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Small Entity Compliance Guide

Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions

Third Report and Order and First Reconsideration Order
GN Docket No. 12-268; ET Docket Nos. 13-26 and 14-14
FCC 15-141
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This Guide is prepared in accordance with the requirements of Section 212 of the Small Business Regulatory Enforcement Fairness Act of 1996. It is intended to help small entities—small businesses, small organizations (non-profits), and small governmental jurisdictions—comply with the new rules adopted in the above-referenced FCC rulemaking docket(s). This Guide is not intended to replace the rules and, therefore, final authority rests solely with the rules. Although we have attempted to cover all parts of the rules that might be especially important to small entities, the coverage may not be exhaustive. This Guide may, perhaps, not apply in a particular situation based upon the circumstances, and the FCC retains the discretion to adopt approaches on a case-by-case basis that may differ from this Guide, where appropriate. Any decisions regarding a particular small entity will be based on the statute and regulations.

In any civil or administrative action against a small entity for a violation of rules, the content of the Small Entity Compliance Guide may be considered as evidence of the reasonableness or appropriateness of proposed fines, penalties or damages. Interested parties are free to file comments regarding this Guide and the appropriateness of its application to a particular situation; the FCC will consider whether the recommendations or interpretations in the Guide are appropriate in that situation. The FCC may decide to revise this Guide without public notice to reflect changes in the FCC's approach to implementing a rule, or to clarify or update the text of the Guide. Direct your comments and recommendations, or calls for further assistance, to the FCC's Consumer Center:

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I. OBJECTIVES OF THE PROCEEDING

As explained in the initial *Report and Order* in GN Docket No. 12-268 (*Incentive Auction R&O*),¹ full power and Class A television broadcasters will have a unique financial opportunity in the “reverse auction” phase of the forthcoming 600 MHz Band incentive auction to return some or all of their broadcast spectrum usage rights in exchange for incentive payments. A broadcaster’s decision to participate in the reverse auction will be wholly voluntary. By facilitating this voluntary return of spectrum usage rights and reorganizing the broadcast television bands, the Commission can recover a portion of ultra-high frequency (“UHF”) spectrum in the 600 MHz Band currently used for television broadcasting for a “forward auction” of new, flexible-use licenses suitable for providing mobile broadband services.

In the *Second Report and Order and Further Notice of Proposed Rulemaking* in GN Docket No. 12-268 and ET Docket Nos. 13-26 and 14-14 (*ISIX R&O/ISIX Further Notice*),² the Commission proposed a post-auction inter-service interference methodology and input values, as well as protection standards for any television stations and new 600 MHz Band wireless services on co- or adjacent-channel frequencies in nearby areas. In the *Third Report and Order and First Reconsideration Order* in GN Docket No. 12-268 and ET Docket Nos. 13-26 and 14-14 (the “Order”),³ the Commission adopted the interference methodology and the regulatory framework for the protection of both wireless carriers and TV broadcasters in the post-auction environment that it proposed in the *ISIX Further Notice*.

This framework will facilitate efficient broadcast/wireless use of the 600 MHz Band where those two different types of user will operate in close geographic proximity following the incentive auction, thus permitting both broadcasters and wireless carriers to operate on a non-interference basis in that spectrum.

II. REGULATIONS AND POLICIES THAT THE COMMISSION ADOPTED OR MODIFIED, INCLUDING RECORDKEEPING AND OTHER COMPLIANCE REQUIREMENTS

In the Order, the Commission adopted the framework it proposed in the *ISIX Further Notice* to govern the interference environment in the 600 MHz Band where market variation results in wireless carrier operations and television stations operating on the same or adjacent

¹ *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268, Report and Order, 29 FCC Rcd 6567 (2014). A Small Entity Compliance Guide for the *Incentive Auction R&O* is available at <http://www.fcc.gov/document/incentive-auctions>.

² *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268, ET Docket No. 13-26, ET Docket No. 14-14, Second Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 13071 (2014). A Small Entity Compliance Guide for the *ISIX R&O/ISIX Further Notice* is available at <https://www.fcc.gov/document/opportunities-spectrum-through-incentive-auctions>.

³ *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268, ET Docket Nos. 13-26 and 14-14; Third Report and Order and First Reconsideration Order, 80 FR 71731 (November 17, 2015).

channels in nearby areas. First, the Commission established a zero percent threshold for allowable harmful interference from 600 MHz wireless carriers to television stations assigned to channels in the 600 MHz Band. Second, it adopted with certain modifications the methodology proposed in Office of Engineering and Technology Bulletin No. 74 (“OET-74”) for predicting interference from wireless carrier base stations to television receivers after both services begin to operate in the 600 MHz Band following the incentive auction. Third, it required 600 MHz Band wireless carriers to use OET-74 to predict potential interference to nearby co-channel or adjacent-channel television operations before deploying base stations, prohibited operation of wireless carrier user equipment operating in the 600 MHz Band near these television stations’ contours by establishing small separation distances between those contours and the wireless user equipment (beyond which that equipment can operate without causing interference to television receivers), and prohibited the expansion of television stations’ contours that would result in additional impairments to wireless carrier operations. The Commission also addressed the applicability of its inter-service interference methodology (“ISIX Methodology”) in other interference contexts, including between Low Power Television (“LPTV”) and TV translators and wireless carrier operations, between television and wireless operations during the post-auction transition period, and in identifying impairments to wireless licenses along the borders with Canada and Mexico.

A. Protecting Broadcast Television Stations in the 600 MHz Band From Inter-Service Interference

The Commission adopted a zero percent threshold for harmful interference from wireless carrier operations to the reception of television stations’ signals in the 600 MHz Band. Under this standard, a 600 MHz Band wireless carrier will not be permitted to cause harmful interference at any level within the noise-limited contour of a full power television station or the protected contour of a Class A television station to the degree that the wireless carrier would affect populated areas within those contours. The Commission found that a zero percent threshold, with no rounding tolerance, is warranted in the post-auction environment. Any interference standard other than zero would present practical difficulties, given the multiple sources of potential interference to the reception of signals from television stations assigned to the 600 MHz Band and the continuing evolution of wireless carrier networks.

1. Wireless Carrier Obligations

In the Order, the Commission required wireless carriers that are co-channel or adjacent channel to a TV station in the 600 MHz Band in nearby markets to use OET-74 following the incentive auction to predict interference to that station’s television receivers. 600 MHz Band wireless carriers must retain the latest copy of their OET-74 interference analysis for each co-channel or adjacent channel license area (partial economic area), where any of their base stations fall within the distances specified in OET-74. Moreover, the Order required that a 600 MHz Band wireless carrier make this analysis available for inspection by the Commission at any time and to further make this analysis available to a television station upon request when there are complaints of interference either from the subject television station or a station viewer. The Order anticipated that 600 MHz Band wireless carriers will implement the OET-74 methodology through use of a computer program that uses as inputs a database of the carriers’ base station

technical parameters. The Order further anticipated that the Commission will release prior to the incentive auction a version of the relevant software, called *TVStudy*, which performs these analyses, and that 600 MHz Band wireless carriers will use their own network planning software for this purpose. Finally, the Order observed that 600 MHz Band wireless carriers will need to update their analyses only when they add new base stations or modify existing ones in a manner that increases energy in the direction of a DTV station's contour. These changes could include, for example, an increase in transmitted power, use of a higher antenna, or a change in the antenna pattern. To eliminate the need for future revisions, 600 MHz Band wireless carriers could perform an initial "worst case" OET-74 analysis that includes the possible future technical parameters that would potentially cause the most interference, so that any subsequent changes to the technical parameters that would reduce the interference potential would not require an additional analysis. For example, OET-74 specifically allows for the use of an omnidirectional antenna rather than actual antenna pattern, which would make the analysis more conservative and less prone to change with network adjustments.

2. Resolving Interference Disputes

Any television station broadcasting in the 600 MHz Band that experiences harmful interference from co-channel or adjacent channel wireless carrier operations must contact that co-channel or adjacent channel wireless carrier to resolve the issue. The wireless carrier is required to provide to the affected broadcaster the latest OET-74 analysis indicating that no harmful interference was predicted to occur in the specific geographic area at issue. However, the obligation of the wireless carrier to eliminate any harmful interference it is causing to the television station will remain, even if the OET-74 analysis had predicted that no harmful interference would occur. The Order further requires that wireless carriers and broadcasters cooperate in good faith to resolve any disputes, so as not to unreasonably disrupt wireless and broadcast operations. In the event that the parties are unable to reach resolution, the Order authorized the affected broadcaster to submit a claim of harmful interference to the Commission.

B. Protecting Wireless Carriers in the 600 MHz Band From Inter-Service Interference

The Commission limited full-power and Class A television stations assigned to channels in the 600 MHz Band from expanding their noise-limited and protected contours, respectively, if doing so would increase the impairments to co-channel or adjacent channel 600 MHz Band wireless carriers, unless an agreement is reached with a co-channel or adjacent channel wireless carrier allowing for such expansion. LPTV and TV translator stations in the 600 MHz Band may continue operating indefinitely, unless a 600 MHz Band wireless carrier provides advance notice that it intends to commence operations and the LPTV or TV translator station is likely to cause harmful interference to the wireless carrier's operations. 600 MHz Band wireless carriers will be required to use the ISIX Methodology, as modified in the *First Reconsideration Order*, for predicting interference to their operations from LPTV and TV translator stations for purposes of providing these stations with advance displacement notice. For this analysis, 600 MHz licensees will use the threshold values for the prediction of interference from full power television to wireless operations.

III. RECORDKEEPING AND OTHER COMPLIANCE REQUIREMENTS

A wireless carrier operating in the 600 MHz Band must conduct an interference analysis using OET-74 before operating a base station within the “culling” (interference) distance of the contour of a co-channel or adjacent channel broadcast television station. Each 600 MHz Band wireless carrier must also conduct an OET-74 interference analysis when making a modification to such a base station that could result in an increase in energy in the direction of broadcast station’s contour. Additionally, each 600 MHz Band wireless carrier must retain the latest copy of its OET-74 analysis for each base station that is within the culling distance of a co-channel or adjacent channel broadcast station. Moreover, each 600 MHz Band wireless carrier must make its OET-74 analysis available for inspection by the Commission at any time and to make this analysis available to a television station upon request when there are complaints of interference either from the subject television station or a station viewer. Finally, each 600 MHz Band wireless carrier must use the ISIX Methodology, as modified in the *First Reconsideration Order*, for predicting interference to its operations from LPTV and TV translator stations for purposes of providing these stations with advance displacement notice.

In addition, under the rules adopted in the *Incentive Auction R&O* each 600 MHz Band wireless carrier must meet interim and final build-out requirements. However, the build-out requirements apply only to areas that a carrier is permitted to serve. In the Order, the Commission required 600 MHz Band wireless carriers to use the ISIX Methodology and/or OET-74 to demonstrate that they cannot meet build-out requirements for portions of the geographic area covered by their licenses.

IV. INTERNET LINKS

Third Report and Order and First Reconsideration Order

- https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-141A1.docx
- https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-141A1.pdf
- https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-141A1.txt