Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions	)	GN Docket No. 12-268
	)	
Office of Engineering and Technology Releases and Seeks Comment on Updated OET-69 Software	)	ET Docket No. 13-26
	)	
Office of Engineering and Technology Seeks To Supplement the Incentive Auction Proceeding Record Regarding Potential Interference Between Broadcast Television And Wireless Services	)	ET Docket No. 14-14

PETITION FOR RECONSIDERATION OF THE
NATIONAL ASSOCIATION OF BROADCASTERS

Pursuant to Section 1.429 of the Commission's rules, the National Association of Broadcasters ("NAB")[1] respectfully seeks reconsideration of the Second Report and Order in the above-captioned proceedings.[2] In failing to adopt, or even seriously

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[1] The National Association of Broadcasters is a nonprofit trade association that advocates on behalf of free local radio and television stations and broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the courts.

[2] *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, Office of Engineering and Technology Releases and Seeks Comment on Updated OET-69 Software, Office of Engineering and Technology Seeks to Supplement the Incentive Auction Proceeding Record Regarding Potential Interference Between Broadcast Television and Wireless Services*, Second Report and Order and Further Notice of Proposed Rulemaking, GN Docket No. 12-268, ET Docket No. 13-26, ET Docket No. 14-14, FCC 14-157 (rel. Oct. 17, 2014) ("ISIX Order").

consider, a cap on interference and population losses in repacking, the Commission virtually ignored several specific and workable approaches in the record without justification. The Commission should revisit its arbitrary and capricious treatment of aggregate caps on such losses.

Moreover, the ISIX methodology the FCC adopts in this order is unnecessarily complex, will not lead to accurate predictions and creates needless uncertainty and risk for bidders in the forward auction. We urge the Commission to abandon this approach, and to adopt a simpler, more pragmatic methodology for predicting impairments in the auction. This will increase confidence that winning bidders in the forward auction will actually be able to deploy service using the licenses they have won.

I. THE COMMISSION SHOULD RECONSIDER ITS DETERMINATIONS NOT TO ADOPT AN AGGREGATE CAP ON INTERFERENCE OR POPULATION LOSSES DUE TO CHANNEL CHANGES.

Prior to the adoption of the ISIX Order, NAB proposed three specific, workable approaches for incorporating a cap on aggregate interference and population losses due to new channel assignments in repacking.[3] These included:

- Pre-calculating the population of every station on every channel, identifying channel assignments that result in population losses over a cap, and augmenting the domain file to prohibit assignments to those channels;
- Augmenting this approach to consider aggregate interference from co- and adjacent-channels and creating a new combinatorial interference constraint file; and
- Conducting a mid-auction optimization to identify and mitigate instances where repacking results in population losses over a cap for any reason.

[3] *See* Letter from Rick Kaplan, NAB, to Marlene H. Dortch, FCC, GN Docket No. 12-268, ET Docket No. 13-26; ET Docket No. 14-14, Attachment at 9-11 (filed Oct. 13, 2014).

All three of these approaches could be used with the FCC's existing software and are consistent with the current overall structure for the auction. There is no reason to believe that these solutions, either individually or together, would meaningfully slow the Commission's conduct of the auction.

The FCC did not respond specifically to any of these three approaches. The ISIX Order provides only general justifications for failing to include caps on interference or population losses: (1) commenters did not propose a cap on population losses due to terrain effects on new frequencies sufficiently early in the process; (2) any such caps are unnecessary because of other steps the Commission will take to reduce the potential for new interference or service losses; and (3) any such caps would slow down or unduly complicate the conduct of the auction.[4] None of these explanations withstands scrutiny.

First, if the FCC intends, as required by the Spectrum Act, to "make all reasonable efforts" to preserve coverage to current viewers following repacking,[5] it must take steps to limit service losses stemming from the assignment of new channels during repacking. NAB has demonstrated that these losses may, in many cases, be significant, and there is no reason not to adopt the reasonable, workable solutions NAB has proposed. The FCC's failure to adopt, or even seriously consider, NAB's three specific options is arbitrary and capricious, notwithstanding the fact that they were not presented as early in the auction proceedings as the Commission would have preferred. The FCC's "cursory

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[4] ISIX Order at ¶¶ 14-22.

[5] Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112-96, 126 Stat. 156, § 6403(b)(2) (Feb. 22, 2012) (codified at 47 U.S.C. § 1452(b)(2)).

rejection" of "option[s]" that "serve precisely the agency's purported," or in this case statutorily mandated, "goals suggests a lapse of rational decisionmaking."[6]

Second, the steps the Commission proposes to optimize its channel plan prior to final channel assignments are unlikely to address significant problems with the initial plan. If the Commission remains intent on conducting optimization only *after* the auction, it will have greatly limited its ability to apply optimization factors, as it will have already backed itself into a sub-optimal corner. Even the best optimization techniques can do little to help at that point in the auction. As NAB has previously noted, post-auction optimization is the equivalent of calculating the shortest driving distance between Washington and Florida only after one has already driven to Chicago.[7]

Third, the claim that it would be "significantly more complicated and, as a result, time-consuming" to consider aggregate interference or population losses is inconsistent with the proposals NAB has set forth. NAB's first proposal, for example, involves work performed *prior* to the auction, and would entail nothing more complicated than updating a constraint file the FCC already intends to use in conducting the auction. Adoption of this proposal would not slow down the auction process.

It is also inconsistent for the Commission to place such a special and selective emphasis on speed and avoiding complexity when it comes to protecting viewers' broadcast service from interference or other losses, while simultaneously creating

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[6] *Achernar Broadcasting Co. v. FCC*, 62 F.3d 1441, 1447 (D.C. Cir. 1995) (internal citations omitted); *see also Yakima Valley Cablevision, Inc. v. FCC*, 794 F.2d 737, 746, n. 36 (D.C. Cir. 1986) (failure of an agency to consider alternatives "has led uniformly to reversal.")

[7] Letter from Rick Kaplan, NAB to Marlene H. Dortch, FCC, GN Docket No. 12-268 (Dec. 5, 2014).

byzantine layers of complexity in its auction design to account for inter-service interference and allow for so-called "Dynamic Reserve Pricing." The Commission's only support for its singular focus on speed is its assertion, unsupported by *anything* other than previous Commission assertions, that speed is critical because broadcasters may grow skittish and drop out of the auction if there is the slightest delay.[8] The Commission is currently winding down an incredibly successful auction that has raised nearly $45 billion in bidding but has covered 273 rounds and lasted more than two months. Speed is rather obviously *not* critical to the success of the Commission's auctions. There is no basis to believe that broadcasters will flee from the incentive auction in a panic if it is not conducted at breakneck speed, assuming that the prices they are offered are sufficiently attractive and the rules for participation are clear.

Further, even if speed were critical to the success of the auction – and there is nothing in the record other than bald assertions to that effect – the Commission prioritizes speed selectively. The current public notice on auction procedures describes the generation of *ten additional constraints* to account for ISIX interference, in addition to the two constraints used to account for TV-to-TV interference, that the FCC will use in any repacking algorithm adopted by the Commission.[9] These clear inconsistencies further

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[8] ISIX Order at ¶ 16. Such a wholly unsupported argument does not satisfy the FCC's obligation to engage in reasoned decisionmaking and provide rational explanations for its decisions. *See, e.g., Motor Vehicle Mfrs. Ass'n of the U.S. v. State Farm Mut. Automobile Ins. Co.*, 463 U.S. 29, 43 (1983); *U.S. Telecom Ass'n v. FCC*, 227 F.3d 450, 460 (D.C. Cir. 2000).

[9] *Comment Sought on Competitive Bidding Procedures for Broadcast Incentive Auction 1000, Including Auctions 1001 and 1002*, Public Notice, AU Docket No. 14-252, GN Docket No. 12-268, FCC 14-191, at 83 (rel. Dec. 17, 2014).

undermine the Commission's explanation for essentially ignoring NAB's aggregate cap proposals.[10]

Neither the Commission's decision nor the record in these proceedings presents a satisfactory rationale to justify ignoring aggregate interference and population losses to broadcast stations generally or NAB's three proposals specifically. Developing such a cap is a far simpler task than determining impairments to and from hypothetical base stations operating at hypothetical technical parameters and placing those impairments in different license categories. The Commission should reconsider its decision in this regard to comply with both the Spectrum Act and the Administrative Procedure Act. Alternatively, the Commission could avoid significant complexity and uncertainty in the forward auction by embracing a nationwide band plan such as the one which has made Auction 97 such a rousing success for the Commission. This approach is easier for participants to understand and for the FCC to administer.

II. THE COMMISSION SHOULD RECONSIDER THE ISIX METHODOLOGY FOR PREDICTING IMPAIRMENTS DURING THE AUCTION.

The methodology the Commission adopted in the ISIX Order to predict inter-service interference for the purpose of determining license impairments in the forward auction will fail to predict those impairments with any useful degree of accuracy. Indeed, one of the more remarkable characteristics of the ISIX Order is that, in the companion further notice released in the same item, the Commission informs wireless carriers that

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[10] *See, e.g., Bell Atlantic Tel. Co. v. FCC*, 206 F.3d 1, 8 (D.C. Cir. 2000) (in vacating FCC ruling, court observed that the FCC's explanation of its "inconsistency in the present matter" was "not very compelling."

the ISIX predictions used for the auction are ultimately meaningless.[11] Regardless of the degree of predicted impairment of a license won in the auction, the licensee will have to use a *different* methodology for predicting inter-service interference based on real-world deployments, and carrier obligations to prevent harmful interference to broadcasters are in no way lessened by any inaccurate predictions made for the purpose of the auction.

In sum, the Commission is proposing a forward auction where: (1) the FCC will make predictions of license impairments based on one methodology; (2) bidders will know that the "fungible" blocks on which they are bidding may have between 0 and 15 percent or between 15 and 50 percent impairment; (3) bidders will only be able to select specific blocks during an additional assignment round; however, (4) once they have won licenses, bidders will have to use a *second* methodology for predicting interference and protect broadcasters against interference *regardless* of the predictions the FCC provides for the forward auction. This scheme is far from the simple one each of the Commissioners has declared the agency should employ.

The Commission should revisit this approach, beginning with the ISIX methodology adopted to make auction predictions. We continue to believe that using fixed separation distances, where distances are representative of potential interference between DTV and wireless service, would be far easier to implement and will not sacrifice meaningful spectral efficiency. Nevertheless, if the FCC refuses to adopt a significantly

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[11] ISIX Order at ¶ 68 ("Because there is the potential for impairments in any license that is co-channel or adjacent channel with a broadcast television station, we propose to apply these requirements to all wireless operations within the culling distance that are co-channel or adjacent-channel to a broadcast television station, *regardless of whether the wireless licensee's spectrum block was identified as 'impaired' in the auction*.") (emphasis added).

more straightforward approach, it should, at a minimum, adjust this ISIX methodology to make more balanced predictions on which wireless carriers can more readily rely during the auction.

First, as NAB has previously indicated, the ISIX methodology assumes operating parameters for wireless base stations that are significantly reduced from those authorized in the Commission's service rules and inconsistent with available facts concerning actual deployments. The FCC should adjust these technical parameters to reflect not just current operating realities at other frequencies, but likely operating parameters in the 600 MHz band. For example, wireless carriers deploying in this band are likely to use the spectrum to enhance coverage, rather than for densification of their networks. As a result, carriers may use higher towers than the 30 meters assumed by the ISIX methodology, and higher power than the ERP of 720W or 120W/MHz the methodology assumes. The proposed rules for wireless operations in the 600 MHz band would permit wireless base station facilities to operate at up to 305 meters with 1000W/MHz of transmit power. The ISIX methodology thus runs the risk of drastically understating the potential for inter-service interference if carriers attempt to deploy licenses in accordance with the applicable service rules.

Along the same lines, the FCC should abandon its unprecedented use of inappropriate field strength prediction characteristics that understate the potential for inter-service interference. The Commission reasons that use of the F(50,50) statistical measure to predict the strength of an interfering television signal, rather than the standard F(50,10) measure, is appropriate because it will be applied only during the auction, because carriers supported it, and because carriers have various techniques available to avoid harmful interference. But these explanations do not withstand scrutiny.

The fact that the methodology the FCC will use to predict impairment for the auction is significantly different from the methodology the FCC will require carriers to use after the auction is not a *feature*, it is a *flaw*. It makes the predictions less useful and may depress bidding in the forward auction. Further, while wireless carriers did support the use of the F(50,50) measure, that was before the Commission announced, in the companion ISIX NPRM, that carriers will be required to prevent harmful interference *regardless* of whether a license was predicted to be impaired or not during the auction. For the same reason, while we recognize that wireless carriers may employ interference mitigation techniques, because carriers must prevent harmful interference regardless of what the ISIX methodology predicts, carriers may need to use these techniques to mitigate interference even if the traditional prediction characteristics are used.

Adjusting technical parameters that understate potential interference and do not reflect operational realities would increase the odds that a bidder in the forward auction winning an allegedly "unimpaired" license will actually be able to operate that license in accordance with applicable Commission rules. While we urge the Commission to abandon the ISIX methodology in its entirety, if the Commission insists on using a methodology on which carriers will not be able to rely, it should at least do those carriers the service of minimizing the number and degree of inaccurate predictions.

III. CONCLUSION.

As the Commission moves forward with filling out the "framework" order it adopted in May 2014, it should adhere to the statutory mandate to preserve service by adopting caps on service losses that repacking may cause. It should also focus on simplicity and predictability to ensure a successful auction. The ISIX methodology the FCC has adopted for use in the auction serves neither of these values; it is incredibly complex and difficult

to understand. However, the Commission has also made clear that, notwithstanding its complexity, carriers may not rely on the ISIX methodology when they actually deploy networks using the licenses for which they have paid handsomely. This is not a recipe for maximizing participation and bidding, and we urge the Commission to reverse course to help ensure a successful auction.

Respectfully submitted,

NATIONAL ASSOCIATION OF BROADCASTERS
1771 N Street, NW
Washington, DC 20036
(202) 429-5430

Rick Kaplan
Jerianne Timmerman
Patrick McFadden

Bruce Franca
Robert Weller

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