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

In the Matter of:	)	
	)	
Expanding Flexible Use of the 3.7 to 4.2 GHz Band	)	GN Docket No. 18-122
	)	
	)	

COMMENTS OF
THE NATIONAL ASSOCIATION OF BROADCASTERS

I. INTRODUCTION AND SUMMARY

The National Association of Broadcasters (NAB)[1] hereby submits the following comments in response to the Wireless Telecommunications Bureau's Public Notice seeking comment on a preliminary schedule of costs associated with relocating existing service out of the 3.7 to 4.0 GHz band.[2]

NAB appreciates the opportunity to comment on the Bureau's preliminary Cost Catalog, as well as the effort the Bureau undertook to gather information and release the Catalog so quickly. We believe that the estimated cost ranges for several of the categories set forth in the Catalog accurately reflect a portion of the work that will be required to ensure a successful transition that preserves the reliable distribution of content in the 4.0 to 4.2 GHz band going forward.

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[1] The National Association of Broadcasters (NAB) is the 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] *Wireless Telecommunications Bureau Seeks Comment on Preliminary Cost Category Schedule for 3.7 to 4.2 GHz Relocation Expenses*, Public Notice, GN Docket No. 18-122, DA 20-457 (April 27, 2020) (Public Notice).

As a general matter, we hope the Bureau will seek further comment on a revised Cost Catalog that reflects input it receives from stakeholders to ensure the final Catalog is as comprehensive and accurate as possible. In addition, we hope the Bureau will not *finalize* the Cost Catalog until stakeholders have had the opportunity both to evaluate the transition plans that satellite operators ultimately submit and to evaluate rising costs due to potential disruptions to supply chains caused by the COVID-19 pandemic.

Our comments address two sets of issues in more detail below. First, certain portions of the Cost Catalog should be adjusted or clarified to better reflect anticipated costs, both in terms of the estimated range of costs as well as certain categories of costs that should be added to the catalog. More generally, the Bureau should allow parties to rely on line items set forth anywhere in the Catalog if those expenses are necessary – regardless of whether those line items are specifically associated with a particular category of facility. Second, we urge the Bureau to clarify one aspect of the Catalog's language to be consistent with the Commission's Report and Order. In particular, the Commission should clarify that the Cost Catalog's description of the technology upgrades associated with clearing the 3.7 to 4.0 GHz band does not suggest that specific technology selections are solely at the discretion of satellite operators.

II. THE BUREAU SHOULD ADJUST CERTAIN OF THE COST RANGES IN THE CATALOG

While the majority of the cost ranges set forth in the preliminary Catalog appear reasonable, certain of the ranges underestimate, potentially significantly, actual costs that will be associated with the transition. NAB's comments on the proposed cost ranges are based on input from our radio and television members and are not intended to represent "worst case" or highly unusual situations where higher costs may be justified on a case-by-case basis.

Technology Upgrades

By far the largest potential cost error in the preliminary Cost Catalog concerns costs for Integrated Receiver/Decoders. For the downlink portion of costs associated with compression upgrades, the Catalog lists a range of $5,000 to $35,000 "per transponder."[3] While that cost range is likely appropriate for each individual IRD, thousands of broadcast stations and cable headends across the country may receive content from a single transponder. As a result, in many cases there will be thousands of IRDs required for each transponder.

For example, one NAB member estimates that it will require nearly 3,000 IRDs spread across two transponders. Another member estimates that it will require hundreds of IRDs per transponder, and yet another estimates that it may require up to 20,000 IRDs in total. In each case, the per-IRD cost will vary, but is likely to fall in the $5,000 to $35,000 range set forth in the Catalog. In the aggregate, however, costs for these IRDs will add up to millions of dollars per transponder – orders of magnitude greater costs than the per transponder cost reflected in the preliminary Catalog.

We believe the "per transponder" description may be an error and the intent was likely to address costs "per IRD." In any event, the Bureau should clarify the Catalog by removing the "per transponder" qualifier and making plain that the estimated cost range is per IRD. If the Bureau has any questions or needs further information regarding this issue, we would be happy to provide further details.

A smaller, but still significant issue is the uplink costs associated with technology changes. The Catalog sets forth a range of $275,000 to $1.21 million per transponder for

[3] Public Notice, Cost Catalog at 20.

encoding and statmux equipment. One NAB member estimates that costs will be $1.3 million per transponder for this equipment.

Equipment and Installation Costs for Earth Stations

In Table III-A-1, the Cost Catalog sets for passband filter installation costs of $300 to $1100 per earth station.[4] At least one NAB member has already expended significant effort in estimating installation costs associated with filter installation, and has determined that actual costs will be $1350 per station. Accordingly, we urge the Bureau to revise the upper end of the range of costs for passband filter installation to at least $1350.

In Table III-B-1, the Cost Catalog includes installation cost ranges for 3.7, 4.2, and 4.5-meter antennas, but does not include estimates for 5.6 and 7.3-meter antennas, or even larger antennas if needed.[5] NAB generally agrees that these larger antennas will likely be less common, but there may be cases where they are necessary. The installation costs associated with a 5.6-meter antenna may range from $162,000 to $175,000, and the installation costs associated with a 7.3 meter antenna may range from $265,000 to $300,000.

In addition, under Table III-B-1, the cost ranges associated with supporting equipment for an antenna installation or move are likely too low, particularly for larger antennas, and costs associated with foundation work should be a separate line item. For installation of supporting equipment, not including foundation work, for 3.7 and 4.2-meter antennas, NAB recommends a cost range of $20,000 to $30,000. For installation of supporting equipment, not including foundation work, for 4.5 to 7.3-meter antennas, NAB recommends a cost range of $35,000 to $55,000.

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[4] *Id.* at 6.

[5] *Id.* at 8.

Based on input from our members as well as previous experience, NAB recommends the following cost ranges for foundation costs for larger antennas: $34,000 to $40,000 for 4.5-meter antennas; $37,000 to $43,000 for 5.6-meter antennas; and $40,000 to $48,000 for 7.3-meter antennas. We would also recommend that the Catalog acknowledge that the cost for foundation work is highly dependent on the location of the installation, reflecting variation in both soils and building codes.

Also under the supporting equipment category, the cost range associated with trenching potentially significantly underestimates these costs. Based on input from our members, longer trenches will frequently be necessary, and a figure of $10,000 is more appropriate for the upper end of trenching costs.

Additionally, the Catalog includes costs for lightning kits only for certain types of receive only earth stations having near full-arc multibeam antenna equipment.[6] In fact, such lightning protection equipment will be needed for all earth stations and so should be included in Table III-B-1.[7] We recommend the Bureau use the same estimated costs for lightning protection systems for all stations. We note, however, that the cost range the Catalog provides of $1,000 to $1,500 is low, and that a range of $1,000 to $2,500 is more likely to cover most situations.

Dual Illumination Expenses

Table III-A-2 sets forth costs associated with dual illumination for earth stations that will be required to point to a different satellite.[8] The Catalog does not, however, spell out the

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[6] *Id.* at 9.

[7] *Id.* at 8.

[8] *Id.* at 6.

unit of time associated with these proposed costs. Dual illumination expenses will increase the longer that dual illumination will be required, and we urge the Bureau to establish a per-week or per-month cost range for dual illumination. As it stands, we believe the cost range of $10,000 to $24,000 may be intended to represent a per-month cost, but we believe that cost is nevertheless too low. One NAB member has estimated dual illumination expenses as high as $28,000 per month.

We also note that dual illumination may result in significantly increased electric costs for earth station operators, particularly for extended periods of time. Accordingly, we urge the Bureau to add a line item to Table III-A-2 to reflect increased power costs.

Supply Chain Disruptions and Price Increases

As a general matter, we urge the Bureau to consider the potential implications of the current COVID-19 pandemic and any changes in trade policy for the supply chains of critical components, as well as implications of the pandemic for the labor market. We understand from members that COVID-19 is already affecting some supply chains, and it is not yet clear whether those challenges will grow. We are also concerned that any increased demand for specialized labor that will be needed for the transition may result in increased prices over time.

While it is impossible to predict precise recommendations for the cost ranges at this time, there will undoubtedly be changes between now and the time the transition actually occurs. We believe this only underscores the need for the Commission to seek further comment on the Cost Catalog, to not finalize the Catalog until the satellite operators have submitted their transition plans and stakeholders have had the opportunity to review and comment on those plans and to continue to monitor real-world conditions and adjust the Catalog as needed.

Greater Flexibility in Use of the Catalog

Finally, we urge the Bureau to consider consolidating the tables associated with different types of earth stations in the Catalog, and to instead have a single table that includes all of the likely categories of costs and allows stakeholders to seek reimbursement for all appropriate line items. More generally, we ask the Bureau to make plain that parties may rely on line items included elsewhere in the Catalog if necessary and appropriate for the transition – that is, an earth station should be able to include a line item set forth in another category of expenses if that line item is appropriate and reasonably necessary for the earth station to migrate.

For example, the migration of an earth station may also require relocation of a fixed microwave system or installation of a new fiber optic path, yet the costs for modification of a fixed microwave system are mistakenly not included in earth station migrations. As another example, the Catalog includes attorney's fees and other professional expenses as line items for Fixed Service relocations, but these are incorrectly not included for earth station migrations. The Catalog also sets forth cabling, installation, documentation, and fiber costs for fixed service links; but many of these line items are needed for more than one category of facility.

We understand the impulse to subdivide expenses among categories of users to make the Catalog easier for stakeholders to understand and use. NAB respectfully submits, however, that the Catalog should be interpreted more comprehensively, and that stakeholders that incur expenses listed under a specific category should be able to rely on those ranges to estimate costs for work that is reasonable and necessary to successfully transition services. This approach will save time and resources in both the preparation of cost estimates and the review of reimbursable expenses.

III. THE BUREAU SHOULD CLARIFY ITS COST CATALOG TO ENSURE IT IS CONSISTENT WITH THE REPORT AND ORDER

The Commission's Report and Order in this proceeding sets forth a process to ensure the input of all affected stakeholders in the successful relocation of services out of the 3.7 to 4.0 GHz band. In particular, the Report and Order requires satellite operators choosing to accept accelerated payments to submit detailed draft transition plans, affords stakeholders the opportunity to comment on these plans, allows the submission of revised plans reflecting stakeholder and Commission input, and provides that satellite operators can only modify their finalized transition plans with Commission approval.[9] The Commission's adoption of a multi-stakeholder decision-making process is critical to ensuring the successful transition and preservation of existing service, because not every programmer will make the same technological choices and there is no "one-size-fits-all" technological solution for the transition.

It is certainly true that technology upgrades must be implemented across the whole of the distribution system. The Cost Catalog correctly observes that if one side of the link is upgraded, the other side must be as well.[10] Costs associated with technology upgrades should be considered holistically and any transition to a new compression technology must be managed as a complete end-to-end transition to be successful. Accordingly, it is reasonable to assume that such costs should be the responsibility of space station operators and/or programmers rather than individual earth station operators.

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[9] *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Report and Order, GN Docket No. 18-122, FCC 20-22, ¶¶ 303-306 (March 3, 2020) (Report and Order).

[10] Public Notice, Cost Catalog at 20.

Certain sections of the preliminary Cost Catalog, however, could be read to suggest that space station operators will have the sole discretion to determine technology upgrades and equipment that will be needed to successfully relocate existing services.[11] This would be inconsistent with the process set forth in the Report and Order and, more fundamentally, would be inconsistent with the Report and Order's overall goal of expanding opportunities for flexible use in the band while preserving at least a comparable level of service for programming that relies on C-band distribution today.[12]

We urge the Bureau to take two steps to ensure that the Catalog is consistent with the principles in the Report and Order and that it does not become a source of confusion for any stakeholder or the Relocation Payment Clearinghouse.

First, the Bureau should clarify that nothing in the Cost Catalog is intended to modify any aspect of the Commission's Report and Order or imply that space station operators may unilaterally dictate the technology choices of their customers. Plainly, the Catalog cannot modify the Report and Order as a legal matter. The Bureau should nevertheless make this point unequivocally in the Catalog itself to reduce any possibility of confusion and to minimize potential disputes.

Second, the Bureau should consider whether it is appropriate to categorize all technology upgrade expenses as solely reimbursable to space station operators, or whether it would be appropriate to provide more flexibility to other affected entities to seek reimbursement for these costs consistent with their own technology choices (subject to the requirement that no duplicative costs will be submitted or reimbursed). Nothing in the Report

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[11] *Id.* at 20.

[12] Report and Order at ¶ 194.

and Order compels the approach set forth in the Cost Catalog, and the Bureau should consider the unintended consequences of a determination that only the satellite operators, as opposed to programmers, may seek reimbursement for these costs.

IV. CONCLUSION

NAB appreciates the opportunity to comment on the preliminary Cost Catalog. We urge the Bureau to seek further input from stakeholders in another round of comments, as well as to delay the finalization of the Cost Catalog until stakeholders have an opportunity to review the transition plans submitted by the satellite operators. We look forward to working with the Bureau to finalize the Catalog by providing any further information the Bureau deems appropriate.

Respectfully submitted,

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