

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

In the Matter of
Acceleration of Broadband Deployment by
Improving Wireless Facilities Siting Policies
Acceleration of Broadband Deployment:
Expanding the Reach and Reducing the Cost of
Broadband Deployment by Improving Policies
Regarding Public Rights of Way and Wireless
Facilities Siting
2012 Biennial Review of
Telecommunications Regulations

REPORT AND ORDER

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By the Commission: Chairman Wheeler and Commissioners Clyburn, Rosenworcel, Pai, and O’Rielly
issuing separate statements.

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I. INTRODUCTION

1. We take important steps in this Report and Order to promote the deployment of wireless infrastructure, recognizing that it is the physical foundation that supports all wireless communications. We do this by eliminating unnecessary reviews, thus reducing the costs and delays associated with facility siting and construction. In particular, we update and tailor the manner in which we evaluate the impact of proposed deployments on the environment and historic properties. We also adopt rules to clarify and implement statutory requirements related to State and local government review of infrastructure siting applications, and we adopt an exemption from our environmental public notification process for towers that are in place for only short periods of time. Taken together, these steps will further facilitate the delivery of more wireless capacity in more locations to consumers throughout the United States. Our actions will expedite the deployment of equipment that does not harm the environment or historic properties, as well as recognize the limits on Federal, State, Tribal, and municipal resources available to review those cases that may adversely affect the environment or historic properties.

2. Demand for wireless capacity is booming: more consumers are accessing mobile broadband every year, driving more innovation and expanding access to public safety. But our ability to meet this demand depends on the infrastructure that supports the services. We therefore take concrete steps to facilitate the deployment of the infrastructure necessary to support surging demand, expand broadband access, support innovation and wireless opportunity, and enhance public safety—all to the benefit of consumers and the communities in which they live.

3. Our actions recognize that a technological revolution has changed the wireless network landscape. The Commission’s current rules for deploying infrastructure were drafted at a time when antennas were huge and bolted to the top of enormous towers. While that kind of macrocell deployment still exists and will continue to exist, there are now a variety of complementary and alternative

V. IMPLEMENTATION OF SECTION 6409(A)

135. In this section, we adopt rules to implement and enforce Section 6409(a) of the Spectrum Act.³³⁸ Section 6409(a) provides, in pertinent part, that “[n]otwithstanding [47 U.S.C. § 332(c)(7)] or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.”³³⁹ Ambiguities in many of the terms in this provision and its accompanying definition of “eligible facilities request” are likely to generate disputes about its proper application, which could in turn undermine the goal of Title VI of the Spectrum Act of advancing wireless broadband service for both public safety and commercial users.³⁴⁰ We therefore conclude that it will serve the public interest to establish rules clarifying the requirements of Section 6409(a) and implementing and enforcing this provision.³⁴¹ The rules we adopt today will provide guidance to all stakeholders on their rights and responsibilities under the provision, facilitate the review process for wireless infrastructure modifications, and accelerate wireless broadband deployment consistent with our statutory responsibilities.

A. Background

136. Congress adopted Section 6409 in 2012 as a provision of Title VI of the Middle Class Tax Relief and Job Creation Act, which is more commonly known as the Spectrum Act.³⁴² The Spectrum Act required the Commission to allocate specific additional bands of spectrum for commercial use (including the H Block and the AWS-3 band) and to auction and grant new licenses for this spectrum by February 2015.³⁴³ The Spectrum Act also authorized the Commission to conduct an incentive auction of broadcast television spectrum in order to make additional spectrum available for commercial broadband service.³⁴⁴ Finally, the Spectrum Act established the First Responder Network Authority (FirstNet) to oversee the construction and operation of a nationwide public safety wireless broadband network (PSBN) and provided dedicated spectrum and other resources for this purpose, including funding from the proceeds of the auctions that the Spectrum Act required and authorized.³⁴⁵ Congress specifically directed FirstNet to “encourag[e]... leverag[ing] to the maximum extent economically desirable, existing

³³⁸ See Spectrum Act § 6409(a).

³³⁹ Spectrum Act § 6409(a)(1).

³⁴⁰ Conference Report at 136.

³⁴¹ See *Infrastructure NPRM*, 28 FCC Rcd at 14274 para. 95

³⁴² See, generally, Spectrum Act, Title VI.

³⁴³ See Spectrum Act § 6401. The H Block auction closed in February 2014, and the Commission issued licenses for construction and operation over H Block spectrum in April 2014. Auction of H Block Licenses in the 1915-1920 MHz and 1995-2000 MHz Band Closes; Winning Bidder Announced for Auction 96, *Public Notice*, 29 FCC Rcd 2044 (WTB 2014); Wireless Telecommunications Bureau Grants H Block (1915-1920 MHz and 1995-2000 MHz) Licenses, Auction No. 96, *Public Notice*, 29 FCC Rcd 4782 (WTB 2014). The AWS-3 auction is scheduled for November 2014. Auction of Advanced Wireless Services (AWS-3) Licenses Scheduled for November 13, 2014; Notice and Filing Requirements, Reserve Prices, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction 97, *Public Notice*, 29 FCC Rcd 8386 (WTB 2014).

³⁴⁴ See Spectrum Act §§ 6402, 6403. See also Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, Docket No. 12-268, *Notice of Proposed Rulemaking*, 27 FCC Rcd 12357 (2012); Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, GN Docket No. 12-268, *Report and Order*, 29 FCC Rcd 6567 (2014) (*Incentive Auction Report and Order*).

³⁴⁵ See Spectrum Act §§ 6201, 6202, 6206. See also Implementing Public Safety Broadband Provisions of the Middle Class Tax Relief and Job Creation Act of 2012; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, PS Docket No. 12-94, PS Docket No. 06-229, WT Docket No. 06-150, *Notice of Proposed Rulemaking*, 28 FCC Rcd 2715 (2013).

commercial wireless infrastructure to speed deployment of the network.³⁴⁶ And it authorized the Commission to “take any action necessary to assist [FirstNet] in effectuating its duties and responsibilities” under the Spectrum Act.³⁴⁷

137. In the context of these goals, Congress included Section 6409, which contributes to the twin goals of commercial and public safety wireless broadband deployment through several measures that promote the deployment of the network facilities needed to provide broadband wireless services. These measures include Section 6409(a), entitled “Facility Modifications,” which has three provisions. As noted above, Subsection (a)(1) provides that “[n]otwithstanding section 704 of the Telecommunications Act of 1996 [codified as 47 U.S.C. § 332(c)(7)] or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.”³⁴⁸ Subsection (a)(2) defines the term “eligible facilities request” as any request for modification of an existing wireless tower or base station that involves (a) collocation of new transmission equipment; (b) removal of transmission equipment; or (c) replacement of transmission equipment.³⁴⁹ Subsection (a)(3) provides that “[n]othing in paragraph (a) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.”³⁵⁰ Aside from the definition of “eligible facilities request,” Section 6409(a) does not define any of its terms. Similarly, neither the definitional section of the Spectrum Act nor that of the Communications Act contains definitions of the Section 6409(a) terms.³⁵¹

138. After the adoption of the Spectrum Act, Commission staff received inquiries from service providers, facilities owners, and State and local governments seeking guidance as to how Section 6409(a) should be applied, leading the Wireless Telecommunications Bureau to issue a Public Notice in January of 2013 (*Section 6409(a) PN*).³⁵² Although the *Section 6409(a) PN* provided interpretive guidance on certain questions, the Bureau left other issues unaddressed, and parties also raised questions and concerns regarding the *Section 6409(a) PN* guidance itself.³⁵³ Therefore, in the *Infrastructure NPRM*, the Commission sought comment on whether to address the provision more conclusively and comprehensively.³⁵⁴ The Commission found that it would serve the public interest to seek comment on implementing rules to define terms that the provision left undefined, and to fill in other interstices that may serve to delay the intended benefits of Section 6409(a). The Commission anticipated that, in the absence of definitive guidance, the uncertainties under Section 6409(a) might lead to protracted and costly litigation, adversely affect the timely deployment of the PSBN, and undermine the Spectrum Act’s goal of advancing broadband deployment.³⁵⁵ In addition, the Commission expressed its belief that the various stakeholders, including State and local governments, FirstNet, Commission licensees, and tower companies, would benefit from having settled interpretations on which they could rely in determining

³⁴⁶ Spectrum Act § 6206(b)(1)(C).

³⁴⁷ Spectrum Act § 6213.

³⁴⁸ *Id.* § 6409(a)(1).

³⁴⁹ *Id.* § 6409(a)(2).

³⁵⁰ *Id.* § 6409(a)(3).

³⁵¹ *See Infrastructure NPRM*, 28 FCC Rcd at 14272-73 para. 92 (citing Spectrum Act § 6001; 47 U.S.C. § 153).

³⁵² *See* Wireless Telecommunications Bureau Offers Guidance on Interpretation of Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, *Public Notice*, 28 FCC Rcd 1 (WTB 2013) (*Section 6409(a) PN*). *See also Infrastructure NPRM*, 28 FCC Rcd at 14273 para. 93.

³⁵³ *See id.* at 14275 para. 96.

³⁵⁴ *See id.*

³⁵⁵ *See id.*

how to comply with the new law. It therefore sought comment on the interpretation of various terms, and on other implementing issues under the provision. The Commission also sought comment on any reasons it should limit or decline to take regulatory action to clarify Section 6409(a) in this proceeding.³⁵⁶

139. In response to the *Infrastructure NPRM*, a broad range of parties from within the communications industry, including carriers, cable companies, tower companies and other infrastructure providers, wireless equipment providers, and industry associations representing, among others, utilities, broadcasters, and wireless Internet service providers, submitted comments arguing that the Commission should adopt rules clarifying the terms of Section 6409(a) to reduce uncertainty and litigation and to facilitate deployment of broadband services.³⁵⁷ These commenters assert that some jurisdictions have adopted varying and often narrow interpretations of the provision, and that failure to adopt such rules will likely result in an inconsistent patchwork of requirements and undermine the efficiencies the provision was crafted to create.³⁵⁸ They contend that Commission action is necessary to eliminate ambiguities that have caused delay or denial of applications for broadband facilities deployment.³⁵⁹

140. Most municipality commenters, however, oppose adoption of rules and recommend instead that the Commission encourage the wireless industry and local governments to collaborate on development of best practices.³⁶⁰ They argue that it is not necessary to adopt rules at this time because there is no evidence of a widespread problem in deployment of modified facilities covered by Section 6409(a).³⁶¹ They also contend that local governments and the wireless industry work well together on siting issues in most cases, and where problems arise, they can be and are addressed on a case-by-case basis.³⁶² They argue that additional informal guidance would address the concerns raised in the *Infrastructure NPRM* more productively than adopting rules, particularly if the supplemental guidance encouraged cooperative efforts between interested parties and the development of best practices.³⁶³ Some localities, however, support adoption of rules, arguing that a clear statement from the Commission would resolve the divergent views of industry and regulatory authorities.³⁶⁴

141. Some industry associations have affirmatively committed to working “with municipal government representatives . . . on developing materials and gathering information that will foster a greater understanding of Section 6409(a) and facilitate timely and consistent wireless facility

³⁵⁶ *See id.*

³⁵⁷ *See, e.g.*, AT&T Comments at 21; AT&T Reply Comments at 12-13; CTIA Reply Comments at 5; PCIA Comments at 24-25; Sprint Comments at 7-8; Verizon Comments at 26-27.

³⁵⁸ *See, e.g.*, AT&T Comments at 7; PCIA Comments at 24-25; Verizon Comments at 26-27.

³⁵⁹ *See, e.g.*, AT&T Comments at 7; Verizon Comments at 26-27 (providing examples of narrow interpretation of the provision by States and local jurisdictions); *see also* Coconut Creek Comments at 5 (arguing that it is appropriate for the Commission to adopt rules interpreting the Congressional intent behind Section 6409(a) because of the divergent views already taken by industry and local government in the absence of clarity).

³⁶⁰ *See, e.g.*, Alexandria *et al.* Comments at 5-13; CA Local Governments Comments at 1; CCUA *et al.* Comments at 4-5; DC Comments at 7; Fairfax Comments at 6-7; IAC Comments at 2; Long Beach Comments at 1; NATOA *et al.* Comments at 7-11; NJSJM Comments at 2.

³⁶¹ *See, e.g.*, CCUA *et al.* Comments at 4, 17-18; *see also* CA Local Governments Comments at 1; DC Comments at 6 (arguing that there is no record of State and local governments being unresponsive to requests for collocations or reasonable modification of existing towers); Fairfax Comments at 6-7 (asserting that in the last five years, Fairfax County has approved 99.8% of all collocation applications).

³⁶² *See, e.g.*, CCUA *et al.* Comments at 4-5.

³⁶³ *See, e.g.*, Alexandria *et al.* Comments at 13-22; CCUA *et al.* Comments at 4-5.

³⁶⁴ *See, e.g.*, Coconut Creek Comments at 5; MDIT Comments at 2; West Palm Beach Comments at 5.

modifications.”³⁶⁵ In particular, CTIA and PCIA pledge to start working with representative national associations shortly after release of this Report and Order to assist resource-constrained municipalities “during the transition and implementation of any rules the FCC may adopt pertaining to the application review process pursuant to Section 6409(a).”³⁶⁶ They also have committed to distributing best practices to resource-constrained jurisdictions, holding webinars regarding the application process for resource-constrained jurisdictions, and “[p]roviding assistance in drafting a model ordinance and application for reviewing eligible facilities requests under Section 6409(a).”³⁶⁷ Finally, they have committed to “[c]reating a Checklist that local government officials can use to help streamline review processes.”³⁶⁸

B. Discussion

142. After reviewing the voluminous record in this proceeding, we decide to adopt rules clarifying the requirements of Section 6409(a), and implementing and enforcing these requirements, in order to prevent delay and confusion in such implementation. As the Commission noted in the *Infrastructure NPRM*, collocation on existing structures is often the most efficient and economical solution for mobile wireless service providers that need new cell sites to expand their existing coverage area, increase their capacity, or deploy new advanced services.³⁶⁹ We agree with industry commenters that clarifying the terms in Section 6409 will eliminate ambiguities in interpretation and thus facilitate the zoning process for collocations and other modifications to existing towers and base stations.³⁷⁰ Although these issues could be addressed over time through judicial decisions, we conclude that addressing them now in a comprehensive and uniform manner will ensure that the numerous and significant disagreements over the provision do not delay its intended benefits.

143. The record demonstrates very substantial differences in the views advanced by local government and wireless industry commenters on a wide range of interpretive issues under the provision. While many localities recommend that the Commission defer to best practices to be developed on a collaborative basis,³⁷¹ we find that there has been little progress in that effort since enactment of Section 6409(a) well over two years ago. And while we generally encourage the development of voluntary best practices, we are also concerned that voluntary best practices, on their own, may not effectively resolve many of the interpretive disputes or ensure uniform application of the law in this instance.³⁷² In light of these disputes, we take this opportunity to provide additional certainty to parties.

144. *Authority.* We find that we have authority under Section 6003 of the Spectrum Act to adopt rules to clarify the terms in Section 6409(a) and to establish procedures for effectuating its

³⁶⁵ Letter from Jonathan M. Campbell, PCIA-The Wireless Infrastructure Association, and Brian M. Josef, CTIA-The Wireless Association, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 13-238, filed Oct. 16, 2014 (PCIA and CTIA Oct. 16, 2014 *Ex Parte*). See 47 C.F.R. §§ 1.1204(a)(10), 1.1203(a)(1).

³⁶⁶ PCIA and CTIA Oct. 16, 2014 *Ex Parte* at 1.

³⁶⁷ *Id.* at 2.

³⁶⁸ *Id.*

³⁶⁹ See *Infrastructure NPRM*, 28 FCC Rcd at 14274 para. 95 (citing *Sixteenth Competition Report*, 28 FCC Rcd at 3909 para. 331). PCIA estimates that the average cost to build a new tower is between \$250,000 and \$300,000, whereas the average deployment cost for a collocation is between \$25,000 and \$30,000. See PCIA Comments, WT Docket 11-186, at 7.

³⁷⁰ See, e.g., AT&T Comments at 7; Joint Venture Comments at 5; PCIA Comments at 24-25; San Diego PDS Comments at 2; Sprint Comments at 7-8; Verizon Comments at 26-27.

³⁷¹ See, e.g., Alexandria *et al.* Comments at 11; CA Local Governments Comments at 1; CCUA *et al.* Comments at 4-5; DC Comments at 7; Fairfax Comments at 6-7; IAC Comments at 2; NATOA *et al.* Comments at 7-11; NJSJM Comments at 2.

³⁷² See, e.g., PCIA Comments at 25-26. See also AT&T Reply Comments at 12-13.

requirements.³⁷³ Section 6003 requires the Commission to “implement and enforce this title as if this title is a part of the Communications Act of 1934,”³⁷⁴ bringing its interpretation directly within several provisions granting the Commission broad authority to promulgate rules implementing that Act.³⁷⁵ As noted above, we also have broad authority to “take any action necessary to assist [FirstNet] in effectuating its duties and responsibilities” to construct and operate a nationwide public safety broadband network.³⁷⁶ The rules we adopt reflect the authority conferred by these provisions, as they will facilitate and expedite infrastructure deployment in qualifying cases and thus advance wireless broadband deployment by commercial entities as well as FirstNet.

1. Definition of Terms in Section 6409(a)

145. Section 6409(a) includes a number of undefined terms that bear directly on how the provision applies to infrastructure deployments. Below, we address the meaning of “wireless tower or base station,” “transmission equipment,” “collocation,” and “substantially changes the physical dimensions.”

a. Scope of Covered Services

146. *Background.* We first address the scope of wireless services to which the provision applies through the definitions of both “transmission equipment” and “wireless tower or base station.” In the *Infrastructure NPRM*, the Commission observed that Section 6409(a) refers to “transmission equipment” without referencing any particular service, and similarly refers generally to a “wireless” tower or base station, rather than specifying towers and base stations used for particular services.³⁷⁷ The Commission therefore proposed to find that Section 6409(a) applies to equipment used in connection with any Commission-authorized wireless transmission, licensed or unlicensed, terrestrial or satellite, including commercial mobile, private mobile, broadcast, and public safety services, as well as fixed wireless services such as microwave backhaul or fixed broadband.³⁷⁸ The Commission further proposed to define a “wireless” tower or base station to include one used for any such purpose (*i.e.*, to cover the same scope of services as “transmission equipment”).³⁷⁹

147. Wireless and broadcast industry commenters generally support this proposed interpretation.³⁸⁰ For example, NAB argues that an interpretation of Section 6409(a) encompassing broadcast service, towers, and equipment is fundamentally consistent with Congress’s intent to improve the facilities application process; it contends further that this interpretation will make broadcast towers more readily available for collocation, especially for public safety communications equipment.³⁸¹ UTC similarly argues that “[b]ecause of the ubiquity of utility and CII (‘critical infrastructure industries’)

³⁷³ See Spectrum Act § 6003.

³⁷⁴ Spectrum Act § 6003.

³⁷⁵ See 47 U.S.C. §§ 154(i), 201(b), 303(r).

³⁷⁶ Spectrum Act § 6213, *codified at* 47 U.S.C. § 1433.

³⁷⁷ *Infrastructure NPRM*, 28 FCC Rcd at 14277 para. 103.

³⁷⁸ See *id.* at 14277 para. 104.

³⁷⁹ *Id.*

³⁸⁰ See, e.g., AT&T Comments at 23; CCA Reply Comments at 4-5; Cox Reply Comments at 5; CTIA Reply Comments at 7; ExteNet Comments at 4; Fibertech Comments at 19; NCTA Reply Comments at 3; PCIA Comments at 29-30; Sprint Comments at 8-9; TIA Comments at 5; T-Mobile Reply Comments at 5-6; UTC Comments at 12; Verizon Comments at 27.

³⁸¹ See NAB Reply Comments at 3-4.

communications networks, operators of small cell and DAS networks can use collocation on these facilities to . . . bring advanced communications capabilities throughout the United States.”³⁸²

148. Municipal commenters generally favor a narrower scope of covered services.³⁸³ Several urge the Commission to interpret the term “wireless” in Section 6409(a) to cover only “personal wireless services” consistent with Section 332(c)(7).³⁸⁴ In a joint submission of proposed definitions (Local Government Definitions),³⁸⁵ several municipal commenters urge us to find that the provision covers “personal wireless services” and “wireless ‘public safety services.’”³⁸⁶ Some municipal commenters object in particular to the inclusion of broadcast services, arguing that treating “broadcast” as a “wireless” service conflicts with the usage of those terms in the Spectrum Act and in other Commission orders.³⁸⁷

149. *Discussion.* After considering the arguments in the record, we conclude that Section 6409(a) applies both to towers and base stations and to transmission equipment used in connection with any Commission-authorized wireless communications service. We find strong support in the record for this interpretation.³⁸⁸ With respect to towers and base stations, we conclude that this interpretation is warranted given Congress’s selection of the broader term “wireless” in Section 6409(a) rather than the narrow term “personal wireless service” it previously used in Section 332(c)(7), as well as Congress’s express intent that the provisions of the Spectrum Act “advance wireless broadband service,” promoting “billions of dollars in private investment,” and further the deployment of FirstNet.³⁸⁹ We find that interpreting “wireless” in the narrow manner that some municipal commenters suggest would substantially undermine the goal of advancing the deployment of broadband facilities and services,³⁹⁰ and that interpreting Section 6409(a) to facilitate collocation opportunities on a broad range of suitable structures will far better contribute to meeting these goals, and is particularly important to further the deployment of FirstNet. As noted above, the Spectrum Act directs the FirstNet authority, in carrying out its duty to deploy and operate a nationwide public safety broadband network, to “enter into agreements to utilize, to the maximum extent economically desirable, existing . . . commercial or other communications

³⁸² UTC Comments at 3.

³⁸³ See, e.g., Alexandria *et al.* Comments at 26; Coconut Creek Comments at 6; San Antonio Comments at 16; Springfield Comments at 14-15; West Palm Beach Comments at 6.

³⁸⁴ See, e.g., Alexandria *et al.* Comments at 26 (arguing that in using the term “wireless,” Congress “was concerned with the sorts of services that are the subject of Section 332(c)(7)” and not, for example, broadcast towers).

³⁸⁵ See Letter from Gerard Lederer, Best Best & Krieger LLP, to Marlene Dortch, Secretary, FCC, WT Docket No. 13-238, filed July 21, 2014 (Local Governments July 21, 2014 *Ex Parte*), Attach. B; Letter from Kenneth S. Fellman, Kissinger & Fellman, P.C., to Marlene Dortch, Secretary, FCC, WT Docket No. 13-238, filed July 17, 2014 (CCUA *et al.* July 17, 2014 *Ex Parte*), Attach. A. Because these two sets of definitions are identical, and because their proponents confirmed as much, we refer to them collectively as the “Local Government Definitions.”

³⁸⁶ See Local Government Definitions. The Local Government Definitions propose to define “public safety services” in the manner that term is defined in Section 1401(27) of the Spectrum Act, but they do not propose how to define “wireless.”

³⁸⁷ See, e.g., Alexandria *et al.* Comments at 26; San Antonio Comments at 16.

³⁸⁸ See, e.g., AT&T Comments at 23; CCA Reply Comments at 4-5; Cox Reply Comments at 3-4; NAB Reply Comments at 6; PCIA Comments at 29; Sprint Comments at 8-9.

³⁸⁹ See Conference Report at 136 (discussing the purposes of the public safety and spectrum provisions of the Conference substitute, stating that “[t]hese provisions also deliver on one of the last outstanding recommendations of the 9/11 Commission by creating a nationwide interoperable broadband communications network for first responders.”).

³⁹⁰ As some commenters note, Section 332(c)(7) defines “personal wireless services” as “commercial mobile [radio] services, unlicensed wireless [telecommunications] services, and common carrier wireless exchange access services.” 47 U.S.C. § 332(c)(7).

infrastructure; and . . . Federal, State, tribal, or local infrastructure.”³⁹¹ For all of these reasons, we find it appropriate to interpret Section 6409(a) as applying to collocations on infrastructure that supports equipment used for all Commission-licensed or authorized wireless transmissions.

150. We are not persuaded that Congress’s use of the term “base station” implies that the provision applies only to mobile service.³⁹² As noted in the *Infrastructure NPRM*, our rules define “base station” as a feature of a mobile communications network, and the term has commonly been used in that context.³⁹³ It is important, however, to interpret “base station” in the context of Congress’s intention to advance wireless broadband service generally, including both mobile and fixed broadband services.³⁹⁴ We note, for example, that the Spectrum Act directs the Commission to license the new commercial wireless services employing H Block, AWS-3, and repurposed television broadcast spectrum under “flexible-use service rules”—*i.e.*, for fixed as well as mobile use.³⁹⁵ Moreover, in the context of wireless broadband service generally, the term “base station” describes fixed stations that provide fixed wireless service to users as well as those that provide mobile wireless service.³⁹⁶ Indeed, this is particularly true with regard to Long Term Evolution (LTE), in which base stations can support both fixed and mobile service.³⁹⁷ Accordingly, we find that, in the context of Section 6409(a), the term “base station” encompasses both mobile and fixed services.

³⁹¹ Spectrum Act § 6206(c)(3). We further note Congress’s direction to FirstNet that, in issuing requests for proposals to private sector entities for the purposes of building and operating the public safety network, FirstNet should “encourage[e] that such requests leverage, to the maximum extent economically desirable, existing commercial wireless infrastructure to speed deployment of the network.” *Id.* at § 6206(b)(1)(C).

³⁹² *See, e.g.*, IAC Comments at 5 (citing Intergovernmental Advisory Committee to the Federal Communications Commission: Advisory Recommendation Number 2013-9, “Response to Wireless Telecommunications Bureau’s Guidance on Interpretation of Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012,” dated July 31, 2013 (“IAC Recommendation”), at 3). The IAC Recommendation has been filed in WC Docket No. 11-59 (Aug. 2, 2013) and is also available at <http://www.fcc.gov/encyclopedia/intergovernmental-advisory-committee-comments>).

³⁹³ *Infrastructure NPRM*, 28 FCC Rcd at 14278 para. 107 (citing 47 C.F.R. § 90.7, which defines “base station” in Part 90 of the Commission’s rules as a “station at a specified site authorized to communicate with mobile stations.”); 47 C.F.R. §§ 2.1(c), 24.5 (defining “base station” as “[a] land station in the land mobile service.”).

³⁹⁴ *See* WISPA Reply Comments at 7.

³⁹⁵ Spectrum Act §§ 6401(b)(1)(B), 6403 (codified at 47 U.S.C. §§ 1451(b)(1)(B), 1452).

³⁹⁶ *See, e.g.*, Amendment of Part 27 of the Commission’s Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band, WT Docket No. 07-293, *Report and Order and Second Report and Order*, 25 FCC Rcd 11710, n.92 (2010) (stating that, “[i]n fixed WiMAX networks, both the base stations and subscriber stations are stationary during use”); Unlicensed Operation in the TV Broadcast Bands, ET Docket No. 04-186, Additional Spectrum For Unlicensed Devices Below 900 MHz and in the 3 GHz Band, ET Docket No. 02-380, *Second Report and Order and Memorandum Opinion and Order*, 23 FCC Rcd 16807, 16846 para. 104 (2009) (adopting rules to allow unlicensed wireless broadband services, and noting that “[a] fixed system will consist of a permanently located base station transmitting to one or more fixed devices or to personal/portable end user devices”); Pacific Wireless, “Fixed Wireless Broadband,” available at <http://www.pacificwireless.com.au/fixed-wireless-broadband.html> (noting that “[i]n all wireless networks, base stations do not move—*i.e.* they are in a fixed location—but in a mobile broadband network, the [Subscriber Unit] can move”).

³⁹⁷ *See, e.g.*, “PLDT Rolls-Out 5,000 New 4G LTE Base Stations,” available at <http://www.policychargingcontrol.com/1824-pldt-rolls-out-5-000-new-lte-base-stations> (noting one service provider has “deployed nearly 2,000 fixed wireless LTE base stations to serve high-speed wireless broadband services to homes”); “LTE to Bring Fixed-Wireless Broadband to Rural Australia,” available at <http://www.ericsson.com/news/1520376> (noting that “[f]ixed-wireless networks are used to connect stationary points – in this case LTE base stations to several households or businesses”).

151. We are also not persuaded that we should exclude “broadcast” from the scope of Section 6409(a), both with respect to “wireless” towers and base stations and with respect to transmission equipment. While we acknowledge that the term “wireless providers” appears in other sections of the Spectrum Act that do not encompass broadcast services,³⁹⁸ we do not agree that use of the word “wireless” in Section 6409’s reference to a “tower or base station” can be understood without reference to context.³⁹⁹ We therefore interpret the term “wireless” as used in Section 6409(a) in light of the purpose of this provision in particular and the larger purposes of the Spectrum Act as a whole. We find that Congress intended the provision to facilitate collocation in order to advance the deployment of commercial and public safety broadband services, including the deployment of the FirstNet network. We agree with NAB that including broadcast towers significantly advances this purpose by “supporting the approximately 25,000 broadcast towers as collocation platforms.”⁴⁰⁰ We note that a variety of industry and municipal commenters likewise support the inclusion of broadcast towers for similar reasons.⁴⁰¹ Finally, we observe that this approach is consistent with the Collocation Agreement and the NPA, both of which define “tower” to include broadcast towers. These agreements address “wireless” communications facilities and collocation for any “communications” purposes. They extend to any “tower” built for the sole or primary purpose of supporting any “FCC-licensed” facilities.⁴⁰² We find these references particularly persuasive in ascertaining congressional intent, since Section 6409(a) expressly references the Commission’s continuing obligations to comply with NEPA and NHPA, which form the basis for these agreements.⁴⁰³

³⁹⁸ See, e.g., Spectrum Act § 6203 (“Public Safety Interoperability Board”). This section provides that “4 members [of the board] shall be representatives of wireless providers,” of whom two members must represent “national wireless providers,” one must represent “regional wireless providers,” and one must represent “rural wireless providers.” We agree that the phrase “wireless providers” in the context of this separate Subtitle B of the Spectrum Act, in establishing a board charged with developing recommended minimum technical interoperability requirements for the nationwide public safety broadband network, was not intended to include providers of broadcast services. See also San Antonio Comments at 16, n.19. San Antonio argues that the Commission has used the terms “wireless” and “broadcast” to refer to two different categories of service, citing the Commission’s decisions that distinguish between “wireless” and “broadcast” licensees. The Commission decisions cited by San Antonio are in the context of establishing different regulatory requirements for wireless services and broadcast services, and do not address the context of facilitating access to infrastructure. As discussed further below, for example, the Collocation Agreement uses the term “wireless” broadly to refer to the use of “wireless antenna” for any “communications” purpose, including broadcast. See Collocation Agreement (entitled “National Programmatic Agreement for the Collocation of Wireless Antennas”) § I.A (encompassing all antennas for the “purpose of transmitting and/or receiving radio frequency signals for communications purposes”).

³⁹⁹ As the Supreme Court has cautioned, “[m]ost words have different shades of meaning and consequently may be variously construed, not only when they occur in different statutes, but when used more than once in the same statute or even in the same section.” *Environmental Defense v. Duke Energy Corp.*, 549 U.S. 561, 574 (2007). Thus, the same word in the same statute “may take on distinct characters from association with distinct statutory objects calling for different implementation strategies.” *Id.*

⁴⁰⁰ NAB Reply Comments at 3-4 (stating that anecdotal evidence suggests that as many as 85% of the approximately 25,000 existing broadcast towers are being used for collocation today).

⁴⁰¹ See, e.g., Coconut Creek Comments at 6; NAB Reply Comments at 3; NCTA Reply Comments at 2-3; Springfield Comments at 15; West Palm Beach Comments at 5.

⁴⁰² 47 C.F.R. Part 1 App. B (Collocation Agreement) (introductory clause and part I definitions of “collocation” and “tower”). Under the NPA, “tower” is defined as “[a]ny structure built for the sole or primary purpose of supporting Commission-licensed or authorized Antennas, including the on-site fencing, equipment, switches, wiring, cabling, power sources, shelters, or cabinets associated with that Tower but not installed as part of an Antenna as defined herein.” 47 C.F.R. Part 1 App. C § II.A.14 (NPA).

⁴⁰³ See Spectrum Act § 6409(c).

152. We further conclude that a broad interpretation of “transmission equipment” is similarly appropriate in light of the purposes of Section 6409(a) in particular and the Spectrum Act more generally.⁴⁰⁴ The statute’s Conference Report expresses Congress’s intention to advance wireless broadband service generally,⁴⁰⁵ and as PCIA states, a broad definition of this term will ensure coverage for all wireless broadband services, including future services not yet contemplated.⁴⁰⁶ Defining “transmission equipment” broadly will therefore facilitate the deployment of wireless broadband networks and will “minimize the need to continually redefine the term as technology and applications evolve.”⁴⁰⁷ We also note that a broad definition reflects Congress’s definition of a comparable term in the context of directly related provisions in the same statute; in Section 6408, the immediately preceding provision addressing uses of adjacent spectrum, Congress defined the term “transmission system” broadly to include “any telecommunications, broadcast, satellite, commercial mobile service, or other communications system that employs radio spectrum.”⁴⁰⁸

153. We disagree with commenters who contend that including broadcast equipment within covered transmission equipment does not advance the goals of the Spectrum Act.⁴⁰⁹ While broadcast equipment does not itself transmit wireless broadband signals, its efficient collocation pursuant to Section 6409(a) will expedite and minimize the costs of the relocation of broadcast television licensees that are reassigned to new channels in order to clear the spectrum that will be offered for broadband services through the incentive auction, as mandated by the Spectrum Act.⁴¹⁰ Accordingly, we conclude that inclusion of broadcast service equipment in the scope of transmission equipment covered by the provision furthers the goals of the legislation and will contribute in particular to the success of the post-incentive auction transition of television broadcast stations to their new channels. In any event, we note that the language of Section 6409(a) is broader than that used in Section 332(c)(7), and it is therefore reasonable to construe it in a manner that does not differentiate among various Commission-regulated services, particularly in the context of mandating approval of facilities that do not result in any substantial increase in physical dimensions.

154. We further reject arguments that Congress intended these terms to be restricted to equipment used in connection with personal wireless services and public safety services.⁴¹¹ The Communications Act and the Spectrum Act already define those narrower terms, and Congress chose not to employ them in Section 6409(a), determining instead to use the broader term, “wireless.” The

⁴⁰⁴ See, e.g., AT&T Comments at 23; CCA Reply Comments at 4-5; NAB Reply Comments at 3-4; PCIA Comments at 29-31; Sprint Comments at 8-9; TIA Comments at 5; WISPA Reply Comments at 4.

⁴⁰⁵ See Conference Report at 136.

⁴⁰⁶ See PCIA Comments at 29. See also, e.g., CCA Reply Comments at 4-5.

⁴⁰⁷ Towerstream Comments at 10-11; CCA Reply Comments at 5.

⁴⁰⁸ Spectrum Act § 6408.

⁴⁰⁹ See, e.g., Alexandria *et al.* Comments at 26; CA Local Governments Comments at 2-3; CCA *et al.* Comments at 9; Local Government Definitions.

⁴¹⁰ See *Incentive Auction Report and Order*, 29 FCC Rcd 6133, at paras. 1 (establishing rules to, among other things, reorganize the broadcast television bands in order to “recover a portion of ultra-high frequency (‘UHF’) spectrum for a ‘forward auction’ of new, flexible-use licenses suitable for providing mobile broadband services”), 581 (providing that “[t]he following circumstances may justify an extension of a station’s construction deadline: . . . delays faced by broadcast stations that must obtain government approvals, such as land use or zoning approvals”). We further note that Section 6403 allows broadcasters subject to relocation in the incentive auction process to accept, in lieu of reimbursement for relocation cost, a waiver of the applicable service rules to permit the licensee to make flexible use of its assigned spectrum to provide services other than broadcast television services, so long as the licensee provides “at least 1 broadcast television program stream on such spectrum at no charge to the public.” Spectrum Act § 6403(b)(4)(B).

⁴¹¹ See Local Government Definitions.

legislative history supports the conclusion that Congress intended to employ broader language. In the Conference Report, Congress emphasized that a primary goal of the Spectrum Act was to “advance wireless broadband service,” which would “promot[e] billions of dollars in private investment, and creat[e] tens of thousands of jobs.”⁴¹² In light of its clear intent to advance wireless broadband deployment through enactment of Section 6409(a), we find it implausible that Congress meant to exclude facilities used for such services.

b. Transmission Equipment

155. *Background.* In addition to seeking comment on the scope of services supported by covered “transmission equipment,” the Commission further proposed to define “transmission equipment” to encompass antennas and other equipment associated with and necessary to their operation, including power supply cables and backup power equipment.⁴¹³ It sought comment in particular on including backup power equipment in light of the public interest in continued service during emergencies. It further sought comment on whether to use the NPA’s definition of “antenna” as the definition of “transmission equipment.”⁴¹⁴

156. Industry commenters support the Commission’s proposal.⁴¹⁵ They argue that the definition of “transmission equipment” must include backup power equipment and other power supply equipment in light of the public interest in maintaining uninterrupted service during emergencies.⁴¹⁶ AT&T recommends that we base the definition on the definition of “antenna” in the NPA, which includes the transmission device and any on-site equipment, switches, wiring, cabling, power sources, shelters, or cabinets.⁴¹⁷

157. Several local government commenters oppose the proposed definition, urging the Commission to limit its scope to electronic components that actually transmit or receive communications signals.⁴¹⁸ In particular, they oppose inclusion of backup power generators, arguing that some generators raise environmental, safety and zoning issues more properly suited to a discretionary review process.⁴¹⁹ Tempe argues further that backup power equipment should not be included in the definition because it is not “necessary” to wireless operations.⁴²⁰

158. *Discussion.* We adopt the proposal in the *Infrastructure NPRM* to define “transmission equipment” to encompass antennas and other equipment associated with and necessary to their operation, including power supply cables and backup power equipment.⁴²¹ We find that this definition reflects Congress’s intent to facilitate the review of collocations and minor modifications, and it recognizes that

⁴¹² See Conference Report at 136.

⁴¹³ *Infrastructure NPRM*, 28 FCC Rcd at 14277-78 para. 105.

⁴¹⁴ *Id.* at 14278 para. 106.

⁴¹⁵ See, e.g., AT&T Comments at 23; CCA Reply Comments at 4-5; CTIA Reply Comments at 7; Fibertech Comments at 18; PCIA Comments at 29-31; Sprint Comments at 8-9; TIA Comments at 5.

⁴¹⁶ See, e.g., AT&T Comments at 23; PCIA Comments at 29-30; Sprint Comments at 8-9.

⁴¹⁷ AT&T Comments at 23.

⁴¹⁸ See, e.g., CA Local Governments Comments at 2-3; CCC Comments at 3 (arguing “transmission equipment” should not include “ancillary or support equipment that is uninvolved in transmission, such as back-up power generators”); CCUA *et al.* Comments at 9; Coconut Creek Comments at 5-6; Tucson Comments at 5.

⁴¹⁹ See, e.g., CA Local Governments Comments at 3; Coconut Creek Comments at 5-6; Fairfax Comments at 7-8; Tucson Comments at 5; West Palm Beach Comments at 5-6.

⁴²⁰ Tempe Comments at 11.

⁴²¹ *Infrastructure NPRM*, 28 FCC Rcd at 14277-78 para. 105.

Congress used the broad term “transmission equipment” without qualifications that would logically limit its scope.⁴²²

159. We are further persuaded by wireless industry commenters that power supplies, including backup power, are a critical component of wireless broadband deployment and that they are necessary to ensure network resiliency.⁴²³ Indeed, including backup power equipment within the scope of “transmission equipment” under Section 6409(a) is consistent with Congress’s directive to the FirstNet Authority to “ensure the . . . resiliency of the network.”⁴²⁴ Tempe’s assertion that backup power is not technically “necessary” because transmission equipment can operate without it is unpersuasive. Backup power is certainly necessary to operations during those periods when primary power is intermittent or unavailable.⁴²⁵ We also conclude that “transmission equipment” should be interpreted consistent with the term “antenna” in the NPA and, given that the NPA term encompasses “power sources” without limitation, we find that “transmission equipment” includes backup power sources.⁴²⁶ Finally, while we recognize the concerns raised by local government commenters regarding the potential hazards of backup power generators, we find that these concerns are fully addressed in the standards applicable to collocation applications discussed below.⁴²⁷

160. Therefore, we define “transmission equipment” under Section 6409(a) as any equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas and other relevant equipment associated with and necessary to their operation, including coaxial or fiber-optic cable, and regular and backup power supply.⁴²⁸ This definition includes equipment used in any technological configuration associated with any Commission-authorized wireless transmission, licensed or unlicensed, terrestrial or satellite, including commercial mobile, private mobile, broadcast, and public safety services, as well as fixed wireless services such as microwave backhaul or fixed broadband.

c. Existing Wireless Tower or Base Station

161. *Background.* In addition to seeking comment on the scope of the word “wireless” as used in the phrase “wireless tower or base station,” as discussed above, the Commission sought comment more generally on how to define “existing wireless tower or base station” in order to determine the scope of

⁴²² *Id.* See also CCA Reply Comments at 4-5; PCIA Comments at 29; Sprint Comments at 8-9; TIA Comments at 5.

⁴²³ See, e.g., PCIA Comments at 29-30; Sprint Comments at 8-9; TIA Comments at 5; CCA Reply Comments at 4-5. See also CTIA Comments at 23 (“Several significant storm-related disasters over the past three years have underscored the importance of infrastructure . . . hardening as [it] relate[s] to wireless carriers’ ability to maintain communications at the very time it is needed by public safety to assist recovery efforts and by the public to find out the fates of loved ones.”).

⁴²⁴ Spectrum Act § 6206(b)(2)(A). See also “Why FirstNet,” available at <http://www.firstnet.gov/about/why> (stating that “Reliability Must Be Built In” and emphasizing that “[a]s wind speeds rise and electrical power beings to fail, cell sites need ample power backup to address outages”).

⁴²⁵ For a history of the Commission’s concerns about the availability of backup power to ensure the resiliency of wireless services, see, generally, Improving the Resiliency of Mobile Wireless Communications Networks, PS Docket Nos. 13-139, 11-50, *Notice of Proposed Rulemaking*, 28 FCC Rcd 14373 (2013).

⁴²⁶ See NPA § II.A.1. The NPA defines “antenna” in part as “[a]n apparatus designed for the purpose of emitting radio frequency (‘RF’) radiation, to be operated or operating from a fixed location pursuant to Commission authorization, for the transmission of writing, signs, signals, data, images, pictures, and sounds of all kinds, including the transmitting device and any on-site equipment, switches, wiring, cabling, power sources, shelters or cabinets associated with that antenna and added to a Tower, structure, or building as part of the original installation of the antenna.” *Id.*

⁴²⁷ See *infra*, para. 202.

⁴²⁸ Spectrum Act § 6409(a).

support structures covered by Section 6409(a).⁴²⁹ Based on the existing definitions in comparable contexts in the Collocation Agreement, the NPA, and the Commission's rules, the Commission proposed to define a "tower" as any structure built for the sole or primary purpose of supporting antennas used for any FCC-licensed or authorized wireless communications service.⁴³⁰ The Commission proposed to define "base station" as "[a] station at a specified site that enables wireless communication between user equipment and a communications network, including any associated equipment such as, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, and regular and backup power supply."⁴³¹ In addition, recognizing the Commission's efforts to encourage collocations on non-tower structures to enhance capacity for wireless networks,⁴³² and consistent with the Bureau's guidance in the *Section 6409(a) PN* on the scope of "base station," the Commission proposed to find that "wireless tower or base station" should be interpreted to encompass structures that support or house equipment that constitutes part of a base station, even if they were not built for the sole or primary purpose of providing such support.⁴³³ Further, the Commission proposed to interpret "base station" as encompassing the relevant equipment in any technological configuration, including DAS.⁴³⁴

162. The Commission also sought comment on how to interpret the term "existing" in this context. It sought comment on whether the term, as applied to "wireless tower or base station," requires only that a structure exist at the time of a collocation application or whether it also requires that the structure is in use at that time as a tower or base station. In particular, the Commission asked whether an "existing" base station only includes a structure that currently supports or houses base station equipment. It sought comment on which interpretation of the word would both facilitate deployments that are unlikely to conflict with local land use policies and also preserve State and local authority to review construction proposals that may have impacts.⁴³⁵

163. Industry commenters agree that "wireless tower" means a structure built for the sole or primary purpose of supporting Commission-licensed or authorized antennas.⁴³⁶ Many industry commenters also support interpreting "base station" to include structures that support or house an antenna, transceiver, or other associated equipment that constitutes part of a base station, even if the structure was not built for the sole or primary purpose of supporting that equipment.⁴³⁷ Some industry commenters propose that the definition of "wireless tower or base station" should also include other structures that are "similar to wireless towers" or otherwise suitable for wireless deployment, such as

⁴²⁹ *Infrastructure NPRM*, 28 FCC Rcd at 14278-80 paras. 107-112.

⁴³⁰ *Id.* at 14278-9 para. 108, 14300 App. A, Proposed Rule § 1.30001 (b)(6); *see also* NPA § II.A.14.

⁴³¹ *See Infrastructure NPRM*, 28 FCC Rcd at 14299-302 App. A.

⁴³² *See, generally*, Implementation of Section 224 of the Act; A National Broadband Plan for Our Future, WC Docket No. 07-245, GN Docket No. 09-51, *Report and Order and Order on Reconsideration*, 26 FCC Rcd 5240 (2011), *aff'd sub nom. American Elec. Power Service Corp. v. FCC*, 708 F.3d 183 (D.C. Cir. 2013) (*Pole Attachment Order*).

⁴³³ *Infrastructure NPRM*, 28 FCC Rcd at 14278-80 paras. 108, 111.

⁴³⁴ *Id.* at 14279-80 para. 110. As noted above, DAS configuration differs from a traditional base station configuration in that transceiver equipment supporting an antenna is typically located not at the antenna site, but at a remote hub site typically connected to the antenna by fiber-optic cable. *See supra*, para. 31.

⁴³⁵ *See Infrastructure NPRM*, 28 FCC Rcd at 14280 para. 111.

⁴³⁶ *See, e.g.*, AT&T Comments at 22; PCIA Comments at 34.

⁴³⁷ *See, e.g.*, AT&T Comments at 22; AT&T Reply Comments at 10-11; CCA Reply Comments at 5-6; Cox Reply Comments at 3-5; PCIA Comments at 31-32; Sprint Comments at 8-9; TIA Comments at 5; T-Mobile Reply Comments at 6-8; WISPA Reply Comments at 6-7.

water towers, light stanchions, and utility poles, even if they do not currently house or support transmission equipment.⁴³⁸

164. Industry commenters urge the Commission not to limit the scope of equipment and structures encompassed by the term “base station,” arguing that it should extend to associated equipment buildings, shelters, and cabinets even if they are not located immediately adjacent to the support structure.⁴³⁹ Sprint further argues that the word “base station” should cover DAS and small cell facilities, consistent with the guidance in the *Section 6409(a) PN*.⁴⁴⁰

165. Municipal commenters suggest narrower definitions. They argue that the definition of “wireless tower” should be limited to structures built for the sole or primary purpose of housing wireless facilities and should not include structures that have not previously been considered wireless towers, such as utility poles, light poles, or buildings.⁴⁴¹ Municipal commenters further argue that the term “base station” does not logically apply to any structures at all; they contend that a “wireless tower” is a structure, but a “base station” is a system of transmission equipment distinct from the structure that supports or houses it.⁴⁴² In addition, some commenters argue that a deployment at a particular site should not be considered a base station unless it includes all the components of a base station. Alexandria *et al.* thus assert that Section 6409(a) does not apply to most DAS facilities, arguing that DAS providers have stated that their facilities, including the distributed antenna, fiber optic connections, and hub site, do not constitute a “wireless . . . base station” at all except for the radio transmitters and reception equipment at the system’s hub.⁴⁴³

166. *Discussion.* We adopt the definitions of “tower” and “base station” proposed in the *Infrastructure NPRM* with certain modifications and clarifications, in order to give independent meaning to both of these statutory terms, and consistent with Congress’s intent to promote the deployment of wireless broadband services. First, we conclude that the term “tower” is intended to reflect the meaning of that term as it is used in the Collocation Agreement. Accordingly, we define “tower” to include any

⁴³⁸ See, e.g., Sprint Comments at 8-9; Verizon Comments at 27-28. See also CCA Reply Comments at 5-6; Cox Reply Comments at 4; NCTA Reply Comments at 3; WISPA Reply Comments at 6-7 (arguing that excluding structures such as water tanks and grain silos that are traditionally utilized to support wireless equipment in rural areas would sharply limit the benefits intended by the statute).

⁴³⁹ See, e.g., AT&T Comments at 23; Cox Reply Comments at 5.

⁴⁴⁰ Sprint Comments at 9. See also AT&T Comments at 22; PCIA Comments at 33 (asserting that while DAS and small cells may be deployed differently than macrocells, their core components and functionality are the same and they should therefore should be the subject to the same streamlined processing); Verizon Comments at 27-28.

⁴⁴¹ See, e.g., Alexandria *et al.* Comments at 22-26; Alexandria *et al.* Reply Comments at 9-12; CA Local Governments Comments at 4-6; CCUA *et al.* Reply Comments at 11; DC Comments at 8-9; DC Reply Comments at 7-8; Fairfax Reply Comments at 5; Henderson Comments at 2; CCUA *et al.* Comments at 7-8; Minneapolis Comments at 12; NATOA *et al.* Comments at 12-13; NATOA *et al.* Reply Comments at 4; RCRC Comments at 2; San Antonio Reply Comments at 3; St. Paul Reply Comments at 1-2; Tempe Reply Comments at 4.

⁴⁴² See, e.g., Alexandria *et al.* Comments at 29; CA Local Governments Comments at 3, 7; CCUA *et al.* Comments at 9; DC Reply Comments at 8-9; NATOA *et al.* Comments at 12-13; NATOA *et al.* Reply Comments at 4; PEC Comments at 8-9. See also Alexandria *et al.* Reply Comments at 11 (contending that a “base station” is a “network element in [a] radio access network responsible for radio transmission and reception in one or more cells to or from the user equipment,” not a structure that supports that network element) (internal quotation omitted).

⁴⁴³ Alexandria *et al.* Reply Comments at 12-13, n.34 (citing CTC Report at 20) (“In a DAS, to the extent that any portion of the system may be considered a ‘base station,’ that base station is limited to the radio transmission and reception equipment in the headend building.”). See also Fairfax Comments at 8-9; RCRC Comments at 2; St. Paul Reply Comments at 1-2.

structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities.⁴⁴⁴

167. As proposed in the *Infrastructure NPRM*, we interpret “base station” to extend the scope of the provision to certain support structures other than towers. Specifically, we define that term as the equipment and non-tower supporting structure at a fixed location that enable Commission-licensed or authorized wireless communications between user equipment and a communications network. We find that the term includes any equipment associated with wireless communications service including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supply, and comparable equipment.⁴⁴⁵ We note that this definition reflects the types of equipment included in our definition of “transmission equipment,” and that the record generally supports this approach.⁴⁴⁶ For example, DC argues that the Commission should define a base station as “generally consist[ing] of radio transceivers, antennae, coaxial cable, a regular and backup power supply, and other associated electronics.”⁴⁴⁷ TIA concurs that the term “base station” encompasses transmission equipment, including antennas, transceivers, and other equipment associated with and necessary to their operation, including coaxial cable and regular and backup power equipment.⁴⁴⁸

168. We further find, consistent with the Commission’s proposal, that the term “existing . . . base station” includes a structure that, at the time of the application, supports or houses an antenna, transceiver, or other associated equipment that constitutes part of a “base station” as defined above, even if the structure was not built for the sole or primary purpose of providing such support.⁴⁴⁹ As the Commission noted in the *Infrastructure NPRM*, while “tower” is defined in the Collocation Agreement and the NPA to include only those structures built for the sole or primary purpose of supporting wireless communications equipment, the term “base station” is not used in these agreements.⁴⁵⁰ However, we reject the proposal to define a “base station” to include any structure that is merely capable of supporting wireless transmission equipment, whether or not it is providing such support at the time of the application.⁴⁵¹ We agree with municipalities’ comments that by using the term “existing,” Section 6409(a) preserves local government authority to initially determine what types of structures are appropriate for supporting wireless transmission equipment if the structures were not built (and thus were not previously approved) for the sole or primary purpose of supporting such equipment.⁴⁵² Some wireless industry commenters also support our interpretation that, while a tower that was built for the primary purpose of housing or supporting communications facilities should be considered “existing” even if it does not currently host wireless equipment, other structures should be considered “existing” only if they support or house wireless equipment at the time the application is filed.⁴⁵³

169. We find that the alternative definitions proposed by many municipalities are unpersuasive. First, we reject arguments that a “base station” includes only the transmission system

⁴⁴⁴ Collocation Agreement § I.B.

⁴⁴⁵ *Infrastructure NPRM*, 28 FCC Rcd at 14300 App. A, Proposed Rule § 1.30001(b)(1).

⁴⁴⁶ See, e.g., AT&T Comments at 22; DC Comments at 9; PCIA Comments at 32-33; Sprint Comments at 8-9; TIA Comments at 6.

⁴⁴⁷ DC Comments at 9.

⁴⁴⁸ TIA Comments at 6.

⁴⁴⁹ *Infrastructure NPRM*, 28 FCC Rcd at 14278-79 para. 108; see also *Section 6409(a) PN*, 28 FCC Rcd at 3.

⁴⁵⁰ *Infrastructure NPRM*, 28 FCC Rcd at 14278 para. 107; Collocation Agreement § V.A (referring to “building or non-Tower structure”); NPA § II.A.14. See also AT&T Comments at 22; AT&T Reply Comments at 10-11.

⁴⁵¹ See, e.g., NCTA Reply Comments at 3; Sprint Comments at 9; Verizon Comments at 27-28.

⁴⁵² See, e.g., Coconut Creek Comments at 6; IAC Recommendation at 3; Salem Comments at 10.

⁴⁵³ See, e.g., AT&T Comments at 22-23; PCIA Comments at 31-32; TIA Comments at 5.

equipment, not the structure that supports it. This reading conflicts with the full text of the provision, which plainly contemplates collocations on a base station as well as a tower. As noted above, Section 6409(a) defines an “eligible facilities request” as a request to modify an existing wireless tower *or base station* by collocating on it (among other modifications).⁴⁵⁴ This statutory structure precludes us from limiting the term “base station” to transmission equipment; collocating on base stations, which the statute envisions, would be conceptually impossible unless the structure is part of the definition as well. We further disagree that defining “base station” to include supporting structures will deprive “tower” of all independent meaning.⁴⁵⁵ As discussed above, we interpret “base station” not to include wireless deployments on towers. Further, we interpret “tower” to include all structures built for the sole or primary purpose of supporting Commission-licensed or authorized antennas, and their associated facilities, regardless of whether they currently support base station equipment at the time the application is filed. Thus, “tower” denotes a structure that is covered under Section 6409(a) by virtue of its construction. In contrast, a “base station” includes a structure that is not a wireless tower only where it already supports or houses such equipment.

170. We are also not persuaded by arguments that “base station” refers only to the equipment compound associated with a tower and the equipment located upon it. First, no commenters presented evidence that “base station” is more commonly understood to mean an equipment compound as opposed to the broader definition of all equipment associated with transmission and reception and its supporting structures. Furthermore, the Collocation Agreement’s definition of “tower,” which we adopt in this Report and Order, treats equipment compounds as part of the associated towers for purposes of collocations;⁴⁵⁶ if towers include their equipment compounds, then defining base stations as equipment compounds alone would render the term superfluous. We also note that none of the State statutes and regulations implementing Section 6409(a) has limited its scope to equipment and structures associated with towers.⁴⁵⁷ In addition, we agree with commenters who argue that limiting the definition of “base station” (and thus the scope of Section 6409(a)) to structures and equipment associated with towers would compromise the core policy goal of bringing greater efficiency to the process for collocations.⁴⁵⁸ Other structures are increasingly important to the deployment of wireless communications infrastructure; omitting them from the scope of Section 6409(a) would mean the statute’s efficiencies would not extend to many if not most wireless collocations, and would counterproductively exclude virtually all of the small cell collocations that have the least impact on local land use.

171. Some commenters arguing that Section 6409(a) covers no structures other than those associated with towers point to the Conference Report, which, in describing the equivalent provision in the House bill, states that the provision “would require approval of requests for modification of cell towers.”⁴⁵⁹ We do not find this ambiguous statement sufficient to overcome the language of the statute as enacted, which refers to “modification of an existing wireless tower *or base station*.”⁴⁶⁰ Moreover, this

⁴⁵⁴ Spectrum Act § 6409(a)(2).

⁴⁵⁵ See, e.g., Alexandria *et al.* Comments at 29.

⁴⁵⁶ NPA § II.A.14.

⁴⁵⁷ See, e.g., GA. ST §36-66B (“Mobile Broadband Infrastructure Leads to Development Act”) (GA BILD Act); MI ST. 125.3514; MO ST 67.5090 *et seq.*, MO LEGIS S.B. 650 (2014) (“Uniform Wireless Communications Infrastructure Deployment Act”); NH Rev Stat § 12-K:10 (2013); NC ST § 160A-400.50 *et seq.* (“Wireless Telecommunications Facilities”); PA ST 53 P.S. § 11702.1 *et seq.* (“Municipalities - Wireless Broadband Collocation Act”); WI ST 66-0404 (2014) (“Mobile Tower Siting Regulations”).

⁴⁵⁸ *Infrastructure NPRM*, 28 FCC Rcd at 14278-80 paras. 107-110; AT&T Comments at 22; PCIA Comments at 31-33; Sprint Comments at 8-9; TIA Comments at 5; T-Mobile Reply Comments at 6-8; WISPA Reply Comments at 6-7.

⁴⁵⁹ Conference Report at 133.

⁴⁶⁰ Spectrum Act § 6409(a) (emphasis added).

statement from the report does not expressly state a limitation on the provision, and thus may reasonably be read as a simplified reference to towers as an important application of its mandate. Therefore, we do not view this language as indicating Congress's intention that the provision encompasses only modifications of structures that qualify as wireless towers.

172. We thus adopt the proposed definition of "base station" to include a structure that currently supports or houses an antenna, transceiver, or other associated equipment that constitutes part of a base station at the time the application is filed.⁴⁶¹ Consistent with the Bureau's guidance in the *Section 6409(a) PN*, we also find that "base station" encompasses the relevant equipment in any technological configuration, including DAS and small cells.⁴⁶² We disagree with municipalities that argue that "base station" should not include DAS or small cells.⁴⁶³ As the record supports, there is no statutory language limiting the term "base station" in this manner. Our definition is sufficiently flexible to encompass, as appropriate to Section 6409(a)'s intent and purpose, future as well as current base station technologies and technological configurations, using either licensed or unlicensed spectrum.⁴⁶⁴

173. While we do not accept municipal arguments to limit Section 6409(a) to equipment or structures associated with towers, we reject industry arguments that Section 6409(a) should apply more broadly to include certain structures that neither were built for the purpose of housing wireless equipment nor have base station equipment deployed upon them.⁴⁶⁵ We find no persuasive basis to interpret the statutory provision so broadly. We agree with Alexandria *et al.* that the scope of Section 6409(a) is different from that of the Collocation Agreement, as the statutory provision clearly applies only to collocations on an existing "wireless tower or base station" rather than any existing "tower or structure."⁴⁶⁶ Further, interpreting "tower" to include structures "similar to a tower" would be contrary to the very Collocation Agreement to which these commenters point us, which defines "tower" in the narrower fashion that we adopt. We also agree with municipalities as a policy matter that local governments should retain authority to make the initial determination (subject to the constraints of Section 332(c)(7)) of which non-tower structures are appropriate for supporting wireless transmission equipment; our interpretations of "tower" and "base station" preserve that authority.⁴⁶⁷

174. Finally, we agree with Fairfax that the term "existing" requires that wireless towers or base stations have been reviewed and approved under the applicable local zoning or siting process or that the deployment of existing transmission equipment on the structure received another form of affirmative State or local regulatory approval (*e.g.*, authorization from a State public utility commission).⁴⁶⁸ Thus, if a tower or base station was constructed or deployed without proper review, was not required to undergo siting review, or does not support transmission equipment that received another form of affirmative State or local regulatory approval, the governing authority is not obligated to grant a collocation application under Section 6409(a). We further clarify that a wireless tower that does not have a permit because it was not in a zoned area when it was built, but was lawfully constructed, is an "existing" tower. We find that our interpretation of "existing" is consistent with the purposes of Section 6409(a) to facilitate

⁴⁶¹ *Infrastructure NPRM*, 28 FCC Rcd at 14300 App. A., Proposed Rules §1.30001(b)(1).

⁴⁶² *Id.* at 14279-80 para. 110. *See also* Sprint Comments at 9.

⁴⁶³ *See, e.g.*, Alexandria *et al.* Reply Comments at 12; Fairfax Comments at 8-9; RCRC Comments at 2.

⁴⁶⁴ *See, e.g.*, CTIA Reply Comments at 12; Sprint Comments at 8-9.

⁴⁶⁵ *See, e.g.*, PCIA Comments at 31-32; Sprint Comments at 9; Verizon Comments at 27-28; WISPA Reply Comments at 6. *See also* CCA Reply Comments at 5-6; Cox Reply Comments at 4; NCTA Reply Comments at 3; WISPA Reply Comments at 6-7.

⁴⁶⁶ Alexandria *et al.* Comments at 30-31.

⁴⁶⁷ *See e.g.*, Coconut Creek Comments at 6; IAC Recommendation at 3; Salem Comments at 10.

⁴⁶⁸ Fairfax Comments at 5; *See also* Fairfax Reply Comments at 7 ("A tower or structure illegally constructed is not sanitized by § 6409(a).").

deployments that are unlikely to conflict with local land use policies and preserve State and local authority to review proposals that may have impacts. First, it ensures that a facility that was deployed unlawfully does not trigger a municipality's obligation to approve modification requests under Section 6409(a). Further, it guarantees that the structure has already been the subject of State or local review. This interpretation should also minimize incentives for governing authorities to increase zoning or other regulatory review in cases where minimally intrusive deployments are currently permitted without review. For example, under this interpretation, a homeowner's deployment of a femtocell that is not subject to any zoning or other regulatory requirements will not constitute a base station deployment that triggers obligations to allow deployments of other types of facilities at that location under Section 6409(a). By thus preserving State and local authority to review the first base station deployment that brings any non-tower structure within the scope of Section 6409(a), we ensure that subsequent collocations of additional transmission equipment on that structure will be consistent with congressional intent that deployments subject to Section 6409(a) will not pose a threat of harm to local land use values.

175. On balance, we find that the foregoing definitions are consistent with congressional intent to foster collocation on various types of structures, while addressing municipalities' valid interest in preserving their authority to determine which structures are suitable for wireless deployment, and under what conditions.⁴⁶⁹

d. Collocation, Replacement, Removal, Modification

176. *Background.* The Commission also sought comment on how to define or interpret the terms "collocation," "removal," "replacement," and "modification" as they are used in the statutory definition of "eligible facilities request."⁴⁷⁰ It sought comment on whether to interpret "collocation" consistent with the Collocation Agreement, where it is defined as "the mounting or installation of an antenna on an existing tower, building or structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes."⁴⁷¹ It further proposed to interpret a "modification" of a wireless tower or base station to include collocation, removal, or replacement of an antenna or any other transmission equipment associated with the supporting structure, even if the equipment is not physically located upon the structure.⁴⁷² In this regard, the Commission observed that the Collocation Agreement similarly construes the mounting of an antenna "on a tower" to encompass installation of associated equipment cabinets or shelters on the ground.⁴⁷³ The Commission also sought comment on whether the definition should apply to a request to replace or harden a tower or other covered structure if, for example, replacement or hardening of the tower or structure is necessary to support an otherwise covered collocation.⁴⁷⁴

177. Industry commenters generally agree with the Commission's proposed definition of "collocation."⁴⁷⁵ Several municipalities, on the other hand, argue that the term "collocation" should not include the first wireless installation on a given structure.⁴⁷⁶ In addition, PCIA and AT&T argue that

⁴⁶⁹ See, e.g., WISPA Reply Comments at 7.

⁴⁷⁰ *Infrastructure NPRM*, 28 FCC Rcd at 14280 para. 113.

⁴⁷¹ *Id.*

⁴⁷² *Id.* at 14280 para. 114.

⁴⁷³ *Id.*

⁴⁷⁴ See *id.* at 14281 para. 115.

⁴⁷⁵ See, e.g., AT&T Comments at 24; PCIA Comments at 36; Sprint Comments at 9-10; TIA Comments at 6.

⁴⁷⁶ See, e.g., Alexandria *et al.* Comments at 30-31 (arguing that the definitions in the Commission's programmatic agreements do not define the scope of Section 6409(a)); CA Local Governments Comments at 9-11; CA Local Governments Reply Comments at 9-10 ("Whether a permit request constitutes a 'collocation' should depend on whether a legally established wireless use already exists on the structure."); CCUA *et al.* Comments at 10; CCUA *et al.* Reply Comments at 11-12; Tempe Reply Comments at 4.

replacing or hardening a supporting structure should fall under Section 6409(a) if it does not substantially change the physical dimensions of the tower.⁴⁷⁷ However, Alexandria *et al.* argue that replacing or hardening of a tower should not be included as an “eligible facilities request” under Section 6409(a).⁴⁷⁸

178. *Discussion.* We conclude again that it is appropriate to look to the Collocation Agreement for guidance on the meaning of analogous terms, particularly in light of Section 6409(a)(3)’s specific recognition of the Commission’s obligations under NHPA and NEPA. Accordingly, as proposed in the *Infrastructure NPRM* and supported by the record, we conclude that the definition of “collocation” for purposes of Section 6409(a) should be consistent with its definition in the Collocation Agreement.⁴⁷⁹ We therefore define “collocation” under Section 6409(a) as “the mounting or installation of transmission equipment on an eligible support structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.”⁴⁸⁰ The term “eligible support structure” means any structure that falls within the definitions of “tower” or “base station,” as discussed above. Consistent with the language of Section 6409(a)(2)(A)-(C), we also find that a “modification” of a “wireless tower or base station” includes collocation, removal, or replacement of an antenna or any other transmission equipment associated with the supporting structure.

179. We therefore disagree with municipal commenters who argue that collocations are limited to mounting equipment on structures that already have transmission equipment on them.⁴⁸¹ That limitation is not consistent with the Collocation Agreement’s definition of “collocation,” and would not serve any reasonable purpose as applied to towers built for the purpose of supporting transmission equipment. Nevertheless, we observe that our approach leads to the same result in the case of “base stations;” since our definition of that term includes only structures that already support or house base station equipment, Section 6409(a) will not apply to the first deployment of transmission equipment on such structures. Thus, we disagree with CA Local Governments that adopting our proposed definition of collocation would require local governments to approve deployments on anything that could house or support a component of a base station.⁴⁸² Rather, Section 6409(a) will apply only where a State or local government has approved the construction of a structure with the sole or primary purpose of supporting covered transmission equipment (*i.e.*, a wireless tower) or, with regard to other support structures, where the State or local government has previously approved the siting of transmission equipment that is part of a base station on that structure.⁴⁸³ In both cases, the State or local government must decide that the site is suitable for wireless facility deployment before Section 6409(a) will apply.

180. We find that the term “eligible facilities request” encompasses hardening through structural enhancement where such hardening is necessary for a covered collocation, replacement, or removal of transmission equipment, but does not include replacement of the underlying structure. We

⁴⁷⁷ See AT&T Comments at 24; PCIA Comments at 36-37. See also Tucson Comments at 6 (arguing that replacement or hardening of a tower should be covered if the tower already supports wireless equipment); UTC Comments at 15.

⁴⁷⁸ Alexandria *et al.* Comments at 31; Alexandria *et al.* Reply Comments at 15. See also Tempe Comments at 20-21 (arguing that any new structures, including replacement structures, should be subject to review).

⁴⁷⁹ *Infrastructure NPRM*, 28 FCC Rcd at 14280 para. 113.

⁴⁸⁰ *Id.* at 14300 App. A, Proposed Rule § 1.30001(b)(2). As discussed above, “transmission equipment” includes antennas and other equipment associated with and necessary to their operation, including power supply cables and backup power equipment.

⁴⁸¹ See, *e.g.*, Alexandria *et al.* Comments at 30-31; CCUA *et al.* Comments at 10.

⁴⁸² See CA Local Governments Comments at 10.

⁴⁸³ Thus, as noted above, if a tower or base station equipment was constructed or deployed without proper review or was not required to undergo siting review, the governing authority is not obligated to grant a collocation application under Section 6409(a).

note that the term “eligible facilities request” encompasses any “modification of an existing wireless tower or base station that involves” collocation, removal, or replacement of transmission equipment. Given that structural enhancement of the support structure is a modification of the relevant tower or base station,⁴⁸⁴ we find that such modification is part of an eligible facilities request so long as the modification of the underlying support structure is performed in connection with and is necessary to support a collocation, removal, or replacement of transmission equipment. We further clarify that, to be covered under Section 6409(a), any such structural enhancement must not constitute a substantial change as defined below.

181. We agree with Alexandria *et al.*, however, that “replacement,” as used in Section 6409(a)(2)(C), relates only to the replacement of “transmission equipment,” and that such equipment does not include the structure on which the equipment is located.⁴⁸⁵ Even under the condition that it would not substantially change the physical dimensions of the structure, replacement of an entire structure may affect or implicate local land use values differently than the addition, removal, or replacement of transmission equipment, and we find no textual support for the conclusion that Congress intended to extend mandatory approval to new structures. Thus, we decline to interpret “eligible facilities requests” to include replacement of the underlying structure.

e. Substantial Change and Other Conditions and Limitations

182. *Background.* In the *Infrastructure NPRM*, the Commission sought comment on whether and how to determine when a collocation or other eligible modification will “substantially change the physical dimensions” of a wireless tower or base station under Section 6409(a).⁴⁸⁶ The Commission noted that the Collocation Agreement establishes a four-prong test to determine whether a collocation will effect a “substantial increase in the size of a tower,”⁴⁸⁷ and sought comment on whether to adopt this as the test

⁴⁸⁴ We note that permitting structural enhancement as a part of a covered request may be particularly important to ensure that the relevant infrastructure will be available for use by FirstNet because of its obligation to “ensure the safety, security, and resiliency of the [public safety broadband] network . . .” Spectrum Act § 6206(b)(2)(A). See also “FirstNet, Guiding Principles,” available at <http://www.firstnet.gov/about/guiding-principles> (providing that “FirstNet will harden the network to assist with resiliency during natural disasters, incidents and man-made threats”). In addition to hardening for Public Safety, commercial providers may seek structural enhancement for many reasons, for example, to increase load capacity or to repair defects due to corrosion or other damage. See, e.g., “Refurbishment – Structural Enhancement,” available at <http://m.rohnproducts.com/tower-upgrade.html>.

⁴⁸⁵ Alexandria *et al.* Comments at 31 (arguing that replacement of a tower is not a “modification” of it and that Congress knew how to address “replacement” when that was its intent).

⁴⁸⁶ See *Infrastructure NPRM*, 28 FCC Rcd at 14281-82 paras. 116-122.

⁴⁸⁷ Collocation Agreement § I.C. Under this test, a “substantial increase in the size of the tower” occurs if:

- 1) [t]he mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or
- 2) [t]he mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or
- 3) [t]he mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or

(continued...)

for a “substantial change” under Section 6409(a) and whether to modify or clarify any of the prongs.⁴⁸⁸ The Commission further sought comment on how to address situations where the tower or other structure has been previously modified since it was originally approved, and specifically whether to measure any physical change in dimensions resulting from a proposed new modification based on the structure’s original dimensions or the existing dimensions taking into account all modifications that have occurred previously.⁴⁸⁹ The Commission also sought comment on whether the test should differ depending on the type of structure and whether a different test should apply to “stealth structures”—*i.e.*, those that have been constructed to blend in with their surroundings.⁴⁹⁰ In particular, it sought comment on whether changes that would undermine stealth characteristics should be considered substantial.⁴⁹¹ The Commission further sought comment on the recommendation of the Commission’s Intergovernmental Advisory Committee (IAC) that the question of substantiality cannot be resolved by applying inflexible numerical rules, but rather must be evaluated in the context of each specific installation and each community’s land use requirements and decisions.⁴⁹²

183. The Commission also sought comment on whether there are implicit circumstances other than “substantial changes” under which Section 6409(a) would permit a State or local government to deny an otherwise covered request.⁴⁹³ It also sought comment on whether States and localities may impose conditions or require alterations when granting a covered request and, if so, what types of conditions or alterations they could require. In particular, the Commission asked whether States and local governments could require covered requests to comply with State or local building codes and other laws reasonably related to health and safety, and whether States and localities are required to approve an otherwise covered modification of a tower or base station that has legal, non-conforming status,⁴⁹⁴ or when the modification does not conform to a condition or restriction that the State or locality imposed as a prerequisite to its original approval of the tower or base station.⁴⁹⁵ The Commission further sought

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4) [t]he mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.

⁴⁸⁸ *Infrastructure NPRM*, 28 FCC Rcd at 14281-82 paras. 117-19.

⁴⁸⁹ *See id.* at 14282 para. 120.

⁴⁹⁰ *Id.* at 14282 para. 121.

⁴⁹¹ *See id.*

⁴⁹² *See id.* at 14282 para. 122 (citing Intergovernmental Advisory Committee to the Federal Communications Commission: Advisory Recommendation Number 2013-9, “Response to Wireless Telecommunications Bureau’s Guidance on Interpretation of Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012,” dated July 31, 2013 (“IAC Recommendation”), at 2). This document has been filed in WC Docket No. 11-59 (Aug. 2, 2013) and is also available at <http://www.fcc.gov/encyclopedia/intergovernmental-advisory-committee-comments>. Subsequently, the IAC also filed comments on the *Infrastructure NPRM*. *See, generally*, IAC Comments. The IAC, comprised of fifteen representatives from local, State, and Tribal governments, advises the Commission on a range of telecommunications issues for which these governments share responsibility with the Commission. *See FCC Announces The Reauthorization Of The Intergovernmental Advisory Committee And Seeks Nominations, Public Notice*, 28 FCC Rcd 14749 (2013).

⁴⁹³ *Infrastructure NPRM*, 28 FCC Rcd at 14283 para. 124.

⁴⁹⁴ *See id.* at 14283-84 paras. 124, 126. Legal, non-conforming status refers to a structure that was approved at the time of construction but is not presently in conformance due to subsequent changes to the governing zoning ordinance. *Id.*

⁴⁹⁵ *See id.* at 14283-84 paras. 124, 127.

comment generally on the legal basis for any of these asserted grounds for potential denial—for example, whether they should be understood as factors under the “substantial change” test.⁴⁹⁶

184. Industry commenters generally oppose the contextual, subjective approach to determining “substantial change” advocated by the IAC and instead support an objective test based on the Collocation Agreement’s four-prong test, on the grounds that it will provide greater certainty and avoid delay.⁴⁹⁷ Some of these commenters propose modifications to particular prongs of the test.⁴⁹⁸ Industry commenters also support applying the “substantial change” test as a limit on cumulative increases by comparing changes to the state of the structure at some fixed point in time.⁴⁹⁹ While some advocate using the same four-prong test for all structures, others argue that the Commission should consider a different test for some or all non-tower structures.⁵⁰⁰ Several industry commenters agree that modifications that undermine the concealment elements of a stealth facility or defeat a stealth condition should be considered substantial,⁵⁰¹ and some argue that we should treat a change as “substantial” if it conflicts with any condition on the structure’s original zoning approval.⁵⁰² Industry commenters generally oppose including

⁴⁹⁶ *Id.* at 14285 para. 128.

⁴⁹⁷ *See, e.g.*, AT&T Comments at 24 (arguing that a uniform approach to “substantial change” will provide certainty and avoid the delay in broadband deployment that will result from case-by-case determinations); AT&T Reply Comments at 9-10; PCIA Comments at 37; Sprint Comments at 10; Towerstream Comments at 21 (arguing that the IAC approach would be subject to abuse and “would undermine the intended purpose of Section 6409(a) to facilitate the rapid deployment of public safety and commercial wireless broadband networks”); Verizon Comments at 29-30; WISPA Reply Comments at 7-8.

⁴⁹⁸ *See, e.g.*, AT&T Comments at 24 (proposing that the test should consider only changes with a visual effect and not equipment concealed from public view through screening or other camouflage techniques); Fibertech Comments at 27 (proposing an alternate substantial change test for small cells of 25 cubic feet or less); PCIA Comments at 37-38 (proposing that the Commission apply the test as modified in the NPA, allowing expansion outside the existing tower site that does not expand the boundaries of the leased or owned property by more than 30 feet in any direction or involve excavation outside these expanded boundaries or outside any existing access or utility easement related to the site); WISPA Reply Comments at 7-8.

⁴⁹⁹ *See, e.g.*, PCIA Comments at 39 (proposing all changes be measured from the tower’s last zoning approval or the effective date of the rules, whichever is later); Verizon Comments at 29-30 (proposing that changes be measured against the structure as of the date the rule becomes effective).

⁵⁰⁰ *See, e.g.*, CCA Reply Comments at 6 (Commission should consider “a secondary set of standards for structures other than those ‘built for the sole or primary purpose of supporting FCC-licensed antennas and their associated facilities’”); UTC Comments at 13 (arguing that the Commission should adopt a “higher threshold” for utility poles, because increases in height exceeding 10% are often necessary to meet utility safety codes); Verizon Comments at 30 (arguing that same test should apply to all structures, but that if the Commission adopts a different test for buildings, it should accommodate collocations on the sides or facades of buildings as well as roof-top collocations that extend some allowable height above the roof or that are not visible from the street). In an *ex parte* letter filed after its comments, Verizon suggests the definition of substantial change for towers should at least apply to utility structures, while a different definition could apply to other non-tower structures. *See* Letter from Tamara Preiss, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 13-238, filed Sept. 17, 2014, at 2 (Verizon Sept. 17, 2014 *Ex Parte*). For non-tower structures, Verizon proposes that the substantial change test allow new facilities to extend “up to six feet wider than the widest point on the structure,” including an appurtenance attached to the structure, and “up to 15 feet above the highest point on the structure (which may be an appurtenance attached to the structure).” *See id.* Verizon also proposes that, if the Commission adopts a height limitation stated in terms of a percentage of the height of the structure, it should adopt “a minimum allowable height increase” that is “no less than ten feet above [the] highest point of the structure.” Verizon Oct. 8, 2014 *Ex Parte*, at 3.

⁵⁰¹ *See, e.g.*, Crown Castle Comments at 14; PCIA Comments at 39; PCIA Reply Comments at 18-19.

⁵⁰² *See, e.g.*, AT&T Reply Comments at 12, 16.

other considerations in determining whether a modification is a “substantial change,” such as whether a structure has legal, non-conforming status.⁵⁰³

185. Industry commenters generally agree that States and localities may require or otherwise condition approval of a covered request on compliance with building codes and other non-discretionary structural and safety codes, but they argue that States and localities may not otherwise impose conditions.⁵⁰⁴ In particular, PCIA argues that States and municipalities may ensure that a modification is consistent with existing stealth requirements, but may not impose new stealth requirements when granting a covered request.⁵⁰⁵

186. Most municipalities support the IAC recommendation, arguing that a “substantial change” will mean different things depending on the particular structure and context, and therefore that the analysis does not lend itself to an objective or numerical formula.⁵⁰⁶ They oppose adoption of the Collocation Agreement’s four-prong test or another numerical test, arguing that it will inevitably require approval of modifications that cause significant harms to aesthetics, safety, or other local concerns.⁵⁰⁷ They further object to any test that considers only “increases in size,” arguing that the test should consider all physical dimensions, including height, width, depth, volume, surface area, weight, and visual impact.⁵⁰⁸ Many support the test proposed in the Local Government Definitions, which provides that “substantially change the physical dimensions” means to “alter the physical dimensions of a wireless tower or base station in a manner that has a significant impact given the surroundings, characteristics of, and any conditions on, the wireless tower or base station.”⁵⁰⁹ In support of a context-specific approach, they argue that an objective and mechanical test will discourage States and municipalities from approving

⁵⁰³ See, e.g., Crown Castle Comments at 14; CTIA Reply Comments at 8; Fibertech Reply Comments at 16-17; PCIA Comments at 43-45.

⁵⁰⁴ See, e.g., AT&T Comments at 26; AT&T Reply Comments at 11-12; PCIA Comments at 40-41 (supporting requirement of compliance with general building codes or other objective ministerial laws reasonably related to health and safety so long as they are clearly related to structural standards); PCIA Reply Comments at 18; Sprint Comments at 11; T-Mobile Reply Comments at 15-16. *But see* PCIA Comments at 45 (arguing that fall zones and setbacks, while appropriate when approving new towers, should not be grounds for denying an otherwise covered request, because they can be too easily adjusted retroactively to transform compliant towers into legal, non-conforming towers).

⁵⁰⁵ See PCIA Comments at 45-46.

⁵⁰⁶ See, e.g., Alexandria *et al.* Comments at 32-33; CA Local Governments Comments at 11-12 (arguing that whether modification is a substantial change depends on the character and circumstances of the particular tower or base station; issue therefore does not lend itself to a national standard); CCUA *et al.* Comments at 11-15; San Antonio Reply Comments at 3, 12-13 (arguing that “substantial change” must be “construed in a factual context that includes the historical or environmental surroundings, structural and public safety considerations, and generally applicable zoning requirements”). Certain municipalities support numerical standards, however. See, e.g., Coconut Creek Comments at 6 (arguing that the four-prong test will lend uniformity and certainty to localities’ application of Section 6409(a)). Savannah proposes that any increase in height or width be considered substantial. See Savannah *Ex Parte* at 7.

⁵⁰⁷ See, e.g., Alexandria *et al.* Comments at 33-36; Long Beach Comments at 2; Michaud Comments at 1 (arguing that numerical test ignores “local regulations on visual impact and building codes [and] regulations”); Minneapolis Comments at 11-12; MML Comments at 2; NJSLM Comments at 5.

⁵⁰⁸ See, e.g., CA Local Governments Comments at 14-15; CCUA *et al.* Comments at 14-15. CA Local Governments also highlight other aspects of the four-prong test as problematic, including exceptions to the size limits to avoid interference or accommodate weather conditions. See CA Local Governments Comments at 15.

⁵⁰⁹ See, e.g., Local Governments July 21, 2014 *Ex Parte*, Attach. B; CCUA *et al.* July 17, 2014 *Ex Parte*, Attach. A.

initial wireless facility deployments, because such deployments, even if unobjectionable on their own, would open the door to potentially objectionable collocations covered by Section 6409(a).⁵¹⁰

187. State and local commenters also offer certain considerations that the Commission should incorporate into any test for substantial change. Similar to the position of some industry commenters, many municipalities propose that a change should be treated as substantial if it violates any existing conditions applicable to the tower or base station.⁵¹¹ Many also contend that any request subject to Section 6409(a) must nonetheless comply with regulations related to health and safety, such as building, structural or safety codes, arguing that compliance with these codes is a factor in determining whether a change is substantial.⁵¹² Municipal commenters also agree with industry commenters that “substantial change” should be measured as a cumulative limit on all changes from a fixed point in time but, unlike most industry commenters, they argue that the changes should be measured from the dimensions of the structure as originally approved.⁵¹³ In addition, the IAC suggests that any change in physical dimensions that would violate a federal law or regulation (such as FAA requirements or Commission RF exposure standards) should be considered substantial.⁵¹⁴ Alexandria *et al.* argue that a proposed change should be considered “substantial” if it would make a facility unsafe, create hazards or environmental harms, render public streets or sidewalks less accessible, damage a historically significant area or structure, expose a “stealth” facility, or otherwise defeat conditions applicable to the original regulatory approval of the underlying tower or base station.⁵¹⁵

188. *Discussion.* After careful review of the record, we adopt an objective standard for determining when a proposed modification will “substantially change the physical dimensions” of an existing tower or base station. Specifically, and for the reasons discussed below, we provide that a modification substantially changes the physical dimensions of a tower or base station if it meets any of the following criteria: (1) for towers outside of public rights-of-way, it increases the height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater; for those towers in the rights-of-way and for all base stations, it increases the height of the tower or base station by more than 10% or 10 feet, whichever is greater; (2) for towers outside of public rights-of-way, it protrudes from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater; for those towers in the rights-of-way and for all base stations, it protrudes from the edge of the structure more than six feet; (3) it involves installation of more than the

⁵¹⁰ See, e.g., IAC Comments at 5-6.

⁵¹¹ See, e.g., Alexandria *et al.* Comments at 41; CA Local Governments Reply Comments at 13-14; CCUA *et al.* Comments at 13, 20; CCUA *et al.* Reply Comments at 12; Henderson Comments at 2; Minneapolis Comments at 11-13; RCRC Comments at 2.

⁵¹² See, e.g., Alexandria *et al.* Comments at 37-39; CCUA *et al.* Comments at 18; Fairfax Comments at 14-15; NATOA *et al.* Comments at 13; Springfield Comments at 13.

⁵¹³ See, e.g., Alexandria *et al.* Comments at 19; CA Local Governments Comments at 16-17 (arguing that a cumulative limit should take the form of a boundary on the physical dimensions of the wireless tower or base station, but not necessarily a limit on the number of changes a wireless service provider may request within that cumulative limit); Coconut Creek Comments at 6-7 (arguing that height increase should be calculated from the original tower or structure height prior to any previous additions).

⁵¹⁴ See IAC Comments at 5.

⁵¹⁵ Alexandria *et al.* Comments at 42. See also CA Local Governments Comments at 12. Alexandria *et al.* further argue that modifications that would violate load-bearing limits, undermine hardening standards, or violate fall zone or set-back distances should fail the test as well. See Alexandria *et al.* Comments at 42-43. See also CA Local Governments Comments at 17 (arguing that a modification is a “substantial change” if it violates a “generally applicable law”); CCUA *et al.* Comments at 12 (arguing that a modification is a “substantial change” if it would create a public safety hazard or otherwise violate any local, State, or Federal law, or negatively impact the aesthetics of a community).

standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets; (4) it entails any excavation or deployment outside the current site of the tower or base station; (5) it would defeat the existing concealment elements of the tower or base station; or (6) it does not comply with conditions associated with the prior approval of construction or modification of the tower or base station unless the non-compliance is due to an increase in height, increase in width, addition of cabinets, or new excavation that does not exceed the corresponding “substantial change” thresholds identified above. We further provide that the changes in height resulting from a modification should be measured from the original support structure in cases where the deployments are or will be separated horizontally, such as on buildings’ rooftops; in other circumstances, changes in height should be measured from the dimensions of the tower or base station inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act. Beyond these standards for what constitutes a substantial change in the physical dimensions of a tower or base station, we further provide that for applications covered by Section 6409(a), States and localities may continue to enforce and condition approval on compliance with generally applicable building, structural, electrical, and safety codes and with other laws codifying objective standards reasonably related to health and safety.

189. We initially conclude that we should adopt a test that is defined by specific, objective factors rather than the contextual and entirely subjective standard advocated by the IAC and municipalities. As we discuss in detail below, Congress took care to refer, in excluding certain modifications from mandatory approval requirements, to those that would substantially change the tower or base station’s “physical dimensions.” We also find that Congress intended approval of covered requests to occur in a timely fashion.⁵¹⁶ While we acknowledge that the IAC approach would provide municipalities with maximum flexibility to consider potential effects, we are concerned that it would invite lengthy review processes that conflict with Congress’s intent. Indeed, some municipal commenters anticipate their review of covered requests under a subjective, case-by-case approach could take even longer than their review of collocations absent Section 6409(a).⁵¹⁷ We also anticipate that disputes arising from a subjective approach would tend to require longer and more costly litigation to resolve given the more fact-intensive nature of the IAC’s open-ended and context-specific approach. We find that an objective definition, by contrast, will provide an appropriate balance between municipal flexibility and the rapid deployment of covered facilities. We find further support for this approach in State statutes that have implemented Section 6409(a), all of which establish objective standards.⁵¹⁸

190. We further find that the objective test for “substantial increase in size” under the Collocation Agreement should inform our consideration of the factors to consider when assessing a “substantial change in physical dimensions.” This reflects our general determination that definitions in the Collocation Agreement and NPA should inform our interpretation of similar terms in Section 6409(a). Further, as noted in the *Infrastructure NPRM*, the Commission has previously relied on the Collocation Agreement’s test in comparable circumstances, concluding in the *2009 Declaratory Ruling* that collocation applications are subject to a shorter shot clock under Section 332(c)(7) to the extent that they do not constitute a “substantial increase in size of the underlying structure.”⁵¹⁹ The Commission has also applied a similar objective test to determine whether a modification of an existing registered tower requires public notice for purposes of environmental review.⁵²⁰ We note that some municipalities support

⁵¹⁶ See *infra*, Section V.B.2.

⁵¹⁷ See, e.g., CA Local Governments Comments at 21-22.

⁵¹⁸ See *infra*, n.522.

⁵¹⁹ *Infrastructure NPRM*, 28 FCC Rcd at 14281 para. 117 (citing *2009 Declaratory Ruling*, 24 FCC Rcd at 14012 para. 46).

⁵²⁰ See 47 C.F.R. § 17.4(c)(1)(B); *Environmental Notification Order on Remand*, 26 FCC Rcd at 16720-21 para. 53.

this approach,⁵²¹ and we further observe that the overwhelming majority of State collocation statutes adopted since the passage of the Spectrum Act have adopted objective criteria similar to the Collocation Agreement test for identifying collocations subject to mandatory approval.⁵²² We note as well that there is nothing in the record indicating that any of these objective State-law tests have resulted in objectionable collocations that might have been rejected under a more subjective approach. Therefore, we are persuaded that it is reasonable to look to the Collocation Agreement test as a starting point in interpreting the very similar “substantial change” standard under Section 6409(a). We further decide, however, to modify and supplement the factors to establish an appropriate balance between promoting rapid wireless facility deployment and preserving States’ and localities’ ability to manage and protect local land-use interests.

191. First, we decline to adopt the Collocation Agreement’s exceptions that allow modifications to exceed the usual height and width limits when necessary to avoid interference or shelter the antennas from inclement weather.⁵²³ We agree with CA Local Governments that these issues pose technically complex and fact-intensive questions that many local governments cannot resolve without the aid of technical experts; modifications that would not fit within the Collocation Agreement’s height and width exceptions are thus not suitable for expedited review under Section 6409(a).⁵²⁴

192. Second, we conclude that the limit on height and width increases should depend on the type and location of the underlying structure. Under the Collocation Agreement’s “substantial increase in size” test, which applies only to towers, a collocation constitutes a substantial increase in size if it would increase a tower’s height by 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater.⁵²⁵ In addition, the Collocation Agreement authorizes collocations that would protrude by twenty feet, or by the width of the tower structure at the level of the appurtenance, whichever is greater.⁵²⁶ We find that the Collocation Agreement’s height and width criteria are generally suitable for towers, as was contemplated by the Agreement.

193. These tests were not designed with non-tower structures in mind, however, and we find that they may often fail to identify substantial changes to non-tower structures such as buildings or poles, particularly insofar as they would permit height and width increases of 20 feet under all circumstances. Instead, considering the proposals and arguments in the record and the purposes of the provision, we conclude that a modification to a non-tower structure that would increase the structure’s height by more than 10% or 10 feet, whichever is greater, constitutes a substantial change under Section 6409(a).

⁵²¹ See, e.g., San Diego Comments at 3. Other municipalities, including Coconut Creek and West Palm Beach, also support adoption of a standard based on the Collocation Agreement’s test. See Coconut Creek Comments at 6; West Palm Beach Comments at 6.

⁵²² See, e.g., GA. ST § 36-66B-4(b) (establishing a four-prong test for mandatory streamlined process, barring any increase in height or width and requiring compliance with pre-existing conditions and weight limits); MI ST §125.3514(1)(c) (establishing a four-prong test for “substantial change” similar to the Collocation Agreement test); MO ST § 67.5092(13) (establishing a four-prong test for “substantial modification” similar to the Collocation Agreement test); NC. ST § 160A-400.51(7a) (establishing a three-prong test for “substantial modification,” imposing limits on height and width increases and on increases to the equipment compound area); N.J.S.A. 40:55 D-46.2.a.(2) (establishing a three-prong test, including limits on increases to height and compound size and barring any increases in width); PA ST 53 P.S. § 11702.2 (establishing a two-prong test for “substantial change”); WI ST 66-0404(1)(s) (establishing a four-prong test for “substantial modification”).

⁵²³ See Collocation Agreement § I.C.

⁵²⁴ See CA Local Governments Comments at 15.

⁵²⁵ Collocation Agreement § I.C(1).

⁵²⁶ See Collocation Agreement § I.C(3).

Permitting increases of up to 10% has significant support in the record.⁵²⁷ Further, we find that the adoption of a fixed minimum best serves the intention of Congress to advance broadband service by expediting the deployment of minor modifications of towers and base stations. Without such a minimum, we find that the test will not properly identify insubstantial increases on small buildings and other short structures, and may undermine the facilitation of collocation, as vertically collocated antennas often need 10 feet of separation and rooftop collocations may need such height as well.⁵²⁸ Further, the fact that the 10-foot minimum is substantially less than the 20-foot minimum limit under the Collocation Agreement and many State statutes or the 15-foot limit proposed by some commenters provides us additional assurance that our interpretation of what is considered substantial under Section 6409(a) is reasonable.⁵²⁹

194. We also provide, as suggested by Verizon and PCIA, that a proposed modification of a non-tower structure constitutes a “substantial change” under Section 6409(a) if it would protrude from the edge of the structure more than six feet.⁵³⁰ We find that allowing for width increases up to six feet will promote the deployment of small facility deployments by accommodating installation of the mounting brackets/arms often used to deploy such facilities on non-tower structures, and that it is consistent with small facility deployments that municipalities have approved on such structures.⁵³¹ We further note that it is significantly less than the limits in width established by most State collocation statutes adopted since the Spectrum Act.⁵³² We therefore find that six feet is the appropriate objective standard for substantial changes in width for non-tower structures, rather than the alternative proposals in the record.

195. We decline to apply the same substantial change criteria to utility structures as apply to towers. While Verizon argues in an *ex parte* that this approach is justified because of the “significant similarities” between towers and utility structures, its own comments note that in contrast to “macrocell

⁵²⁷ See, e.g., PEC Comments at 7-8 (proposing that the test allow for one increase of 10% over the initially approved height); Tucson Comments at 9 (“Typically those increases should be 10% or less than what was originally approved for the facility to receive an expedited review.”); San Diego Comments at 3 (“[I]f a project results in a change of more than 10% beyond the baseline condition, it would be substantial.”).

⁵²⁸ See Kenmore Municipal Code, § 18.60.130 (“Minor communication facilities – Collocation”), available at <http://www.codepublishing.com/wa/Kenmore/html/Kenmore18/Kenmore1860.html> (requiring support structures to have the “structural strength to allow the collocation of additional antennas from other service providers at the standard 10-foot separation”); American Planning Association, Planning and Urban Design Standards, 358 (2006) (“A 10-foot vertical separation between antennas of different carriers is typically required to avoid interference”); Letter from Tamara Preiss, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 13-238, filed Oct. 10, 2014 (Verizon Oct. 10, 2014 *Ex Parte*) at 2 (stating that a minimum allowance of ten feet would “accommodate the height of panel antennas and their mounting brackets, to enable the antennas to clear other structures on roof-tops, such as parapet walls and HVAC facilities – which can limit the coverage provided by the facilities, and to reduce the radiofrequency emissions produced by antennas on the surface of the roof.”).

⁵²⁹ MI ST. 125.3514(1)(c) (20 feet or 10%); MO ST 67.5092(12) (same); NH Rev Stat § 12-K:2(XXV) (same); NC ST § 160A-400.51(7a) (same); PA ST 53 P.S. § 11702.1 *et seq.* (same); WI ST 66-0404(1) (same).

⁵³⁰ See Verizon Oct. 10, 2014 *Ex Parte* at 2; Letter from Jonathan M. Campbell, PCIA-The Wireless Infrastructure Association, to Marlene H. Dortch, Secretary, FCC, filed Oct. 9, 2014 (PCIA Oct. 9, 2014 *Ex Parte*) at 1-2.

⁵³¹ See Verizon Oct. 10, 2014 *Ex Parte* at 2 (asserting that the six-foot allowance is needed to account for both the width of the antenna panels and the mounting arms that attach the antenna panels to the structure); PCIA Oct. 9, 2014 *Ex Parte* at 1-2 (proposing that the mounting of the proposed antenna may protrude six feet or less from the structure). See also, e.g., Letter from Tamara Preiss, Verizon, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 11-59, filed May 14, 2013 (providing dimensions to small-cell and DAS equipment used on poles with depths of 19 or 20 inches); Letter from Colleen Thompson, AT&T, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 11-59, filed June 17, 2013 (providing small cell and DAS dimensions reflecting depths of 2.08 inches, 3.75 inches, 8.25 inches, 11.2 inches, and 18 inches).

⁵³² See *supra*, n.529 (citing to statutes).

towers,” utility structures are “smaller sites[.]”⁵³³ Because utility structures are typically much smaller than traditional towers, and because utility structures are often located in easements adjacent to vehicular and pedestrian rights-of-way where extensions are more likely to raise aesthetic, safety, and other issues, we do not find it appropriate to apply to such structures the same substantial change criteria applicable to towers. We further find that towers in the public rights-of-way should be subject to the more restrictive height and width criteria applicable to non-tower structures rather than the criteria applicable to other towers. We note that, to deploy DAS and small-cell wireless facilities, carriers and infrastructure providers must often deploy new poles in the rights-of-way. Because these structures are constructed for the sole or primary purpose of supporting Commission-licensed or authorized antennas, they fall under our definition of “tower.” They are often identical in size and appearance, however, to utility poles in the area, which do not constitute towers.⁵³⁴ As a consequence, applying the tower height and width standards to these poles constructed for DAS and small-cell support would mean that two adjacent and nearly identical poles could be subject to very different standards. To ensure consistent treatment of structures in the public rights-of-way, and because of the heightened potential for impact from extensions in such locations,⁵³⁵ we provide that structures qualifying as towers that are deployed in public rights-of-way will be subject to the same height and width criteria as non-tower structures.

196. We agree with commenters that our substantial change criteria for changes in height should be applied as limits on cumulative changes; otherwise, a series of permissible small changes could result in an overall change that significantly exceeds our adopted standards.⁵³⁶ Specifically, we find that whether a modification constitutes a substantial change must be determined by measuring the change in height from the dimensions of the “tower or base station” as originally approved or as of the most recent modification that received local zoning or similar regulatory approval prior to the passage of the Spectrum Act, whichever is greater.

197. We decline to provide that changes in height should always be measured from the original tower or base station dimensions, as suggested by some municipalities. As with the original tower or base station, discretionary approval of subsequent modifications reflects a regulatory determination of the extent to which wireless facilities are appropriate, and under what conditions. At the same time, we decline to adopt industry commenters’ proposal always to measure changes from the last approved change or the effective date of the rules.⁵³⁷ Measuring from the last approved change in all cases would provide no cumulative limit at all. In particular, since the Spectrum Act became law, approval of covered requests has been mandatory and therefore, approved changes after that time may not establish an appropriate baseline because they may not reflect a siting authority’s judgment that the modified structure is consistent with local land use values. Because it is impractical to require parties, in measuring cumulative impact, to determine whether each pre-existing modification was or was not required by the Spectrum Act, we provide that modifications of an existing tower or base station that occur after the passage of the Spectrum Act will not change the baseline for purposes of measuring

⁵³³ Verizon Comments at 2-3. *See also id.* at 6 (arguing that historic preservation review should distinguish “[macrocells] on large towers from small cells on utility poles”).

⁵³⁴ *See, e.g.*, Jefferson Comments at 2 (noting that facilities disguised as light poles but constructed for the primary purpose of supporting antennas would “seem to meet the proposed definition of a tower”).

⁵³⁵ *See, e.g.*, St. Paul Reply Comments at 2 (stating that, although “St. Paul wishes to leave open the possibility of allowing implementation of DAS or other small scale wireless technology in the public right-of-way,” it is unlikely to pursue that route because of concerns about the impact of potential multiple collocations); *see also* Alexandria *et al.* Reply Comments at 4.

⁵³⁶ *See, e.g.*, Alexandria *et al.* Comments at 36; Alexandria *et al.* Reply Comments at 19; CA Local Governments Comments at 16; PCIA Comments at 38; Verizon Comments at 29-30. We note that it is unnecessary to impose any cumulative limit on increases to width because, consistent with the Collocation Agreement, all changes in width are measured from the original structure.

⁵³⁷ *See, e.g.*, PCIA Comments at 39; Verizon Comments at 29-30.

substantial change. Consistent with our determination above that a tower or base station is not covered by Section 6409(a) unless it received such approval,⁵³⁸ this approach will in all cases limit modifications that are subject to mandatory approval to the same modest increments over what the relevant governing authority has previously deemed compatible with local land use values. We further find that, for structures where collocations are separated horizontally rather than vertically (such as building rooftops), substantial change is more appropriately measured from the height of the original structure, rather than the height of a previously approved antenna. Thus, for example, the deployment of a 10-foot antenna on a rooftop would not mean that a nearby deployment of a 20-foot antenna would be considered insubstantial.

198. Again drawing on the Collocation Agreement's test, we further provide that a modification is a substantial change if it entails any excavation or deployment outside the current site of the tower or base station. As in the Collocation Agreement, we define the "site" for towers outside of the public rights-of-way as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site. For other towers and all base stations, we further restrict the site to that area in proximity to the structure and to other transmission equipment already deployed on the ground.

199. We also reject the PCIA and Sprint proposal to expand the Collocation Agreement's fourth prong, as modified by the 2004 NPA, to allow applicants to excavate outside the leased or licensed premises.⁵³⁹ Under the NPA, certain undertakings are excluded from the Section 106 review, including "construction of a replacement for an existing communications tower and any associated excavation that . . . does not expand the boundaries of the leased or owned property surrounding the tower by more than 30 feet in any direction or involve excavation outside these expanded boundaries or outside any existing access or utility easement related to the site."⁵⁴⁰ The NPA exclusion from Section 106 review, however, applies to replacement of "an existing communications tower." In contrast, as discussed above, "replacement," as used in Section 6409(a)(2)(C), relates only to the replacement of "transmission equipment,"⁵⁴¹ not the replacement of the supporting structures. Thus, the activities covered under Section 6409(a) are more nearly analogous to those covered under the Collocation Agreement than under the replacement towers exclusion in the NPA. We therefore agree with localities comments that any eligible facilities requests that involve excavation outside the premises should be considered a substantial change, as under the fourth prong of the Collocation Agreement's test.⁵⁴²

200. Based on our review of the record and various state statutes, we further find that a modification constitutes a substantial change in physical dimensions under Section 6409(a) if the change (1) would defeat the existing concealment elements of the tower or base station, or (2) does not comply with pre-existing conditions associated with the prior approval of construction or modification of the tower or base station.⁵⁴³ The first of these criteria is widely supported by both wireless industry and

⁵³⁸ See *supra*, para. 174.

⁵³⁹ See PCIA Comments at 37-38; Sprint Comments at 10.

⁵⁴⁰ NPA § III.B.

⁵⁴¹ See *supra*, para. 181.

⁵⁴² See, e.g., CA Local Governments Reply Comments at 12; San Antonio Reply Comments at 15.

⁵⁴³ See, e.g., Alexandria *et al.* Comments at 37-39; CCUA *et al.* Comments at 11-15; GA. Code Ann. §36-66B-4(b)(3) ("The proposed modification or collocation shall comply with applicable conditions of approval, if any, applied to the initial wireless facilities and wireless support structure."); Mich. Comp. Laws Serv. § 125.3514 (2012) ("The proposed collocation complies with the terms and conditions of any previous final approval of the support structure or compound."). We recognize that issues may arise under these two criteria that do not relate to a change in physical dimensions. For example, a replacement of exactly the same dimensions could still violate concealment elements if it does not have the same camouflaging paint as the replaced facility. We expect, however, that failures to meet these criteria will generally relate to changes in physical dimensions, and taking into account the support in

(continued....)

municipal commenters, who generally agree that a modification that undermines the concealment elements of a stealth wireless facility, such as painting to match the supporting façade or artificial tree branches, should be considered substantial under Section 6409(a).⁵⁴⁴ We agree with commenters that in the context of a modification request related to concealed or “stealth”-designed facilities—*i.e.*, facilities designed to look like some feature other than a wireless tower or base station—any change that defeats the concealment elements of such facilities would be considered a “substantial change” under Section 6409(a).⁵⁴⁵ Commenters differ on whether any other conditions previously placed on a wireless tower or base station should be considered in determining substantial change under Section 6409(a). After consideration, we agree with municipal commenters that a change is substantial if it violates any condition of approval of construction or modification imposed on the applicable wireless tower or base station,⁵⁴⁶ unless the non-compliance is due to an increase in height, increase in width, addition of cabinets, or new excavation that does not exceed the corresponding “substantial change” thresholds we identify above. In other words, modifications qualify for Section 6409(a) only if they comply, for example, with conditions regarding fencing, access to the site, drainage, height or width increases that exceed the thresholds we adopt above, and other conditions of approval placed on the underlying structure. This approach, we find, properly preserves municipal authority to determine which structures are appropriate for wireless use and under what conditions, and reflects one of the three key priorities identified by the IAC in assessing substantial change.⁵⁴⁷

201. We agree with PCIA that legal, non-conforming structures should be available for modification under Section 6409(a), as long as the modification itself does not “substantially change” the physical dimensions of the supporting structure as defined here.⁵⁴⁸ We accordingly reject municipal arguments that any modification of an existing wireless tower or base station that has “legal, non-conforming” status should be considered a “substantial change” to its “physical dimensions.”⁵⁴⁹ As PCIA argues, the approach urged by municipalities could thwart the purpose of Section 6409(a) altogether, as simple changes to local zoning codes could immediately turn existing structures into legal, non-conforming uses unavailable for collocation under the statute.⁵⁵⁰ Considering Congress’s intent to

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the record for including these criteria, we find it appropriate to include them as criteria of the substantial change test. Further, we find that, as with building codes, Congress did not intend to exempt covered modifications from compliance with such elements and conditions or to undermine such conditions, whether or not they affect the physical dimensions of the wireless tower or base station, and that Section 6409(a) in any case permits States and localities to condition a covered request on compliance with such criteria or otherwise require a covered request to meet these criteria. Thus, as discussed below, even if we were not persuaded that a modification that violates one of these criteria should be considered a substantial change, we would nevertheless conclude that States and localities may require covered requests to meet these criteria.

⁵⁴⁴ See, e.g., Alexandria *et al.* Comments at 42; CCA Comments at 5; CCUA *et al.* Comments at 20; PCIA Comments at 39, 46.

⁵⁴⁵ See, e.g., Coconut Creek Comments at 7; West Palm Beach Comments at 7; see also PCIA Comments at 46 (arguing that for an eligible facilities request involving previously concealed or “stealth” facilities, the modification should qualify as an insubstantial increase as long as the concealment elements are maintained).

⁵⁴⁶ See, e.g., Alexandria *et al.* Comments at 12-13, 40-42; CCUA *et al.* Comments at 20; Henderson Comments at 2; NJSML Comments at 6; RCRC Comments at 2.

⁵⁴⁷ See IAC Comments at 5 (recommending that any change that would violate the conditions of approval under which the site construction was initially authorized should be considered a substantial change in physical dimensions).

⁵⁴⁸ PCIA Comments at 43-45. See also Crown Castle Comments at 14; CTIA Reply Comments at 8; Fibertech Reply Comments at 16-17.

⁵⁴⁹ See, e.g., Alexandria *et al.* Comments at 21-23.

⁵⁵⁰ See PCIA Reply Comments at 18-19.

promote wireless facilities deployment by encouraging collocation on existing structures, and considering the requirement in Section 6409(a) that States and municipalities approve covered requests “[n]otwithstanding . . . any other provision of law,” we find the municipal commenters’ proposal to be unsupportably restrictive.⁵⁵¹

202. The record also reflects general consensus that wireless facilities modification under Section 6409(a) should remain subject to building codes and other non-discretionary structural and safety codes.⁵⁵² As municipal commenters indicate, many local jurisdictions have promulgated code provisions that encourage and promote collocations and replacements through a streamlined approval process, while ensuring that any new facilities comply with building and safety codes and applicable Federal and State regulations.⁵⁵³ Consistent with that approach on the local level, we find that Congress did not intend to exempt covered modifications from compliance with generally applicable laws related to public health and safety.⁵⁵⁴ We therefore conclude that States and localities may require a covered request to comply with generally applicable building, structural, electrical, and safety codes or with other laws codifying objective standards reasonably related to health and safety, and that they may condition approval on such compliance. In particular, we clarify that Section 6409(a) does not preclude States and localities from continuing to require compliance with generally applicable health and safety requirements on the placement and operation of backup power sources, including noise control ordinances if any.

203. We further clarify that eligible facility requests covered by Section 6409(a) must still comply with any relevant Federal requirement, including any applicable Commission, FAA, NEPA, or Section 106 requirements. We find that this interpretation is supported in the record, addresses a concern raised by several municipal commenters and the IAC, and is consistent with the express direction in Section 6409(a) that the provision is not intended to relieve the Commission from the requirements of NEPA and NHPA.⁵⁵⁵

* * *

204. In sum, we find that the definitions, criteria, and related clarifications we adopt for purposes of Section 6409(a) will provide clarity and certainty, reducing delays and litigation, and thereby facilitate the rapid deployment of wireless infrastructure and promote advanced wireless broadband services. At the same time, we conclude that our approach also addresses concerns voiced by municipal commenters and reflects the priorities identified by the IAC.⁵⁵⁶ We conclude that this approach reflects a reasonable interpretation of the language and purposes of Section 6409(a) and will serve the public interest.

2. Application Review Process, Including Timeframe for Review

205. *Background.* In the *Infrastructure NPRM*, the Commission sought comment on whether Section 6409(a) places any particular limitations on the application filing and review process, and if so, how to implement such limitations.⁵⁵⁷ The Commission proposed to find that State or local governments

⁵⁵¹ Spectrum Act § 6409(a)(1) (emphasis added).

⁵⁵² See, e.g., PCIA Comments at 41; Sprint Comments at 11.

⁵⁵³ See, e.g., CCUA *et al.* Comments at 18.

⁵⁵⁴ See, e.g., Alexandria *et al.* Comments at 42; CA Local Governments Comments at 17; CCUA *et al.* Comments at 25; Gallina Comments at 1; Haddon Heights Comments at 1.

⁵⁵⁵ See Spectrum Act § 6409(a)(3).

⁵⁵⁶ See IAC Comments at 5. The IAC recommended that any change in physical dimensions constitutes a “substantial change” if it would violate (1) a building or safety code; (2) a federal law or regulation, including environmental law, historic preservation law, Commission RF exposure standards, or FAA requirements; or (3) the conditions of approval under which the site construction was initially authorized.

⁵⁵⁷ See *Infrastructure NPRM*, 28 FCC Rcd at 14285-86 para.130. See also *Section 6409(a) PN*, 28 FCC Rcd at 3-4.