staff is proposing to utilize these proxy channels instead of actual channel assignments to calculate a station's coverage and interference in the interference-paired files that will be used for developing a repacking feasibility solution during the auction. The software uses channel 3 as a proxy for all low VHF channels, channel 10 for all high VHF channels and channel 20 for all UHF channels. Thus, a channel may be moved during repacking from 51 to 36, but the model assumes, for feasibility purposes, that the new channel is 20.

Using the *TVStudy* version 1.2.8 software, NAB presented data demonstrating that the use of proxy channels leads to considerable inaccuracies. NAB data showed, for example, that the use of proxy channels in the calculation of terrain limited service area *differed* from the service area calculated using the station's actual channel in:

- 77% of the cases for low VHF stations;
- 78% of the cases for high VHF stations; and
- 88% of the cases for UHF stations.

In addition, the number of stations experiencing a loss of service was:

- 43% for low VHF stations;
- 35% for high VHF stations; and
- 49% for UHF stations.

Moreover, more than 500 stations experienced a loss of service greater than the 0.5% loss the FCC proposed to use in its rulemaking to determine if a station is adversely affected by repacking.

NAB understands the FCC's desire to simplify the computation burden to permit faster results for the auction, but stated that such speed should not be a substitute for accurate results and preserving service to viewers. NAB offered two solutions for this problem. First, it suggested that the FCC could compute the *actual* coverage and

interference for every possible channel that could be assigned during repacking. While such an approach may be computationally intensive, these computations *only have to be done once and can be done prior to the start of the auction*. A second and perhaps simpler approach to implement would be to continue using the proxy channel approach to develop a feasibility solution for repacking. But, the FCC should then confirm, before moving to each new auction round, that the repacking feasibility solution developed using the proxy channels would comply with the proposed 0.5% interference criteria when stations are assigned actual TV channels. This should only add a small delay (approximately 15 minutes) between auction rounds to develop, optimize (if necessary) and analyze an actual repacking solution rather than relying solely on the wildly inaccurate proxy channel results.

Treatment of Certain Analog Class A Stations

NAB noted that the current FCC implementation software converts all analog Class A stations to digital on their existing licensed analog channel and then calculates coverage and interference to and from that station's hypothetical digital operation. If, however, the Commission converts an analog Class A station to digital it must first ensure that such conversion would comply with current Part 74 rules.[2] To do otherwise would result in the erroneous reduction in the coverage and service areas of some full power stations due to increased interference from a Class A station operation not permitted under the rules. Similarly, the coverage and service area of the analog Class A station is reduced when transposed to digital because of increased interference from full power stations. In neither case, does the software preserve coverage area and population served as of the date of enactment of the legislation.

NAB proposed that, where the analog Class A stations have been granted a special temporary authority ("STA") for digital operation on another channel, or where they have applications pending to operate on other channels that would meet the Part 74 rule requirements, the software use *those channels* for the analysis. In situations where there is no STA or application, NAB recommends that the FCC determine an acceptable channel consistent with current Part 74 rules for the analog station. In all instances, the guiding principle should be to preserve coverage and population served as of the date of enactment of the legislation.

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[2] Under the rules, an application to change the facilities of an existing class A station "will not be accepted if it specifies a site which is located within the noise-limited service perimeter of a co-channel DTV station" (*see* §74.706 (b)(1)), and a digital class A station "must not cause a loss of service to 0.5 percent or more of the population" of an authorized DTV station. *See* §74.793(e).

Calculation of Interference in the Border Region

The *TVStudy* software currently reduces *all* coverage areas and populations served based on the assumptions that such stations receive interference from Canadian and Mexican stations and that unused allotments are operating at the maximum facilities permitted. Reducing the coverage and population of an existing U.S. station based on "imaginary" interference from foreign allotments that are not currently operating, or on an increased power or antenna height that may never be implemented, does not comply with the Spectrum Act. Such an approach fails to comport with reality and certainly does not reflect "all reasonable efforts" to ensure viewers continue to receive service from the same stations after the auction as before (provided those stations remain on the air).

NAB proposed instead that the software should ensure that the coverage areas and populations served of border stations are based on *actual interference* from foreign stations operating as of the date of the legislation, and should not include losses based on imaginary interference from unused foreign allotments. Again, the guiding principle should be to preserve coverage and population served as of the date of enactment of the legislation.

The Necessity of Reaching Agreement on the Border Issue Before Proceeding with the Auction

NAB also discussed the general issue of repacking and operation in the border regions. NAB continues to urge the FCC to develop new coordination agreements with our neighbors, Canada and Mexico, *prior to the auction*. Moreover, the FCC must address how the border regions will be taken into account in any repacking and how it will ensure the transition of stations in the future when agreements are finally reached (if, in contravention to the Spectrum Act, these agreements are completed after the auction). Otherwise, TV stations will be stranded on spectrum identified for broadband or leave broadband use of recovered spectrum impaired indefinitely.

NAB pointed out that, contrary to assertions made by a number of parties, the variable band plan approach is not a complete solution to the border issue. To date, every variable band plan requires repacking of broadcast stations to allow for contiguous bands of dedicated spectrum for broadband and broadcast. While the amount of spectrum may vary by geography, specific spectrum is dedicated to each service (along, of course, with suitable guard bands) and repacking of broadcast stations within each region is anticipated to make such spectrum available so that all operations within the region operate according to that so-called "variable" plan. This

will not be the case in the border region where, due to the lack of coordination agreements, the repacking of stations is unlikely, or at best will be very limited, and broadcast TV stations will continue to operate on all TV channels irrespective of what variable band plan is developed. The resulting interference from this situation will impair both broadband and broadcast operations in the border regions. NAB accordingly urged the FCC to develop a full solution and/or a road map to resolve the border issue prior to the auction, so as not to strand TV stations on spectrum identified for anticipated broadband use once an agreement is finalized.

Proposed Band Plan

Finally, NAB reiterated its support for a band plan that does not place TV operations between the uplink and downlink frequencies. NAB also indicated that if the Commission acquires less than 84 MHz essentially nationwide, it strongly prefers the 25 MHz by 25 MHz band plan suggested by AT&T and others. NAB noted that this band plan is much more spectrally efficient that the band plan suggested by T-Mobile and Verizon for spectrum recovery values under 84 MHz. NAB specifically showed how the 25 MHz by 25 MHz band plan resulted in more paired spectrum.

NAB reiterated at the meeting that we look forward to working with the Commission on these important issues, and remain engaged and focused on the goal of giving the Commission the best chance for a successful incentive auction.

Respectfully submitted,

Rick Kaplan
Executive Vice President, Strategic Planning
National Association of Broadcasters

cc: Chris Helzer
Sasha Javid
John Leibovitz
Julie Knapp
Alan Stillwell
Robert Weller
Matthew Hussey
Martin Doczkat
Aspasia Paroutsas
Barbara Pavon
Gary Epstein
Edward Smith

NAB INCENTIVE AUCTION ANALYSIS

*Software Discussion and Analysis

*NAB Band Plan Preference

Topics

- Evaluation of data files generated for running the repacking software (interference-paired and domain constraint files)
  - Treatment of Class A stations
  - Interference from Canadian and Mexican allotments
  - Proxy channel challenges
- Band Plan Update
  - Thoughts on AT&T's and Verizon's & T-Mobile's recent *ex parte* filings
- Border Issues
- *TVStudy* vs. OET-69 Analysis
  - Baseline stations
  - Updated runs
    - 1- versus 3-second terrain data and resulting uncertainty

Spectrum Act Requirements

- Legislation Requires:
  - The FCC is must make all reasonable efforts to preserve TV stations' coverage areas and populations served
    - "(2) FACTORS FOR CONSIDERATION.—In making any reassignments or reallocations under paragraph (1)(B), **the Commission shall make all reasonable efforts to preserve, as of the date of the enactment of this Act, the coverage area and population served of each broadcast television licensee**, as determined using the methodology described in OET Bulletin 69 of the Office of Engineering and Technology of the Commission."
- Coverage/population served defined as of the date of legislation
- At present, the incentive auction software/process does not appear to meet these legislative requirements or their intent in the following areas:
  - Treatment of certain Class A stations
  - Treatment of US TV stations in border regions
  - Use of proxy channels

TREATMENT OF CLASS A STATIONS

Treatment of Certain Class A Stations

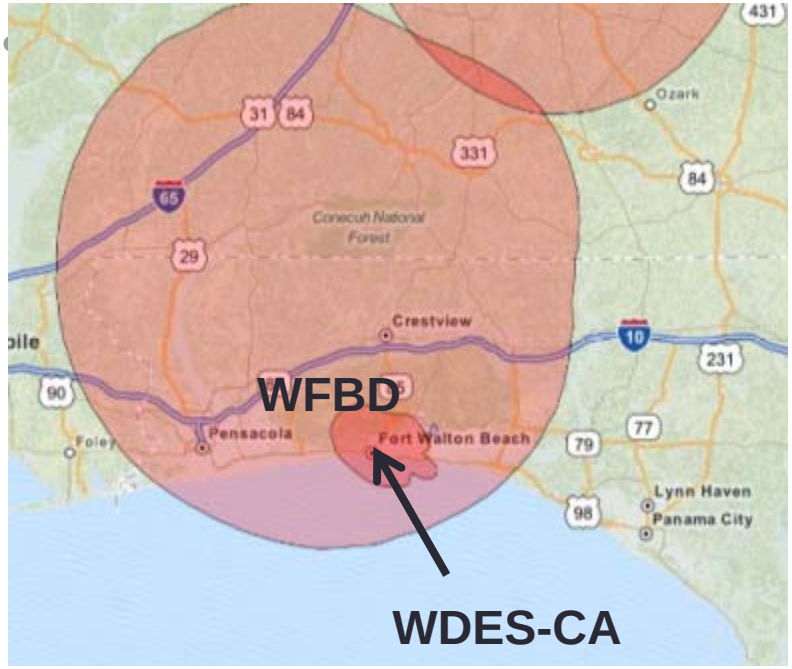
- Number of analog Class A stations were “grandfathered” and permitted to continue to operate co-channel to full power DTV stations provided the analog Class A station did not cause 0.5% or more interference
  - Analog OK because of difference in D/U

- In the current implementation of *TVStudy*/Incentive Auction software, *all* Class A analog stations are converted to digital operation on their existing licensed channel

Treatment of Certain Class A Stations

- This “theoretical” or “hypothetical” conversion of Class A stations to digital may result in several problems/errors:
  - Because DTV is more tolerant of interference from analog stations, this hypothetical conversion may result in **an increase in interference between stations** and result in errors that underestimate the actual coverage and population served by the stations involved
  - In addition, because interference from this hypothetical converting of Class A stations from analog to digital would exceed the permitted 0.5% value, such digital operation would actually not be permitted under the current Part 74 rules
  - In fact, many of these Class A stations are operating in digital on other channels or have STAs for digital operation on other channels

Example of Class A Station Issue



TVStudy assumes both WFBD and WDES-CA are operating in Digital on Channel 48

- WFBD is licensed and operating on channel 48
  - WFBD's service is reduced by "hypothetical" digital interference from WDES
- WDES-CA was "grand-fathered" on channel 48 for analog operation
  - WDES's "hypothetical" digital operation is estimated to serve a population of 1,558 in one FCC run and 0 population in another FCC study
  - Digital operation of WDES on channel 48 would not be permitted under Part 74
  - WDES-CA currently has STA for digital on channel 35

NAB's Recommended Solution

- Where an STA is granted or an application for a new *digital* channel filed that meets Part 74 rules, NAB recommends that the FCC use such new digital channels in *TVStudy*

- Where no application or STA has been filed and digital operation is not permitted on the current analog channel of a Class A station, NAB recommends that the analysis be done retaining analog operation or a new digital channel be assigned that meets Part 74 requirements

- The guiding principle should be to *preserve coverage areas and populations served* of all stations as of date of legislation

INTERFERENCE FROM CANADIAN & MEXICAN ALLOTMENTS

Interference from Canadian Allotments

- Service area calculations and replication assume interference from all Canadian and Mexican stations **and unused allotments**

- **The current staff approach reduces coverage areas and populations served** by stations as of date of legislation and would make such service loss permanent in the repacking process

- The current staff approach is contrary to the legislative language and contrary to OET's arguments in the OET-69 context that it is aiming, above all, for accuracy (i.e., "knowing where the people really are")

Border Interference Example

Unique interference from Canadian vacant allotments

Ch	Call	City	St	InCountry	interf. Free Population	Undesired FacID	Ch	Call	City	St	TotalInterference Area	TotalInterference Population	UniqueInterference Area	UniqueInterference Population
23	WNPI-DT	NORWOOD	NY	US	153904	2325	23	WPXJ-TV	BATAVIA	NY	40.1	32	8	0
						163643	23	NEW-DT	BOLTON-EST	QU	8	112	4	2
						179787	23	VACANT	KINGSTON	ON	452.4	1757	416.3	1696
						163499	23	NEW-DT	PETERBOROUGH	ON	4	12	0	0
						163815	23	NEW-DT	SOREL	QU	23.9	359	0	0
						180323	23	VACANT	ST-J R ME	QC	136.1	6201	108.2	5821
						46728	22	WCAX-TV	BURLINGTON	VT	4	0	4	0
						163435	22	CBLFT-14	KINGSTON	ON	4	20	0	0
23	WNPI-DT	NORWOOD	NY	CA	126827	179787	23	VACANT	KINGSTON	ON	4	0	4	0

NAB Recommended Solution

- Service areas of border stations should be based on *actual interference* from foreign stations operating as of the date of the Spectrum Act and should not include losses based on non-existent interference from unused foreign allotments

PROXY CHANNELS

Proxy Channels Lead to Significant Inaccuracies

- Use of proxy channels results in **major inaccuracies** and changes in stations' service areas and interference
  - NAB conducted studies to determine number of and impact to stations affected
  - Changes in service areas for many stations are well beyond 0.5% threshold for interference loss proposed by FCC
  - Does not represent "all reasonable efforts" to protect population served as of date of the legislation

Proxy Channels Lead to Significant Inaccuracies

- Using *TVStudy* (Version 1.2.8) and the published FCC database, NAB conducted two types of analyses to determine variance (either service population gained or loss) that can result from using proxy channels
  - Our first analysis determined variance in population coverage introduced by using proxy channel instead of the actual channel. The analysis was conducted using comparisons for noise-limited, terrain-limited
  - Our second analysis determined variation in population that can be introduced if all stations are re-assigned low VHF channels, high VHF channels and UHF channels and compared population differences using the terrain-limited service

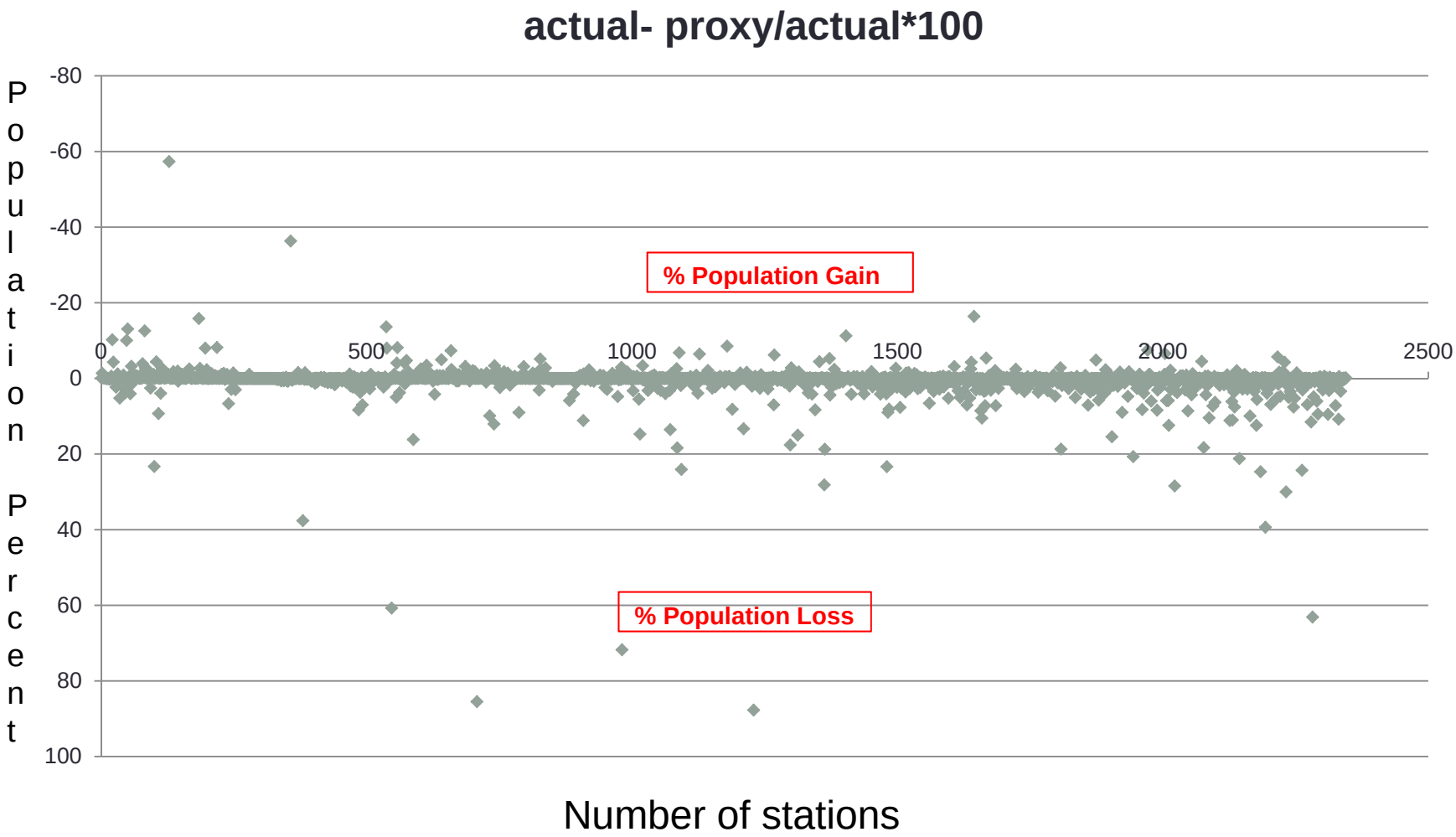
A Few Proxy Channel Examples

- KREN, Ch. 26, Reno, NV
  - T-L population on Ch. 26 is 617,961
  - T-L population on P-Ch. 3 is 699,382. A pop. gain of 13.2%
  - T-L population on P-Ch. 10 is 640,096. A pop. gain of 3.6%
  - T-L population on P-Ch. 20 is 569,467. A pop. loss of 7.8%
- KTTU, Ch.19, Tuscan, AZ
  - T-L population on channel Ch.19 is 1,038,114
  - T-L population on P-Ch. 3 is 1,313,359. A pop. gain of 26.5%
  - T-L population on P-Ch. 10 is 1,117,581. A pop. gain of 13.4%
  - T-L population on P-Ch. 20 is 1,013, 184. A pop. loss of 2.4%
- KULX-CA, Ch. 7, Ogden, UT
  - T-L population on channel Ch.7 is 181,999
  - T-L population on P-Ch. 3 is 160,644. A pop. loss of 11.7%
  - T-L population on P-Ch. 10 is 176,432. A pop. loss of 3.4%
  - T-L population on P-Ch. 20 is 181,999.
- WOAY-TV, Ch. 50, Oakhill, WV
  - T-L population on Ch. 50 is 247,624
  - T-L population on P-Ch. 3 is 350,849. A pop. gain of 41.7%
  - T-L population on P-Ch. 10 is 235,917. A pop. loss of 4.7%
  - T-L population on P-Ch. 20 is 569,467. A pop. gain of 13.0%

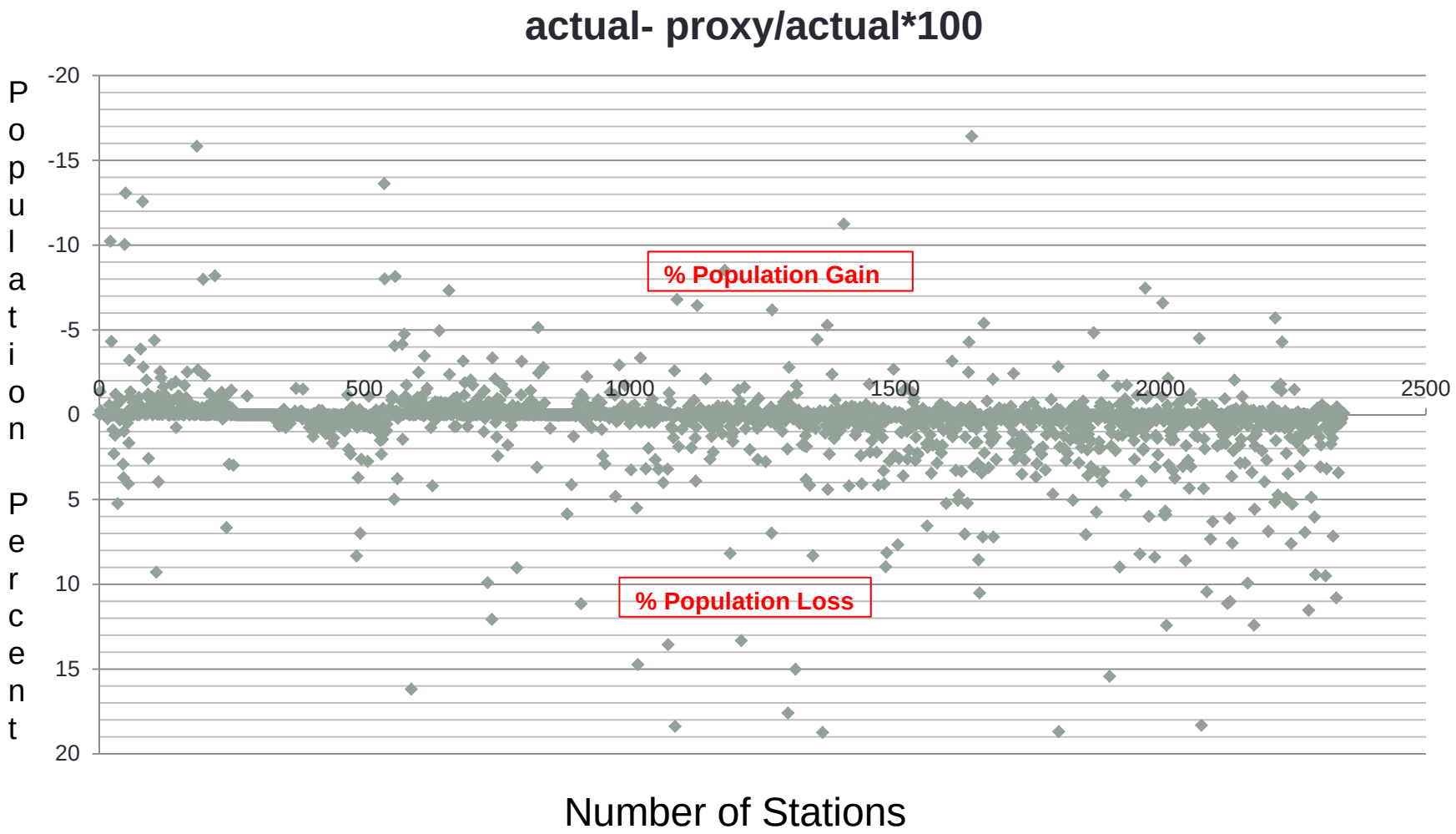
Proxy Channel Terrain-limited Service Comparison for Licensed Stations

TV channel	Number of stations affected by using a proxy channel rather than actual operating channel						
	Population Loss		No Change	Population gain		CA/Mex/ missing info	Total Number of stations
	Total	Above 0.5%		Total	Above 0.5%		
Low VHF (ch. 2-6)	25	9	13	19	11	0	57
High VHF (ch. 7-13)	169	122	93	209	58	16	487
UHF (ch. 14-51)	879	418	158	708	167	56	1801
Total	1073	549	264	936	236	72	2345

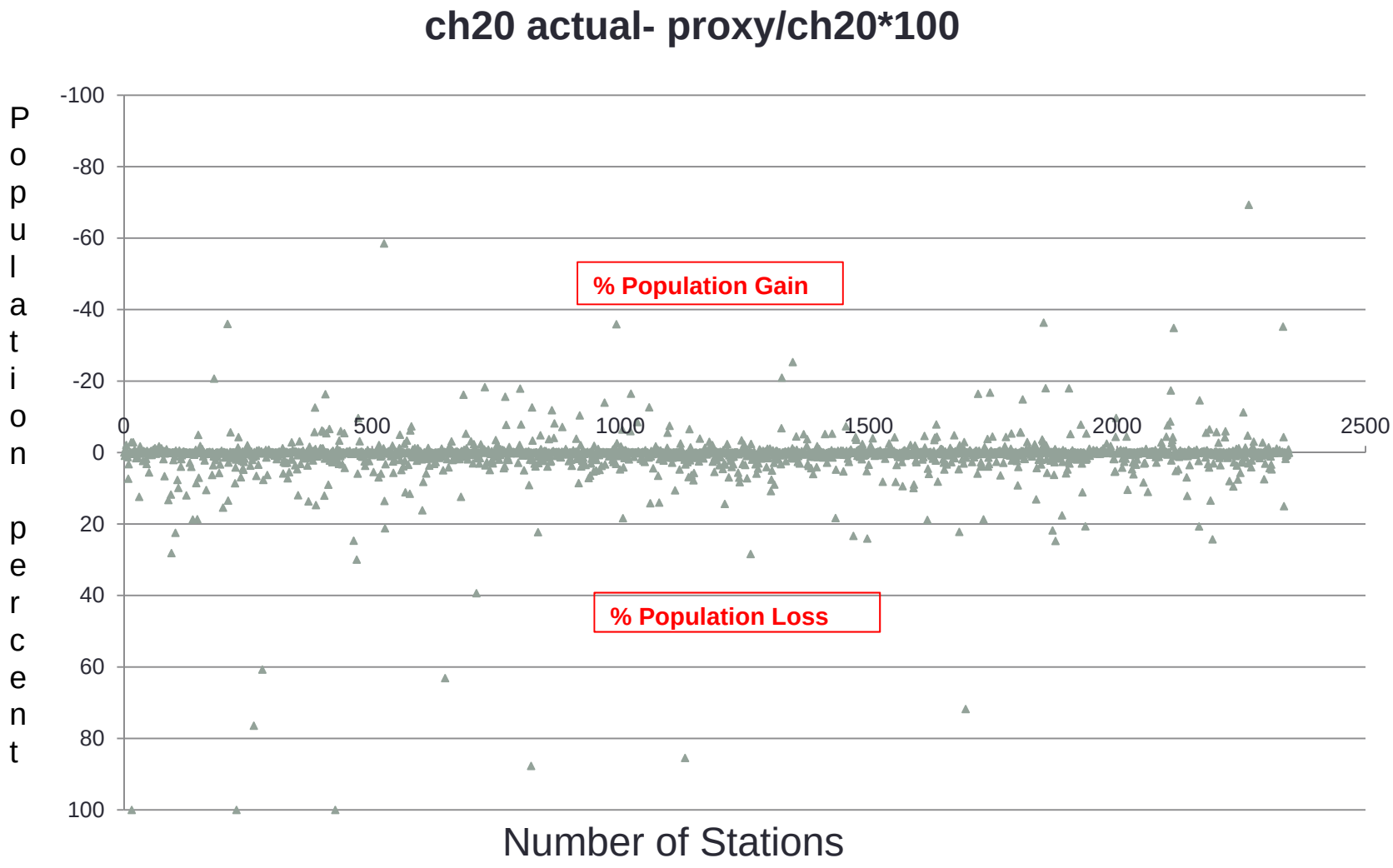
Proxy Channel Terrain-limited Service Baseline Comparison for Licensed Stations (1st Analysis)



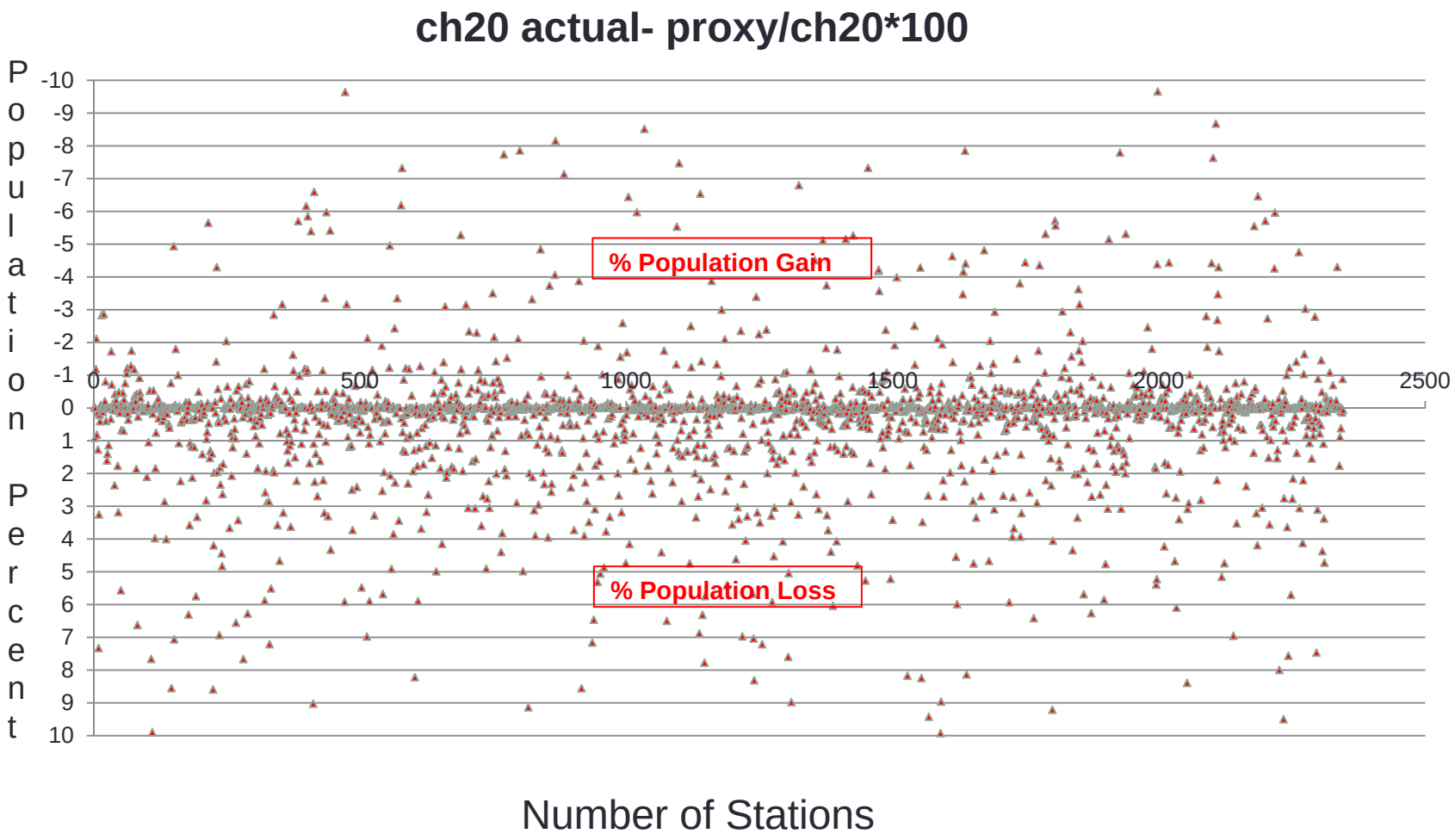
Proxy Channel Terrain-limited Service Baseline Comparison for Licensed Stations (1st Analysis}



Proxy Channel Terrain-limited Service Comparison (Ch. 20)



Proxy Channel Terrain-limited Service Comparison (zoomed)



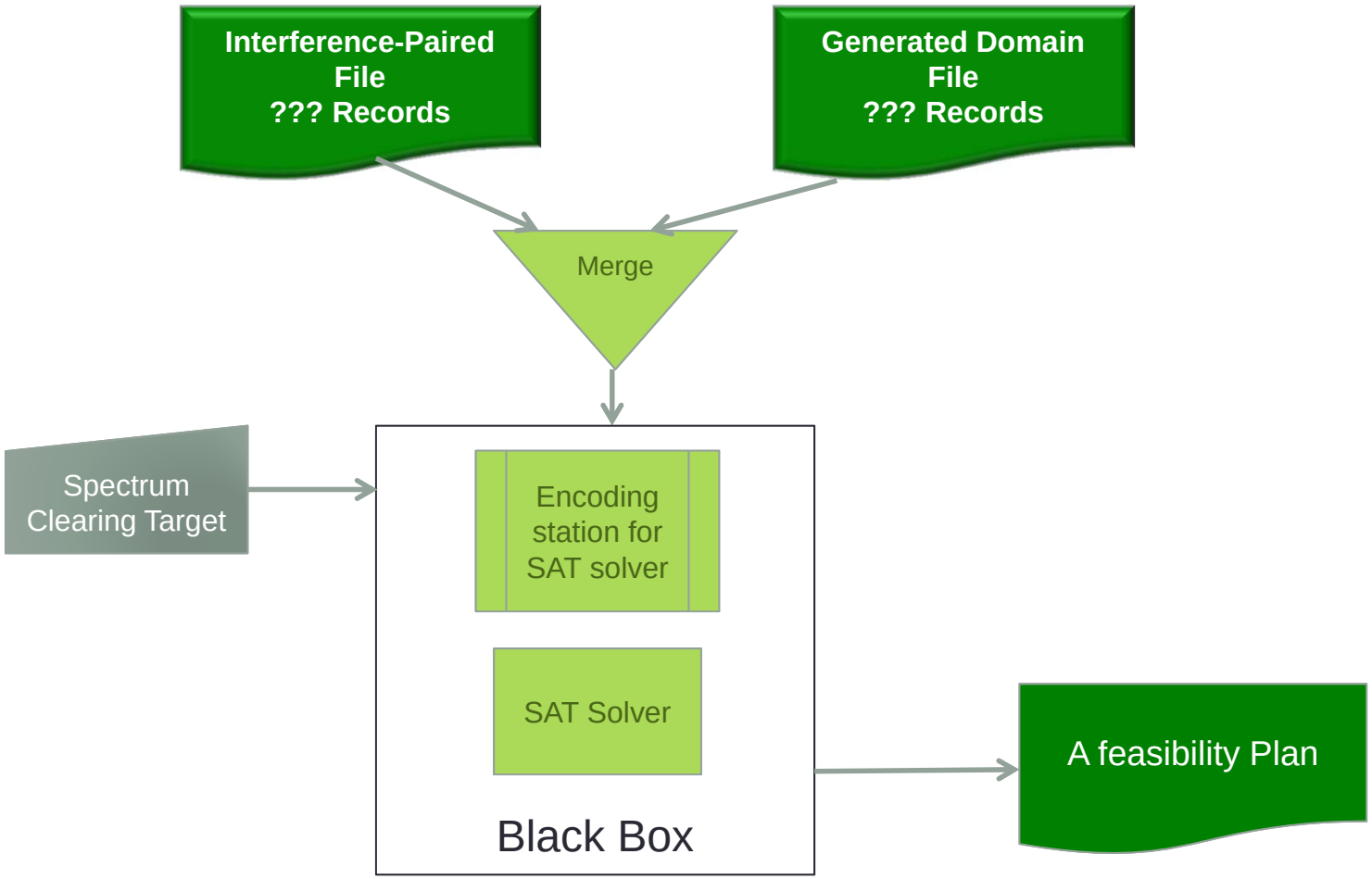
NAB Recommended Solutions

NAB offers two potential solutions to correct the proxy channel issue:

1. Compute actual coverage and interference for each station on all possible repacking channels rather than using a proxy channel to determine whether channel complies with proposed interference criteria
    a. Solution is computationally intensive but **computations only have to be done once prior to the auction**
    b. May require more powerful and faster processors
2. Use proxy channels for developing a feasibility solution, but before moving forward with each new round in the auction, make sure feasibility solution is tested with stations on actual channels to confirm solution complies with the proposed 0.5% interference criteria
    a. May require some minimal delay between rounds to optimize solution or select new feasibility solution if initial solution fails

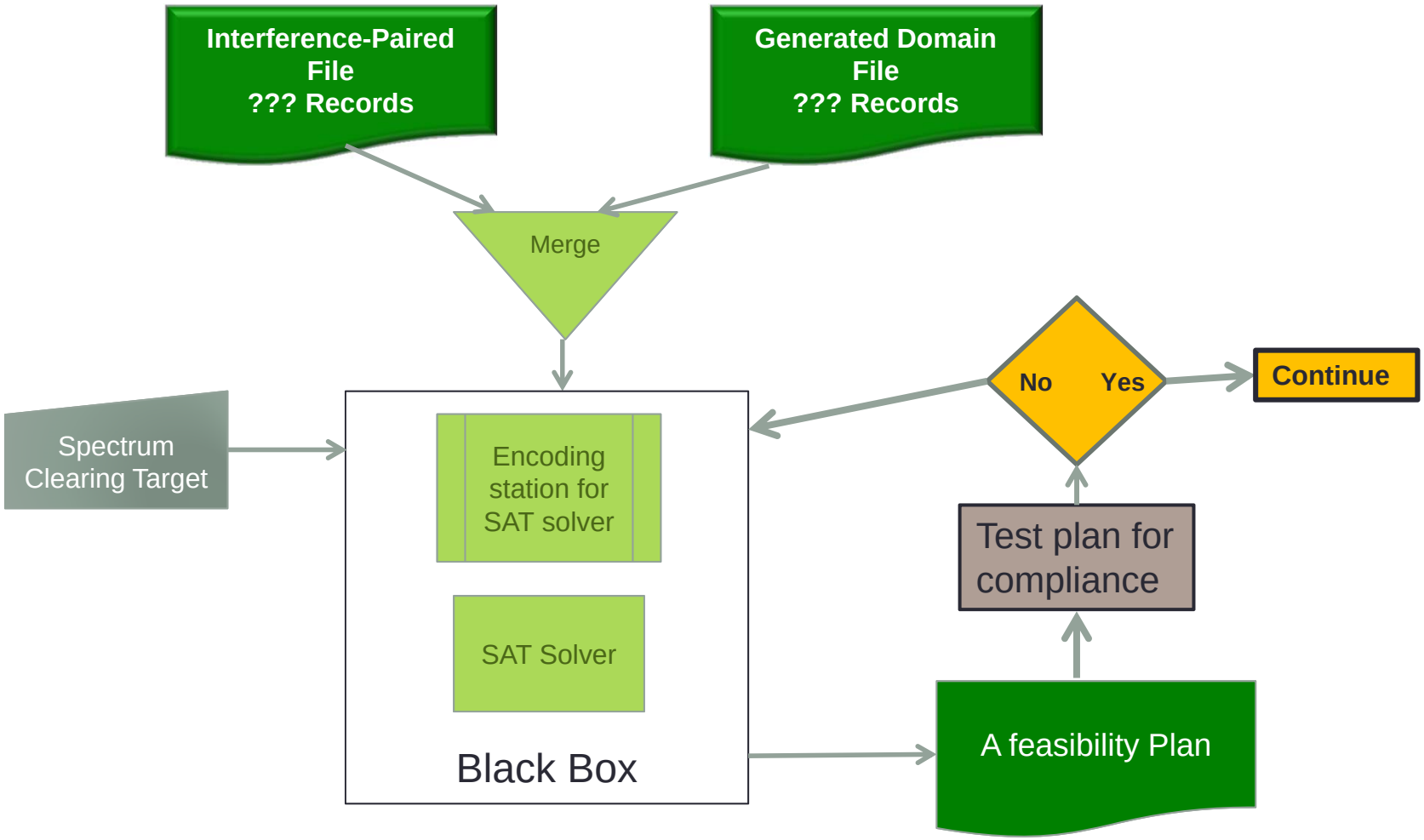
Feasibility Solution Generation

(Step 1: Baseline Run)



Feasibility Solution Generation

(Step 1: Baseline Run)



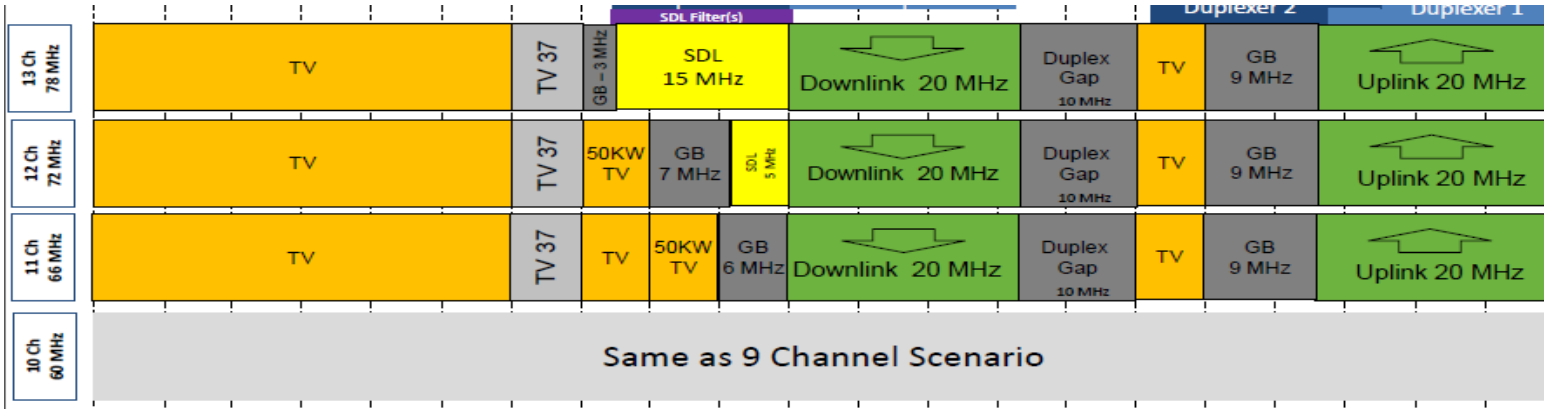
BAND PLAN RECOMMENDATIONS

Band Plan

- NAB supports
  - A band plan that **does not place TV operation between the uplink and downlink**
  - A common, fixed duplex gap
  - Fine with T-Mobile's and Verizon's proposal if the Commission recovers 84 MHz or more essentially nationwide, but support generally AT&T's filing that recommends a 25x25 pairing below 84 MHz, wherever possible

Summary of T-Mobile/Verizon Band Plan below 84 MHz

	Paired spectrum	SDL (MHz)	Duplex (MHz)	Guard Band	TV channel
78 MHz	20x20	15	10	13	1
72 MHz	20x20	5	10	17	2
66 MHz	20x20	0	10	16	3
60 MHz	0	35	10	13	5



*Note that T-Mobile guard band should be 10 MHz instead of 9 MHz.

Summary of 25x25 MHz Band Plan Attributes

- NAB is suggesting the following configuration for a 25x25 band plan for spectrum below 84 MHz

	Paired spectrum	SDL (MHz)	Duplex	Guard Band	TV channel
78 MHz	25x25	10	10	8	1
72 MHz	25x25	5	10	7	2
66 MHz	20x20	0	15	11	3
60 MHz	15x15	0	20	10	4

	Ch. 37	Guard Band			SDL		Downlink		Duplex	Uplink	
78 MHz		TV	8		10		25		10	**25**	
72 MHz		TV	TV	7	5		25		10	**25**	
66 MHz		TV	TV	TV	11		20		10	5	20
60 MHz		TV	TV	TV	TV	10	15		10	10	15

Side-by-Side Comparison of Band Plans

25 x 25 MHz Plan

	Paired spectrum	SDL (MHz)	Duplex	Guard Band	TV channel
78 MHz	25x25	10	10	8	1
72 MHz	25x25	5	10	7	2
66 MHz	20x20	0	15	11	3
60 MHz	15x15	0	20	10	4

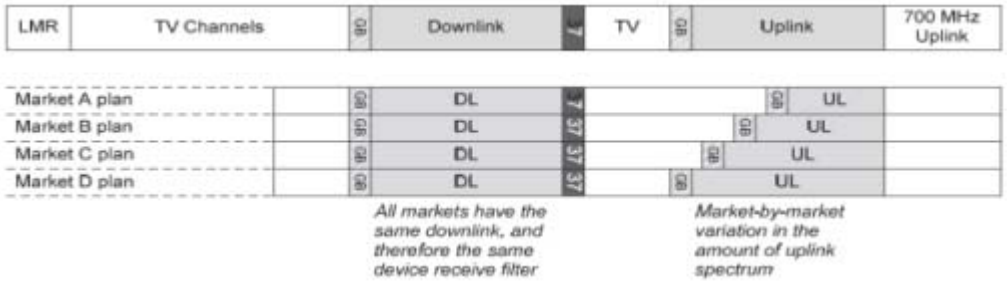
35 x 35 MHz Plan

	Paired spectrum	SDL (MHz)	Duplex	Guard Band	TV channel
78 MHz	20x20	15	10	13	1
72 MHz	20x20	5	10	17	2
66 MHz	20x20	0	10	16	3
60 MHz	0	35	10	13	5

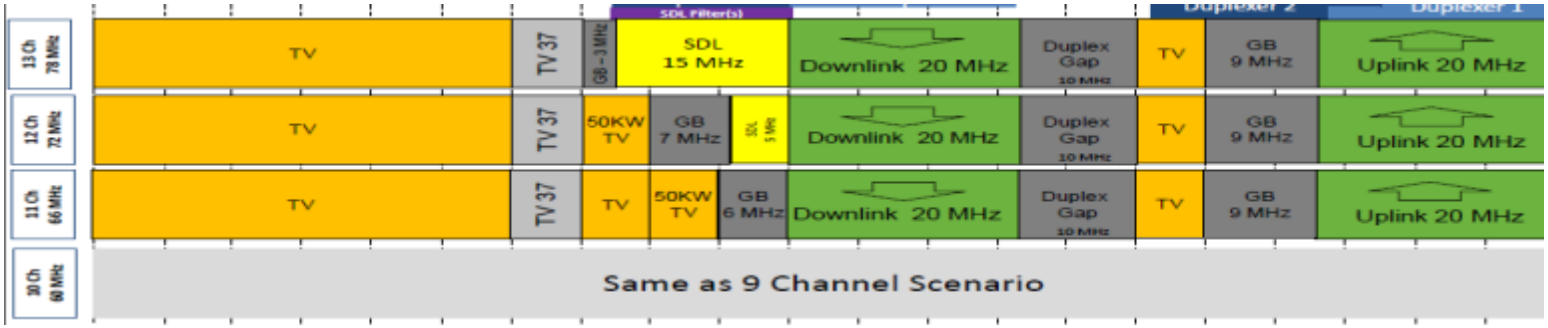
SOME UNADDRESSED BORDER ISSUES

The Border Challenges are Significant

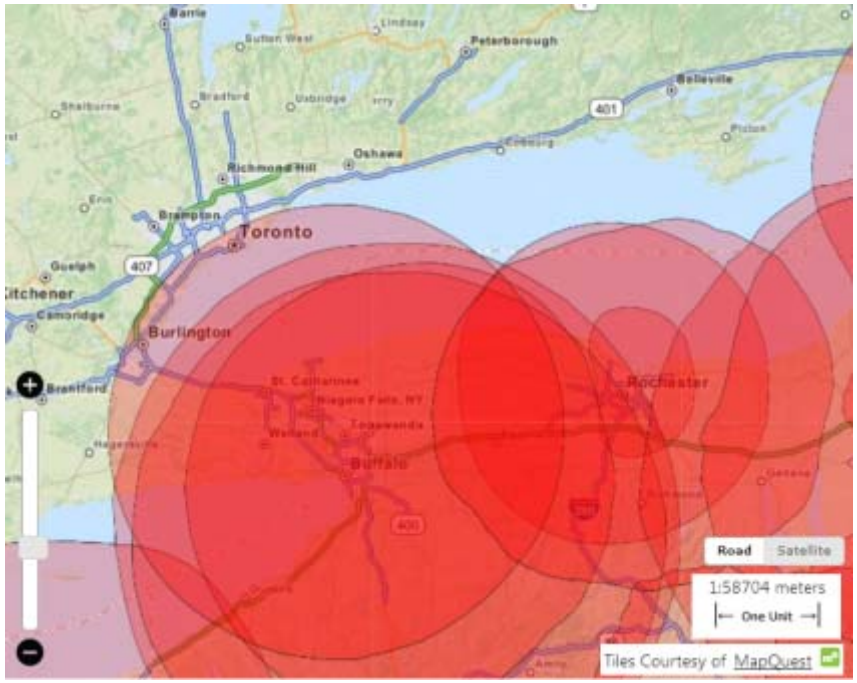
- While a variable plan approach can address certain border challenges, it does address the most complex one
  - Stations are always repacked to clear desired spectrum
  - In border regiona, this is not feasible and spectrum in border will not look like any proposed variable plan



or



Buffalo-Rochester Stations above Ch. 37



Buffalo-Rochester area uses Chs. 38-50 and area Is impacted by major Canadian Metro Area of Toronto.

- Fourteen stations above channel 38 in Buffalo-Rochester area

48	WYDC	DT	LICEN	WYDC, INC.
47	WTVH	DT	LICEN	WTVH LICENSE, INC.
42	WSKG-TV	DT	LICEN	WSKG PUBLIC TELECOMMUNICATIONS COUNCIL
45	WROC-TV	DT	LICEN	NEXSTAR BROADCASTING, INC.
50	WQLN	DT	LICEN	PUBLIC BROADCASTING OF NORTHWEST PENNSYLVANIA, INC.
41	WPBS-DT	DT	LICEN	ST. LAWRENCE VALLEY EDUCATIONAL TV COUNCIL, INC
44	WNYS-TV	DT	LICEN	RKM MEDIA, INC.
49	WNYO-TV	DT	LICEN	NEW YORK TELEVISION, INC.
43	WNED-TV	DT	LICEN	WESTERN NY PUBLIC BROADCASTING ASSOC.
38	WKBW-TV	DT	LICEN	WKBW-TV LICENSE, INC.
40	WIXT-CD	DC	LICEN	RENARD COMMUNICATIONS CORP.
39	WIVB-TV	DT	LICEN	WIVB BROADCASTING, LLC
40	WBGT-CD	CA	LICEN	WBGT, LLC
46	WBGT-CD	DC	LICEN	WBGT, LLC

Border Repacking Challenges

- Domain file shows limited solutions available:

DOMAIN	54176	38	DT	US	NY	BUFFALO	WKBW-TV	32	38			
DOMAIN	64547	33	DT	US	NY	BUFFALO	WGRZ	32	33	43		
DOMAIN	67784	49	DT	US	NY	BUFFALO	WNYO-TV	14	23	32	38	
DOMAIN	71905	32	DT	US	NY	BUFFALO	WNLO	32				
DOMAIN	71928	43	DT	US	NY	BUFFALO	WNED-TV	32	43			

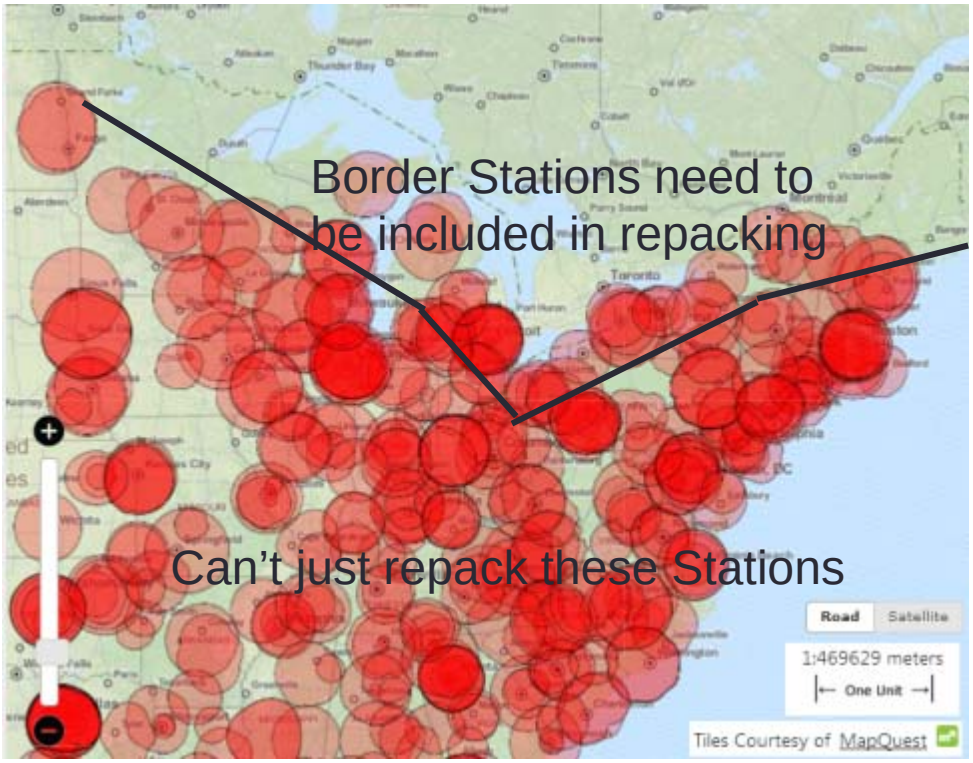
DOMAIN	70041	10	DT	US	NY	ROCHESTER	WHEC-TV	7	10	13	43			
DOMAIN	73371	13	DT	US	NY	ROCHESTER	WHAM-TV	7	13	43				
DOMAIN	73964	45	DT	US	NY	ROCHESTER	WROC-TV	7	13	14	31	32	43	45

- For example:
  - WNLO can only be assigned channel 32
  - WNED-TV can only be assigned channel 32 or 43
- **Bottom line**: With no new agreement with Canada and Mexico, *most border stations cannot be repacked*

Border Repacking Challenges

- Large number of U.S. TV stations in border regions operate on channels above TV channel 38
- Border agreements with Canada and Mexico appear unlikely at this time
- Result is that many border stations are likely to stay on existing channels
  - The repacking plan is unlikely to find (and coordinate) new channels for all border stations below TV channel 38
- This is NOT solvable by the variable channel plan approach being proposed in other non-border markets
- Border regions will not operate under such variable plans

Repacking in the Border Regions



- Can’t just repack stations beyond some distance from the border
- Border stations need to be included in initial repacking even if stations can’t be moved to new channels immediately

Final Analysis: Any Repacking Solution Needs to Take Border into Account

- NAB continues to believe new coordination and international Agreements should be completed before auction is held
- Irrespective of whether that occurs, border areas need to be taken into account in any repacking plan
- Repacking has to go beyond just precluding border area and “stranding” existing stations on current channels
- Any Repacking Plan needs to provide for how stations can be transitioned when agreements are eventually be developed
  - Repacking needs to provide spectrum space for border stations to eventually move to channels consistent with any Band Plan adopted
  - TV Stations in border areas need to be considered **and included in any repacking plans** and not left stranded
- Such an approach protects broadcasters and their viewers and makes broadband spectrum more useful too!

TVSTUDY VS. OET-69 UPDATE

(Version 1.2.8)

TVStudy Update

- NAB has updated its findings using version 1.2.8 and the revised licensee baseline
- While the coverage and interference results have changed among the different versions released after the original (version 1.1) was released last winter, the coverage and interference results between the old OET-69 model and the new *TVStudy* have not significantly changed but still wary widely
- NAB has not changed its position since our initial filing and evaluation of the original FCC release

Baseline Review

- Broadcasters have been asked by the FCC to review baseline and license information
- This task has proved challenging because the baseline and parameters keep changing (in each version)
- Comparison of FCC “Appendix B” Baseline (7/16/2013) with more recent “improved” FCC *TVStudy* Results shows:
  - 138 stations gain population served
  - 258 stations are the same
  - 1818 stations lose population served (population loss for 851 stations greater than 0.5%)

Service Population Comparison

(1- vs. 3-second terrain)

Service Type	Number of Stations Affected by Changing from 3 to 1 second Terrain Data				
	Population Loss		No Change & zero pop. Service area	Population gain	
	Total	Above 0.5%		Total	Above 0.5%
Noise Limited	921	184	296	1076	201
Terrain Limited	1008	382	201	1084	366
Interference Limited	1067	455	177	1049	375
Total Number of Stations Studied	2293				

Service Gain/loss in Percent

(1 vs. 3 second terrain data)