



PUBLIC NOTICE

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PUBLIC SAFETY AND HOMELAND SECURITY BUREAU SEEKS COMMENT ON PROPOSAL TO RELAX THE AUDIO FILTERING REQUIREMENT FOR TRAVELERS' INFORMATION STATIONS

PS Docket No. 09-19

Comment Date: May 16, 2014

Reply Comment Date: June 2, 2014

INTRODUCTION

By this public notice we seek comment on a proposal¹ filed by the National Association of Broadcasters (NAB) that would relax but not eliminate Section 90.242(b)(8) of the Commission's rules.² This rule section requires the filtering of Travelers' Information Stations (TIS) audio frequencies between 3 and 20 kHz.³ NAB filed its proposal by way of reply comments to a Further Notice of Proposed Rulemaking (*FNPRM*), which proposed elimination of Section 90.242(b)(8).⁴

BACKGROUND

Following the Commission's adoption of a 2010 Notice of Proposed Rulemaking (*NPRM*) that sought comment on various TIS issues,⁵ numerous commenters asserted that the TIS filtering requirement

¹ See PS Docket No. 09-19, NAB Reply Comments at 3-4 (filed Oct. 22, 2013).

² 47 C.F.R. § 90.242(b)(8).

³ *Id.*

⁴ See Travelers' Information Stations; American Association of Information Radio Operators Petition for Ruling on Travelers' Information Station Rules; Highway Information Systems, Inc. Petition for Rulemaking; American Association of State Highway and Transportation Officials Petition for Rulemaking; PS Docket No. 09-19, RM-11514, RM-11531, *Report and Order and Further Notice of Proposed Rulemaking*, 28 FCC Rcd 11276, 11291 ¶ 43 (2013) (*Report and Order* and *FNPRM*).

⁵ See Travelers Information Stations, PS Docket No. 09-19, American Association of Information Radio Operators Petition for Ruling on Travelers' Information Station Rules, Highway Information Systems, Inc. Petition for Rulemaking, RM-11514, American Association of State Highway and Transportation Officials Petition for Rulemaking, RM-11531, *Order and Notice of Proposed Rulemaking*, 25 FCC Rcd 18117, 18122 ¶ 15 (2010) (*NPRM*).

decreases the audibility of TIS broadcasts, especially at night and over difficult terrain.⁶ Because the filtering issue was not raised in the *NPRM* but rather was introduced for the first time by commenters in the record, the Commission sought further comment on the issue in the *FNPRM*, asking whether this requirement should be eliminated.⁷ The Commission received nine comments and four reply comments in response to the *FNPRM*. All commenters, save two, support elimination of the filtering requirement. In addition, many commenters, while supporting this elimination, oppose any mandates to require filter removal or to recertify TIS transmitters as a result of the filter removal.⁸

The Society of Broadcast Engineers (SBE) and NAB submitted comments opposing removal of the TIS filtering restriction.⁹ SBE states that “[w]hile it is correct that removal of the filtering ... would improve the audio quality of a TIS transmission, this would be accomplished by a secondary spectrum user at the cost of harmful interference to adjacent channel AM Broadcast station reception.”¹⁰

Although NAB submitted comments opposing removal of the filtering requirement, it also noted that “a compromise approach may be workable.”¹¹ Specifically, NAB states that “a filter capable of filtering audio frequencies above 5 kHz should allow for a TIS signal of sufficiently higher quality, without impeding neighboring AM services.”¹² NAB notes that “full-power AM radio stations routinely use 5 kHz filters to address and prevent interference among AM stations, with few significant problems.”¹³ NAB tempers its proposal by noting that SBE states that “broadcast engineers have observed that some TIS broadcasts contain musical content in the form of segues and other

⁶ See PS Docket No. 09-19, Burden Comments at 2 (filed Mar. 7, 2011); AAIRO Comments at 5, 20 (filed Feb. 18, 2011); Auburn Reply Comments at 1 (filed Mar. 4, 2011); Avalon Reply Comments at 1 (filed Mar. 7, 2011); Cook Reply Comments at 1 (filed Mar. 7, 2011); Effingham Reply Comments at 1 (filed Mar. 7, 2011); Fairfield Reply Comments at 1 (filed Mar. 7, 2011); Aurora Reply Comments at 1 (filed Mar. 4, 2011); Hennes Reply Comments at 1 (filed Mar. 7, 2011); Los Alamos Reply Comments at 1 (filed Mar. 7, 2011); Manville Reply Comments at 1 (filed Mar. 7, 2011); Montecito Reply Comments at 1 (filed Mar. 7, 2011); North Wildwood Reply Comments at 1 (filed Mar. 7, 2011); Peabody Reply Comments at 1 (filed Mar. 7, 2011); Lexington-Fayette Reply Comments at 2 (filed Mar. 9, 2011); Dickey County Reply Comments at 1 (filed Mar. 7, 2011).

⁷ See *FNPRM*, 28 FCC Rcd at 11291 ¶ 43. The *FNPRM* did not seek comment on whether the requirement should be relaxed and thus the Commission did not receive a record on this point.

⁸ See PS Docket No. 09-19, AAIRO Comments at 1-2 (filed Sep. 17, 2013) (AAIRO *FNPRM* Comments) (“if the FCC were to mandate that all TIS licensees who wish to remove the filters must go through a new type acceptance/recertification, that requirement would present and undue financial burden [and t]he imposition of both the above requirements would likely cause most TIS Services to cease due to expense and logistics.”). See also, PS Docket No. 09-19, AASHTO Reply Comments at 2 (filed Oct. 17, 2013); Dickinson Comments at 1 (filed Sep. 3, 2013); Flaherty Comments at 1 (filed Sep. 3, 2013); Gropper Comments at 8 (filed Sep. 13, 2013); Johnson Comments at 1 (filed Sep. 3, 2013); Lazenby Comments at 1 (filed Sep. 3, 2013); Pollicoff Comments at 1 (filed Sep. 3, 2013); Smittle Comments at 1 (filed Sep. 3, 2013).

⁹ See PS Docket No. 09-19, SBE Comments (filed Sep. 18, 2013); NAB Reply Comments.

¹⁰ See SBE Comments at 5. See also NAB Reply Comments at 3-4 (“Removal of all TIS filter requirements will increase the risk of harmful interference to AM radio services, thereby hindering the delivery of AM broadcasters’ critical emergency information and diverse locally-oriented public affairs and entertainment content.”).

¹¹ See NAB Reply Comments at 4.

¹² *Id.*

¹³ *Id.*

enhancements.”¹⁴ NAB states that “[m]usical content requires wider bandwidth that may not be successfully dealt with by a 5 kHz filter.”¹⁵ Thus, NAB argues that “a 5 kHz filter may not be adequate if TIS stations continue broadcasting musical content contrary to Commission rules.”¹⁶ Accordingly, NAB “offers a proposal to allow TIS operators to use a 5 kHz filter, presuming TIS stations broadcast only voice content, as required under the Commission’s rules.”¹⁷

AAIRO responds that it “can ... support the compromise proposed by the National Association of Broadcasters, ...” because “[t]he wider filter bandpass would markedly improve TIS voice transmissions and would also protect adjacent broadcasters should a TIS operator transmit non-voice material without authorization.”¹⁸ AAIRO further submits that if:

a wider bandwidth filter may be substituted in place of the present 3-kHz filter ... the filter [should] be outboard to the TIS transmitter and immediately ahead of its audio input. The FCC should prescribe the exact formula for the audio filter and require its use by all TIS operations – new or existing – whose 3-kHz filters have been deactivated. AAIRO suggests the use of the same roll-off curve presently used in the 3-kHz filter, as it has proven to be adequate during the 30+ years of the TIS service’s existence. The use of an outboard filter will streamline the timeline to improve the service and dramatically lower costs for existing operators who would otherwise be required to purchase new transmitters or have their present transmitters modified and recertified.”¹⁹

DISCUSSION

We now seek comment on NAB’s proposal and related comments. Specifically, we seek more detailed comments with respect to the following issues:

Elimination Versus Relaxation of TIS Filtering Requirement. Rather than eliminate the TIS filtering requirement, as proposed in the *FNPRM*, is the public interest better served by NAB’s proposal, as endorsed by AAIRO, which would relax the filter requirement from 3 kHz to 5 kHz? Is NAB correct that “a filter capable of filtering audio frequencies above 5 kHz should allow for a TIS signal of sufficiently higher quality, without impeding neighboring AM services”? Or, would improved audio quality of a TIS transmission come at the cost of harmful interference to adjacent channel AM Broadcast station reception? On what basis should the Commission make this determination? Are there any compelling reasons why the Commission should not adopt the NAB proposal?

We also invite comment on any other measures that could both improve the intelligibility of TIS and provide adequate measures to protect adjacent channel stations from harmful interference. SBE contends that many TIS stations fail to adhere to generally accepted modulation standards employed by AM broadcasters, which could result in poor audio quality.²⁰ In this regard, we seek comment on the

¹⁴ *Id.*, citing SBE Comments at 6.

¹⁵ *See* NAB Reply Comments at 4.

¹⁶ *Id.*

¹⁷ *Id.* at 5.

¹⁸ *See* PS Docket No. 09-19, AAIRO Reply Comments at 1 (filed Oct. 23, 2013).

¹⁹ *Id.* at 2.

²⁰ *See* SBE Comments at 6.

state of licensee compliance with TIS modulation rules,²¹ and if compliance is lacking, how it could be improved. We also seek comment on whether and how the Commission could revise its TIS modulation rules as part of a solution to improve audio intelligibility and protect adjacent channel stations.

Revision of Operational Requirements. The current rule requires that at audio frequencies between 3 kHz and 20 kHz, the filter “shall have an attenuation greater than the attenuation at 1 kHz by at least: $60 \log_{10}(f/3)$ decibels, where ‘f’ is the audio frequency in kHz.”²² At audio frequencies above 20 kHz, the attenuation shall be at least 50 decibels greater than the attenuation at 1 kHz.²³ This produces a roll-off curve that starts at 0 dB attenuation for 3 kHz, then increases attenuation to approximately 50 dB at 20 kHz. AAIRO suggests that the Commission should use “the same roll-off curve presently used in the 3-kHz filter” for a 5-kHz filter.²⁴ However, if we slide this curve up in frequency to have 0 dB attenuation at 5 kHz but maintain the same slope,²⁵ then the curve would attenuate signals only by 36 dB at 20 kHz. We seek comment on whether 36 dB attenuation at 20 kHz would be sufficient or whether the roll-off curve for a 5 kHz audio filter in a TIS system should have 50 dB attenuation at 20 kHz, consistent with the existing rule.

Staff determined that a roll-off curve of $83 \log_{10}(f/5)$ decibels for frequencies between 5 kHz and 20 kHz would have 0 dB attenuation at the 5-kHz starting point, and would achieve 50 dB attenuation at 20 kHz. However, this is a steeper roll-off curve than the formula prescribed in the current rule. We seek comment on whether the Commission should impose this attenuation if the Commission decides to relax the filtering requirement from 3 kHz to 5 kHz. We also seek comment on whether affordable audio filters exist in the marketplace that satisfy this roll-off curve, or whether equipment manufacturers could retrofit existing filters or economically design, manufacture, and market such filters in the near term. We also seek comment on the general availability of 5 kHz audio filters in the marketplace, the roll-off curves of specific models, and whether, alternatively, we should impose one of those roll-off curves in our rules.

Revision of Filter Placement Requirements. The current rule requires that “[e]ach transmitter in a Travelers Information Station shall be equipped with an audio low-pass filter [that] shall be installed between the modulation limiter and the modulated stage.”²⁶ However, as noted above, AAIRO suggests that “the [replacement] filter [should] be outboard to the TIS transmitter and immediately ahead of its audio input.”²⁷ Given this difference in the placement of the filter, we seek comment on the feasibility of AAIRO’s suggestion and whether to require such configuration in our rules in the event that the Commission relaxes the filter requirement.

²¹ See 47 C.F.R. § 90.242(b)(1)-(2).

²² 47 C.F.R. § 90.242(b)(8).

²³ *Id.*

²⁴ AAIRO *FNPRM* Second Reply Comments at 2.

²⁵ The roll-off curve in this example would be defined as $60 \log_{10}(f/5)$ decibels. Changing the divisor under “f” from 3 to 5 slides the starting point of the curve up in frequency from 3 kHz to 5 kHz. The number 60 in front of the logarithm defines the slope of the curve and remains unchanged here from the current rule.

²⁶ 47 C.F.R. § 90.242(b)(8).

²⁷ AAIRO *FNPRM* Second Reply Comments at 2.

Certification. As indicated above, many commenters who support elimination of the filtering requirement also request that no recertification requirement accompany such change.²⁸ Accordingly, we seek comment on whether audio filter elimination/replacement and AAIRO's foregoing suggestion regarding filter placement would either: (1) constitute a change to TIS transmitters that requires recertification; (2) constitute a permissive change in certificated equipment that does not require recertification;²⁹ or (3) be exempt from the Commission's equipment authorization rules.³⁰ Commenters should provide evidence to support their arguments.

Should Any Change in the Filtering Requirement be Mandatory? Finally, whether the Commission either relaxes or eliminates the TIS filtering requirement, should it also require filter replacement or removal, respectively, for existing licensees? Many commenters who support elimination of the filtering requirement also request that such elimination be made optional, at the discretion of individual licensees.³¹ To what extent, if any, would such a requirement present an undue financial burden? Is AAIRO correct that a mandatory replacement or removal requirement would likely cause most TIS Services to cease operation due to expense and logistics? On the other hand, are there compelling counter-reasons, to require filter removal or replacement rather than leave it to the discretion of TIS licensees?

PROCEDURAL MATTERS

This proceeding shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.³² Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that

²⁸ See *supra* n.8.

²⁹ See 47 C.F.R. § 2.1043(b)(2). "A Class II permissive change includes those modifications which degrade the performance characteristics as reported to the Commission at the time of the initial certification. Such degraded performance must still meet the minimum requirements of the applicable rules. When a Class II permissive change is made by the grantee, the grantee shall supply the Commission with complete information and the results of tests of the characteristics affected by such change. The modified equipment shall not be marketed under the existing grant of certification prior to acknowledgement by the Commission that the change is acceptable." *Id.*

³⁰ The Commission sets forth its equipment authorization rules in 47 C.F.R. Part 2 Subpart J.

³¹ See *supra* n.8.

³² 47 C.F.R. §§ 1.1200 *et seq.*

proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

Interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Interested parties may file comments using: (1) the Commission's Electronic Comment Filing System (ECFS), or (2) by filing paper copies. *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998). **Commenters should refer to the docket number and the DA number on the front page of this Public Notice when filing comments.**

- Electronic Filers: Interested parties may file comments electronically using the Internet by accessing the ECFS: <http://apps.fcc.gov/ecfs2>.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.
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For further information regarding this proceeding, contact Eric Ehrenreich, Policy and Licensing Division, Public Safety and Homeland Security Bureau, (202) 418-1726.

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