

DEPARTMENT OF COMMERCE

Limited General Applicability Nonavailability Waiver of the Buy America Domestic Content Procurement Preference as Applied to Recipients of Broadband Equity, Access, and Deployment Program

ACTION: Notice of Final Waiver

SUMMARY: Congress passed the Build America, Buy America Act (BABA) on November 15, 2021, as part of the Infrastructure Investment and Jobs Act (IIJA), Pub. L. 117-58, 135 Stat. 429, 70901-70927. BABA establishes domestic content procurement preference requirements for Federal financial assistance projects for infrastructure. The Buy America domestic content procurement preference (Buy America Preference) under BABA applies to all iron or steel products, manufactured products, and construction materials used for infrastructure projects under a program for Federal Financial assistance.¹ The Department of Commerce (DOC), in keeping with its mission to create the conditions for economic growth and opportunity for all communities, is ready to lead on this important mission to catalyze domestic manufacturing, resilient supply chains, and job growth. DOC will also help grow America's domestic production capacity while advancing BABA's requirements to strengthen the resiliency of domestic supply chains and support America's communities, workers, and firms.

Under IIJA Section 70914(b), DOC has the authority to waive the application of the Buy America Preference when (1) the application of that preference would be inconsistent with the public interest, (2) the materials and products subject to that preference are not produced in the United States at a sufficient and reasonably available quantity or satisfactory quality, or (3) the inclusion of domestically produced materials and products subject to that preference would increase the cost of the overall project by more than 25 percent. Section 70914(c) provides that a waiver under 70914(b) must be published by the agency with a detailed written explanation for the proposed determination to issue a waiver and provide a public comment period of not less than 15 days.

DOC has determined that certain manufactured products and construction materials are not produced in the United States in sufficient and reasonably available quantities to meet the needs of the Broadband Equity, Access, and Deployment (BEAD) Program, administered by the National Telecommunications and Information Administration (NTIA). DOC therefore is issuing a limited, general applicability, nonavailability waiver of the Buy America Preference requirements for certain construction materials² and certain manufactured products³ as applied to recipients of Federal financial assistance under the BEAD Program, which will flow down to subrecipients. Consistent with OMB M-24-02,

¹ See IIJA § 70912(2).

² Specifically, for non-optic-glass inputs (*e.g.*, an overclad cylinder) to preforms used to manufacture optical fiber and fiber optic cable in BEAD Program projects, *see* Section III.A.1.

³ Specifically, for all electronics in BEAD Program projects, except for 1) Optical line terminals and remote optical line terminals, 2) OLT line cards, 3) optic pluggables, and 4) Standalone optical network terminals and optical network units, where DOC waives the 55 percent cost of components requirement and provides specific guidance regarding manufacturing processes that must occur in the United States; and for passive optical equipment. *See* Section III.A.2.

this waiver is time-limited; targeted to specified items, products, materials, and categories; and conditional on the requirement that certain manufacturing processes must occur in the United States.⁴ The waiver: (1) incentivizes the domestic production of specific manufactured products based on strategic prioritization criteria, including network and data security, which will directly expand American job opportunities; (2) promotes broad participation in the BEAD Program; (3) ensures that BEAD Program recipients and subrecipients will have access to the manufactured products necessary to fulfill their obligations under the program; (4) allows funding recipients to continue to provide economic opportunity through timely deployment of broadband infrastructure, which is recognized to expand job opportunities; and (5) supports the timely development of critical domestic infrastructure that delivers broadband Internet services to all Americans. Recipients and subrecipients to whom the waiver applies must report their purchases of items from foreign sources as set forth below.

DATES: For those BEAD awards obligated on or after the effective date of this waiver, February 22, 2024, through February 22, 2029 (i.e., five years from the effective date), the waiver will apply to funds expended by award recipients and subrecipients during the entire period of performance of the award. For awards obligated prior to the effective date of this waiver, the waiver only applies to funds expended by award recipients and subrecipients after the effective date and for the remainder of the period of performance of the award. DOC will review this waiver no less than annually to assess whether it remains necessary to the fulfillment of DOC's missions and goals and consistent with applicable legal authorities, such as the IIJA; [Executive Order 14005](#), *Ensuring the Future Is Made in All of America by All of America's Workers*; and the Office of Management and Budget (OMB) Memorandum M-24-02, *Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure (OMB M-24-02)* (or any successor M-Memorandum or guidance).

FOR FURTHER INFORMATION CONTACT: For questions about this waiver, please contact Will Arbuckle, Senior Policy Advisor, Office of Internet Connectivity and Growth (OICG), National Telecommunications and Information Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW, Room 4887, Washington, DC 20230, by email at BABA@ntia.gov

SUPPLEMENTARY INFORMATION

I. The Broadband Equity, Access, and Deployment (BEAD) Program

This waiver applies only to the application of the Buy America Preference to the BEAD Program, as detailed further below.

A. BEAD Program Description

The IIJA charged NTIA with establishing the \$42.45 billion BEAD Program.⁵ The BEAD Program's principal focus is deploying broadband service to unserved locations (those without any broadband service at all or with broadband service offering speeds below 25 megabits per second (Mbps) downstream/3 Mbps upstream) and to underserved locations

⁴ OMB M-24-02 at 9.

⁵ IIJA § 60102(b)(1).

(those with broadband service offering speeds between 25 Mbps downstream/3 Mbps upstream and 100 Mbps downstream/20 Mbps upstream). Once Eligible Entities (*i.e.*, the States, the District of Columbia, Puerto Rico, American Samoa, Guam, the U.S. Virgin Islands, and the Commonwealth of the Northern Mariana Islands) demonstrate they will be able to ensure service to all unserved and underserved locations, they may propose plans that use remaining funds in a wide variety of ways. IIJA also underscores that Eligible Entities should ensure deployment of gigabit connections to community anchor institutions, such as libraries and community centers that lack such connectivity.

With respect to the deployment of last-mile broadband infrastructure, the BEAD Program prioritizes projects designed to provide fiber connectivity directly to the end user. It also requires all projects to provide a low-cost option to eligible subscribers, requires all states to have plans to address middle-class affordability, and further prioritizes proposals that improve affordability to ensure that networks built using taxpayer dollars are accessible to all Americans.⁶

B. Restrictions on BEAD Program Use of Items Manufactured in China

Independent of BABA, section 60102(g)(1)(D)(i) of the IIJA prohibits the expenditure of BEAD Program funds to purchase or support any covered communications equipment or service, as defined in section 9 of the Secure and Trusted Communications Networks Act of 2019 (47 U.S.C. 1608).⁷ Further, BEAD Program funds may not be used to purchase or support “fiber optic cable and optical transmission equipment manufactured in the People’s Republic of China, except that the Assistant Secretary [for Communications and Information] may waive the application of this clause with respect to a project if the eligible entity that awards a subgrant for the project shows that such application would unreasonably increase the cost of the project.”⁸

II. Industry Assessment and Public Comments

Given the importance of BABA and its potential to impact the BEAD Program and other NTIA-administered grant programs,⁹ NTIA and DOC initiated an assessment of the domestic supply chain for relevant manufactured products, construction materials, and iron or steel products during the lead-up to the publication of the BEAD NOFO on May 13, 2022. Since then, DOC has held hundreds of meetings with large and small equipment manufacturers, Internet service providers (ISPs), telecom companies, and many of the

⁶ See Broadband Equity, Access and Deployment Program Notice of Funding Opportunity, NTIA-BEAD-2022, <https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf> (BEAD NOFO).

⁷ See also 2 CFR § 200.216 (“Prohibition on certain telecommunications and video surveillance services or equipment.”).

⁸ IIJA § 60102(g)(1)(D)(ii). The BEAD NOFO generally uses the terms “subgrantee” and “subgrant” because these are the terms used in the relevant Infrastructure Act provisions. See BEAD NOFO at n. 15. Note, however, that applicable regulations governing federal financial assistance generally use the term “subrecipient” to refer to what the Infrastructure Act calls “subgrantees” and the term “subaward” to refer to what the Infrastructure Act calls “subgrants.” See generally 2 CFR Part 200. As used herein, the terms “subgrantee” and “subgrant” herein are meant to have the same meaning, respectively, as the terms “subrecipient” and “subaward” in those regulations and other governing authorities.

⁹ See generally DOC Office of Acquisition Management, Build America Buy America page, <https://www.commerce.gov/oam/build-america-buy-america>.

associations that represent these entities, among others. The initial results of this industry assessment were summarized in the Proposed BEAD BABA Waiver published on August 22, 2023.¹⁰

Publication of the Proposed BEAD BABA Waiver initiated a 30-day public comment period.¹¹ DOC received sixty-six comments from an array of stakeholders, including manufacturers, ISPs, trade associations, and unions. Commenters generally supported the proposed waiver but requested that DOC clarify or make modifications to the proposed waiver's treatment of certain classes and categories of manufactured products and construction materials. DOC's summary of the relevant comments received through the public comment period and response to those comments is incorporated into the industry assessment below.

Based on its extensive industry engagement, research, and assessment, DOC has determined that some construction materials and manufactured products required for broadband infrastructure deployments, as detailed further below, are not presently available in the quantity or quality needed for the BEAD Program to achieve the timeframes established by the IIJA.¹² In light of these findings, DOC is issuing this limited, general applicability, nonavailability waiver to provide recipients and subrecipients of Federal financial assistance under NTIA's BEAD Program a limited exemption from application of the Buy America Preference. Consistent with OMB M-24-02, this waiver is time-limited; targeted to specified items, products, materials, and categories; and conditional on the requirement that certain manufacturing processes must occur in the United States.¹³

A. Construction Materials, Including Optical Fiber and Fiber Optic Cable

DOC's initial industry assessment showed that domestic supplies of optical fiber and, consequently, fiber optic cable – construction materials required for broadband infrastructure deployments – are presently not available in the quantity or quality needed for the BEAD Program to achieve its goals in the timeframes established by the IIJA. Although DOC received comments challenging this finding, DOC finds that the totality of DOC's assessment, including comments supporting the need for this waiver as well as DOC's independent research, supports the issuance of a limited waiver for non-optic-glass inputs to the optical fiber pre-form process as set forth in the Proposed BEAD BABA Waiver. DOC also received comments seeking additional waivers relating to optical fiber and fiber optic cable, which DOC declines to grant, and seeking clarification regarding fiber optic cable connectors and connectorization, which are discussed below.

¹⁰ Department of Commerce, Notice; Request for Comments, Limited General Applicability Nonavailability Waiver of the Buy America Domestic Content Procurement Preference as Applied to Recipients of Broadband Equity, Access, and Deployment Program (Proposed BEAD BABA Waiver).

¹¹ *Id.* at 1.

¹² See IIJA § 70914(b)(2) (authorizing waiver of the domestic content procurement preference where relevant items "are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality").

¹³ OMB M-24-02 at 9.

1. Proposed Waiver for Non-Optic-Glass Inputs

The Proposed BEAD BABA Waiver recommended waiving the Buy America Preference for non-optic-glass inputs (*e.g.*, an overclad cylinder) to the preform manufacturing process of optical fiber. This proposed waiver was based on analysis showing that optical fiber and fiber optic cable will see the highest levels of expenditures compared to any other category of equipment used in BEAD fiber broadband deployments. Further, industry forecasts raise the concern that there will not be sufficient supply of these construction materials, especially for small- to medium-sized ISPs, during peak demand for construction materials during the rollout of the BEAD Program.

A number of commenters asserted that the proposed waiver for non-optic-glass inputs is unnecessary. These commenters assert that there is sufficient domestic capacity to manufacture BABA-compliant optical fiber for projected BEAD Program demand, that concerns about future availability issues are speculative, and that non-optic glass inputs make up a significant portion of the total cost of an optical fiber “preform.” Other commenters supported the proposed waiver for non-optic glass inputs, arguing that the waiver is necessary to ensure there is sufficient manufacturing capacity available to meet the forecasted surge in demand for BABA-compliant optical fiber during the BEAD Program, particularly for small and mid-sized ISPs. They noted that the proposed waiver would increase the number of suppliers, improve the security of the supply chain, drive more competition, and create additional U.S. jobs. Commenters also supplied data demonstrating that non-optic glass inputs to optical fiber constitute a low single-digit percentage of the cost of a finished fiber optic cable.

Ultimately, based on careful consideration of the comments, DOC was persuaded by comments discussing adverse impacts if no waiver is issued. DOC finds that a waiver for non-optic-glass inputs to the preform is appropriate. This waiver will ensure that sufficient and reasonably available quantities of optical fiber are available during the BEAD Program. Additionally, the waiver applies to an input that is a minor element of the overall cost of a finished fiber optic cable and will help to ensure the availability of a secure, diverse supply of BABA-compliant optical fiber and fiber optic cable for the duration of the BEAD Program. DOC further notes, based on representations regarding the positive impact this limited waiver will have on jobs, that this waiver fulfills one of the key purposes of BABA by incentivizing domestic manufacturing of optical fiber and fiber optic cable and maximizing the number of direct manufacturing jobs in the United States.¹⁴

2. Other Optical Fiber and Fiber Optic Cable Waiver Requests

Commenters made additional requests to waive the Buy America Preference, including requests for: a time-limited waiver for the entire optical fiber production process; a blanket waiver for non-US country-of-origin fiber; and a time limited waiver for a specific type of optical fiber used in residential and commercial network terminations. As discussed in section II.A.1 above, DOC finds that the waiver for non-optic-glass inputs to the preform manufacturing process for optical fiber is likely to ensure sufficient domestic supply of

¹⁴ IIJA § 70911(2), (4), (11); *see also* IIJA § 70915(b)(2)(B) (directing OMB to issue manufacturing process standards that “take into consideration and seek to maximize the direct and indirect jobs benefited or created in the production of the construction material.”).

optical fiber and fiber optic cable. As a result, DOC finds that adoption of additional proposed waivers is not necessary to ensure that optical fiber and fiber optic cable are “produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality,” and DOC declines to grant the commentors request to expand the scope of the waiver.¹⁵

3. Plastics and Polymers Used in Fiber Optic Cable

The Proposed BEAD BABA Waiver proposed that all fiber optic cable (including drop cable) must meet the following domestic manufacturing standard:¹⁶

All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.

Several commenters requested that DOC revise the domestic manufacturing standard for “fiber optic cable (including drop cable)” to add a domestic manufacturing requirement for “plastic and polymer-based products,” arguing that there is sufficient domestic supply of plastics and polymer-based products used in fiber optic cable for purposes of the BEAD Program.¹⁷

On August 23, 2023, OMB issued final guidance “to support implementation of the Build America, Buy America Act provisions of the Infrastructure Investment and Jobs Act and to clarify existing provisions related to domestic preferences.”¹⁸ The manufacturing process standard OMB adopted for fiber optic cable is identical to the standard set forth in the Proposed BEAD BABA Waiver.¹⁹ DOC supports the application of that standard for the same reasons articulated by OMB and maintains the standard as proposed, without the addition of a domestic manufacturing requirement for plastics and polymer-based products.²⁰

4. Fiber Optic Cable Connectors and Connectorization

The Proposed BEAD BABA Waiver did not address the treatment of fiber optic cable connectors attached to finished fiber optic cables and the process of connectorization. Manufacturers of fiber optic cable requested that DOC clarify the treatment of connectors that are attached to fiber optic cable and the fiber optic cable connectorization process under the BEAD Program. Per 2 CFR part 184, DOC considers connectors to be minor additions to fiber optic cable that occur after the construction material has been produced

¹⁵ IIA § 70914(b)(2).

¹⁶ Proposed BEAD BABA Waiver at 6.

¹⁷ See 2 CFR § 184.6(a)(2).

¹⁸ Office of Management and Budget, Guidance for Grants and Agreements, 88 Fed. Reg. 57,750 (Aug. 23, 2023) (OMB Final Guidance). The effective date for this guidance was October 23, 2023. See 2 CFR § 184.2(b).

¹⁹ 2 CFR § 184.6(a)(4); OMB Final Guidance, 88 Fed. Reg. at 57,789.

²⁰ OMB Final Guidance, 88 Fed. Reg. at 57,763-64 (“For example, commenters specifically noted the confusion and compliance costs that may have resulted from attempting to separately apply every construction material standard that applied to different components of fiber optic cable, such as the standard for plastic and polymer-based products.”).

in the United States.²¹ Because DOC considers connectors to constitute minor additions to fiber optic cable, the addition of connectors does not affect the overall classification of connectorized fiber optic cable as a construction material under BABA—and not a manufactured product. Connectors do not, therefore, need to be manufactured in nor attached to fiber optic cable in the United States.

5. Other Construction Materials

Neither stakeholder comments nor DOC’s market research indicates there is a need for a waiver of the Buy America Preference for other construction materials.

B. Manufactured Products

1. Electronics

DOC’s initial industry assessment showed that electronics are likely to be the second largest segment of equipment used in BEAD Program fiber broadband deployments. Such electronics include, but are not limited to, Optical Line Terminals (OLTs) and remote Optical Line Terminals (rOLTs), OLT line cards, optic pluggables, Optical Network Terminals and Optical Network Units (ONTs/ONUs), routers, switches, optical amplifiers, and power systems. These electronics, and comparable electronics used in fixed wireless and other types of broadband network deployments (*e.g.*, radios, power management systems, antennas and antenna arrays, and radiofrequency conditioning and connectivity devices), are almost all manufactured overseas. As part of its supply chain research, DOC explored with manufacturers the possibility of moving the manufacturing of certain electronics to the United States to facilitate implementation of the Buy America Preference. During DOC’s initial industry assessment, two key factors became apparent:

- Semiconductors, also referred to as integrated circuits, including systems on a chip, memory, central processing units, and others are key components of essentially all electronics that are used to build broadband networks. Semiconductors represent the majority of the value of the components that make up such products – often in excess of 70 percent. Almost all of these chips are currently manufactured outside the United States. While the historic CHIPS and Science Act, Pub. L. 117-167, 136 Stat. 1366, is expected to spur a major investment in domestic semiconductor manufacturing, the construction timeline and type of semiconductor fabrication plants mean that the impact of that investment is unlikely to be realized during the time period needed for the BEAD Program.²²

²¹ See 2 CFR § 184.6(a)(4) (standard for fiber optic cable is silent with respect to connectorization, which occurs after jacketing); see also 2 CFR § 184.3 (definition of “construction materials” stating that “[m]inor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material.”).

²² CHIPS Incentives Program, authorized by Title XCIX—Creating Helpful Incentives to Produce Semiconductors for America of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Pub. L. 116-283, referred to as the CHIPS Act or Act), as amended by the CHIPS Act of 2022 (Division A of Pub. L. 117-167).

- There are some classes and categories of electronics that are currently manufactured outside of the United States, but for which *there is* an economic case for onshoring final assembly.

The Proposed BEAD BABA Waiver therefore proposed to waive the Buy America Preference requirements for manufactured products for all electronics in BEAD Program projects, with the exception of four categories of electronics:

- Optical line terminals and remote optical line terminals (OLTs / rOLTs);
- OLT line cards;
- Optic pluggables; and
- Optical network terminals and optical network units (ONTs / ONUs).

For those four categories of electronics, DOC proposed to waive the 55 percent cost of components requirement for manufactured products and proposed specific guidance regarding the manufacturing processes that must occur in the United States for those categories of electronics to be considered “produced in the United States.”²³

Commenters generally supported the approach to electronics set forth in the Proposed BEAD BABA Waiver. A number of commenters also requested that DOC provide additional specificity regarding the definition of the categories of electronics that would be excepted from the proposed waiver and suggested modifications to the proposed manufacturing process descriptions. A description of these comments and the clarifications that DOC has made in this final waiver are set forth below.

a. Optical Line Terminals (OLTs) and Remote Optical Line Terminals (rOLTs)

Multiple commenters requested that DOC clarify its description of OLTs/rOLTs. Specifically, commenters requested that additional technologies be identified as included within the scope of the waiver. DOC emphasizes that the OLTs and rOLTs covered by this waiver “include, but are not limited to” those that support the technologies listed in section III.A.2.a.i below, including all “future PON technologies.”

Commenters also requested that DOC provide additional specificity for the proposed manufacturing requirements, in particular with respect to the meaning of “printed circuit board assembly.” DOC has provided clarifying language in section III.A.2.a.i below.

In addition, a few commenters requested that DOC waive the application of the Buy America Preference to OLTs/rOLTs entirely, while others asked for less stringent domestic manufacturing requirements. Based on the comments generated in response to the Proposed BEAD BABA Waiver, DOC’s independent research, and the public announcements from multiple companies who have committed to manufacturing OLTs and rOLTs in the U.S. at scale and in time for the BEAD Program, DOC declines to entirely waive the Buy America Preference or materially modify the manufacturing

²³ For the purposes of this waiver, the “55 percent cost of components requirement” refers to subsection (2)(ii) of the definition of “produced in the United States” set forth in 2 CFR § 184.3.

requirements outlined in its proposal. These requirements are articulated in section III.A.2.a.i below.

b. OLT Line Cards

The Proposed BEAD BABA Waiver's description of OLT Line Cards stated that they are "a type of fiber-optic card that can be installed in OLTs and rOLTs to provide network interface ports."²⁴ One commenter urged DOC to clarify that line cards that provide functionality in addition to the functionality of an OLT Line Card (*e.g.*, the line card can perform certain routing functions in addition to network interface ports) or are installed in "a combined OLT/router" are not subject to the Buy America Preference. DOC notes that multiple companies have announced the reshoring or domestic expansion of OLTs, rOLTs, and OLT line card manufacturing. In order to reinforce this domestic manufacturing requirement, DOC clarifies in section III.A.2.a.ii below that any line card that performs the functions of an OLT is subject to the Buy America Preference as set forth in section III.A.2.a.ii below, regardless of where the line card is installed, what it is called, or what additional capabilities the line card might possess.

c. Optic Pluggables

The Proposed BEAD BABA Waiver described optic pluggables as "optical transceivers that can be installed in ('plugged into') OLTs, rOLTs, and equipment that has the characteristics of OLTs (*e.g.*, switches, routers, virtual OLTs)." Several commenters requested that DOC clarify whether the Proposed BEAD BABA Waiver requirement for optic pluggables was intended to apply to *all* optic pluggables, only optic pluggables that are subscriber-facing, or only those that are network-facing. DOC clarifies that the waiver requirements are intended to capture only subscriber-facing optic pluggables, which stakeholder comments and DOC's market research indicate typically make up the bulk of optic pluggables used in an OLT. DOC has provided clarifying language in section III.A.2.a.iii below.

d. Optical Network Terminals and Optical Network Units (ONTs/ONUs)

The Proposed BEAD BABA Waiver was silent with respect to the proposed treatment of various ONT/ONU form factors. Commenters sought clarification as to whether it was DOC's intent that *all* ONTs and ONUs be subject to the Buy America Preference as set forth in the Proposed BEAD BABA Waiver, or only certain variations. DOC's assessment indicates that manufacturers have developed or are in the process of developing sufficient domestic manufacturing capacity to produce standalone ONTs and ONUs and standalone devices that perform the functions of an ONT or ONU (together, ONT/ONUs) for the BEAD Program. This is not the case for combined ONTs/ONUs, which are devices that provide the functions of an ONT or ONU, provide ethernet and/or Wi-Fi access to the customer premises, and perform routing, security, and other management functions (*e.g.*, a combination ONT/gateway router that provides all ONT and gateway router functions on a single device). Commenters note that combined ONTs/ONUs are mostly made overseas, there is not sufficient domestic supply of these combined ONTs/ONUs to meet the demands of the BEAD Program, and that the economics of manufacturing combined ONTs/ONUs are sufficiently different from those of standalone ONT/ONUs that

²⁴ Proposed BEAD BABA Waiver at 7.

manufacturers are unlikely to invest in developing additional combined ONT/ONU manufacturing capacity to meet the demands of the BEAD Program. DOC therefore clarifies that standalone ONTs/ONUs must be manufactured in the United States, whereas application of the Buy America Preference to combined ONTs/ONUs is waived.²⁵ Section III.A.2.a.iv below sets forth the specific manufacturing processes required for standalone ONTs/ONUs to be considered “produced in the United States” and therefore compliant with the Buy America Preference.

2. Fixed Wireless Access and Other Non-Fiber Broadband Electronics

Commenters requested that DOC provide clarity regarding the treatment of electronics used in fixed wireless and other non-fiber broadband deployments under the proposed waiver. DOC clarifies that the scope of the electronics waiver set forth in III.A.2.a applies to comparable electronics used in fixed wireless and other types of broadband network deployments (*e.g.*, radios, power management systems, antennas and antenna arrays, and radiofrequency conditioning and connectivity devices).

3. Enclosures

The Proposed BEAD BABA Waiver provided a broad description of “enclosures” and proposed to waive the 55 percent cost of components requirement for enclosures used in BEAD Program projects. Multiple commenters noted that there is a broad array of manufactured products that could be considered “enclosures” under that description, and that it is unclear how the Buy America Preference should be applied to different classes and categories of possible enclosures.

Specifically, commenters, including small and large enclosure manufacturers and ISPs, provided information indicating that enclosures can generally be viewed as falling into one of four categories:

- Cabinets;
- Vaults and Other Below Ground Housings (Vaults);
- Pedestals and Other Above Ground Housings (Pedestals); and
- Closures and Terminals.

Commenters provided information indicating that cabinets, Vaults, and Pedestals can be sourced domestically today. DOC’s assessment indicates that closures (including aerial closures) and terminals are likely to be the most utilized enclosure types in BEAD Program projects, and that closures and terminals are mostly manufactured and assembled outside of the United States. DOC’s assessment further indicates, however, that (a) many closures and terminals manufactured outside the United States incorporate a significant percentage of domestic components, and (b) manufacturers have the incentive and ability to invest in domestic capacity to manufacture the molded outer shells of closures and terminals to meet BEAD Program demand.

Commenters offered a variety of suggestions regarding the appropriate application of the Buy America Preference to enclosures. Some commenters advocated that DOC decline to

²⁵ Subrecipients may not avoid application of the Buy America Preference by deploying combined ONTs that function only as a standalone ONT/ONU (*e.g.*, a combined ONT/router with the routing functionality disabled).

waive application of any element of the Buy America Preference, while some advocated for a full waiver of the Buy America Preference for enclosures. Several commenters also suggested implementing an “either-or” test that would enable a manufacturer to *either* meet the 55 percent cost of components requirement *or* manufacture the enclosure in the United States to reflect existing domestic production practices and supply chain constraints.

Based on the comments described above and additional engagement with manufacturers and ISPs, DOC has, as set forth in section III.A.2.b below, revised the description of enclosures to include “manufactured products used to protect and house a network function (e.g., active electronics, fiber split or splice, or other connection points)” and provides guidance regarding the application of the Buy America Preference to the four categories of enclosures identified above (i.e., cabinets, Vaults, Pedestals, and closures and terminals).

Specifically, DOC declines to waive the 55 percent cost of components requirement for cabinets, Vaults, Pedestals, and closures and terminals and sets forth the specific manufacturing processes that must occur in the United States for these products to be considered “produced in the United States.”

Commenters also sought clarity regarding the application of the Buy America Preference to enclosures that are bundled or packaged with fiber optic cable, electronics, passive optical equipment, or other construction materials or manufactured products used in broadband networks. DOC clarifies that enclosures should be evaluated for compliance with the Buy America Preference on a standalone basis. Likewise, construction materials and manufactured products bundled or packaged with an enclosure must themselves be evaluated for compliance with the Buy America Preference.²⁶

4. Passive Optical Equipment

A number of commenters requested that DOC explicitly address the treatment of “passive optical equipment” in this waiver. DOC’s assessment indicates that “passive optical equipment” is a category of manufactured products separate from electronics that is made up of devices that split, combine, or facilitate the passage of optical signals in a fiber optic communication system without use of power. Examples of passive optical equipment include splitters, multiplexers, demultiplexers, taps, directional couplers, connectors, optical filters, attenuators, and wave division multiplexers that require no power for operation.²⁷ Stakeholder comments and DOC’s independent market research indicate that passive optical equipment is almost exclusively manufactured overseas and will generally make up a small percent of overall network spend, meaning there is little economic incentive for manufacturers to invest in domestic production. DOC therefore waives application of the Buy America Preference for passive optical equipment in section III.A.2.c below.

²⁶ By way of example, if a BEAD Program subrecipient purchases a cabinet that comes packaged with a length of fiber optic cable, the BEAD Program subrecipient must ensure that the cabinet meets the standards set forth in this waiver for cabinets, and that the fiber optic cable meets the standards set forth in this waiver for fiber optic cable.

²⁷ Taps are sometimes referred to as fiber terminals. For the sake of clarity, passive optical fiber terminals are not the “terminals” discussed in the electronics or enclosures sections below.

5. Other Network Equipment

The Proposed BEAD BABA Waiver stated that NTIA's research indicates that there is some domestic production capacity for other network equipment that is not electronics, and that expenditures on this category of equipment as a percentage of total network spend is low. The Proposed BEAD BABA Waiver further stated that DOC expected that to the extent that there are classes or categories of other network equipment used in broadband network deployments that are not domestically available the public interest waiver of the Buy America Preference for *de minimis* infrastructure project purchases would be sufficient for most projects.²⁸

A number of commenters asserted that existing domestic supply that can be utilized under the DOC *de minimis* Waiver would not be sufficient to ensure a sufficient supply of "other network equipment," and further stated that the complexity of tracking and reporting on the use of minor hardware items, some of which do not have Stock-Keeping Units (SKUs), would add significant transaction costs to BEAD Program projects with no material benefit.

DOC believes the additional clarification it is providing regarding the scope of this waiver, including the clarification that this waiver waives the Buy America Preference for passive optical equipment, is sufficient to address concerns regarding the application of the DOC *de minimis* Waiver to other network equipment (e.g., conduit, mounting brackets, patch panels).

With regard to minor hardware items, DOC believes that the value of such items will not exceed *de minimis* thresholds under its existing waiver. BEAD Program recipients and subrecipients are expected to make a good faith effort to measure the quantity and value of minor hardware items utilized in the project and report accordingly.

C. Consistency with International Agreements

Several commenters filed comments regarding the treatment of international agreements under BABA. Consistent with OMB guidance, DOC notes that pursuant to Section 70914(e) of BABA,²⁹ this waiver must be applied in a manner consistent with the obligations of the United States under international agreements. Federal financial assistance awards are generally not subject to international trade agreements because these international obligations generally only apply to direct Federal procurement activities by signatories to such agreements. The Federal Acquisition Regulation (FAR) addresses how international trade agreements implemented by the Trade Agreements Act apply to direct Federal procurement activities of the U.S. at FAR subpart 25.4.³⁰ A number of U.S. states have opted to obligate their procurement activities to the terms of one or more international trade agreements and, as such, are included in schedules to the international trade agreements. If a BEAD recipient is a state that has assumed procurement obligations

²⁸ See Department of Commerce, Department-wide Public Interest Waivers for De Minimis Infrastructure Project Purchases, Small Grants, and Minor Components within Iron and Steel Products, Notice of Final Waiver (May 17, 2023), <https://www.commerce.gov/sites/default/files/2023-05/De%20Minimis%20Waiver.pdf> (DOC *de minimis* Waiver).

²⁹ IIA § 70914(e).

³⁰ See also FAR 25.1101, 25.1103, and 52.225-5.

pursuant to the Government Procurement Agreement or any other trade agreement, a Federal agency that applies a BABA preference to Federal awards may propose to waive BABA requirements in the public interest to allow a State to comply with its international trade agreement obligations. DOC will follow the procedures in Section 184.7 of the OMB guidance in 2 CFR part 184 and relevant supplemental guidance in OMB M-24-02 in evaluating waiver requests. For additional information, interested entities may also consult with the state in question or NTIA.

III. Waiver

In light of the foregoing, DOC is issuing a limited, five-year, general applicability, nonavailability waiver of the Buy America Preference requirements for certain construction materials and certain manufactured products for the BEAD Program under the following circumstances:

A. Scope of Waiver

1. Construction Materials

DOC waives the Buy America Preference for non-optic-glass inputs (*e.g.*, an overclad cylinder) to preforms used to manufacture optical fiber and fiber optic cable in BEAD Program projects. However, all optic glass used in the manufacturing of optical fiber and fiber optic cable (including “core rods”) must meet the standard for glass set forth in 2 CFR § 184.6(a)(3): “All manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.”³¹ DOC also requires that all fiber optic cable and optical fiber must otherwise meet the standards for those materials set forth in 2 CFR § 184.6(a)(4) and (a)(5).³²

DOC clarifies that it considers connectors to be minor additions to fiber optic cable that occur after the construction material has been produced in the United States.³³ Connectors do not, therefore, need to be manufactured in nor attached to fiber optic cable in the United States.

In addition, as included in the Proposed BEAD BABA Waiver, in order to ensure that optical fiber and fiber optic cable are produced in the United States, the DOC *de minimis* Waiver may not be applied to recipient or subrecipient purchases of optical fiber and fiber optic cable.

2. Manufactured Products

a. Electronics

DOC waives the Buy America Preference for all electronics in BEAD Program projects, with the exception of the four categories of electronics identified in this section: 1) Optical line terminals and remote optical line terminals, 2) OLT line cards, 3) optic pluggables, and 4) Standalone optical network terminals and optical network units. For these four

³¹ 2 CFR § 184.6(a)(3).

³² 2 CFR § 184.6(a)(4), (a)(5).

³³ See 2 CFR § 184.6(a)(4) (standard for fiber optic cable is silent with respect to connectorization, which occurs after jacketing); see also 2 CFR § 184.3 (definition of “construction materials” stating that “Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material.”).

categories of electronics, DOC waives the 55 percent cost of components requirement and provides specific guidance regarding manufacturing processes that must occur in the United States for these categories to be considered “produced in the United States.”³⁴

In addition, as included in the Proposed BEAD BABA Waiver, in order to ensure that the four categories of electronics identified in this section are produced in the United States, the DOC *de minimis* Waiver may not be applied to recipient or subrecipient purchases of the four categories of electronics identified in this section.

i. Optical Line Terminals and Remote Optical Line Terminals

Optical Line Terminals (OLTs) and Remote Optical Line Terminals (rOLTs) are optical network electronic components typically found in ISP network hubs or distributed deeper into the network (*e.g.*, in cabinets or other enclosures between a network hub and a customer premises) and are used to send and receive signals. OLTs and rOLTs covered by this waiver include, but are not limited to, OLTs and rOLTs that support EPON, GPON, NGPON2, XGS-PON, 25GS-PON, Point-to-Point Ethernet, and G.fast technologies, as well as future PON technologies.

In order for an OLT or rOLT to be considered “produced in the United States,” the following manufacturing processes, at a minimum, must be conducted entirely within in the United States:

- Printed Circuit Board (PCB) Assembly is required for any PCB in the OLT that contains line card (subscriber-facing) functionality;³⁵
- Software integration (including firmware integration, installation of licensed software, and customer specific configuration);
- Chassis assembly;
- Testing and quality assurance; and
- Packaging and shipping.

ii. OLT Line Cards

OLT line cards are a type of fiber-optic card that performs the functions of an OLT including, among other things, the physical and data link layer functions of the PON. OLT line cards can be installed in OLTs, rOLTs, and equipment that has the characteristics of OLTs (*e.g.*, switches, routers, virtual OLTs, etc.) to provide network interface ports. An OLT line card is subject to the Buy America Preference regardless of where the line card is installed, what it is called, or what additional capabilities the line card might possess.

In order for OLT line cards, whether sold independently or installed in an OLT, rOLT, or equipment that has the characteristics of OLTs, to be considered “produced in the United States,” the following manufacturing processes, at a minimum, must be conducted entirely within the United States:

³⁴ 2 CFR § 184.3 (definitions of “manufactured product” and “produced in the United States.”).

³⁵ For the purposes of this waiver, “PCB Assembly” means the complete process of transforming a bare printed circuit board into a functional unit by mounting and soldering components creating a functional board for inclusion in a finished product.

- PCB Assembly;³⁶
- Line card assembly;
- Software integration (including firmware integration, installation of licensed software, and customer specific configuration);
- Chassis assembly;
- Testing and quality assurance; and
- Packaging and shipping.

iii. Optic Pluggables

Optic pluggables are subscriber (or customer)-facing optical transceivers that can be installed in (“plugged into”) OLTs, rOLTs, and equipment that has the characteristics of OLTs (e.g., switches, routers, virtual OLTs). In order for optic pluggables, whether sold independently or installed in an OLT or rOLT or equipment that has the characteristics of OLTs or rOLTs, to be considered “produced in the United States,” the following manufacturing processes, at a minimum, must be conducted entirely within the United States:

- Optical sub-assembly installation;
- Housing assembly;
- Software integration (including firmware integration, installation of licensed software, and customer specific configuration);
- Testing and quality assurance; and
- Packaging and shipping.

iv. Standalone Optical Network Terminals and Optical Network Units

Standalone Optical Network Terminals (ONTs), Optical Network Units (ONUs), and standalone devices that perform the functions of an ONT or ONU (together, standalone ONT/ONUs) are installed in PON/FTTH networks at the customer endpoint to serve as a demarcation between a service provider network and the consumer in-home network. Standalone ONTs/ONUs contain active electronics to convert optical signals to and from electrical signals. In order for a standalone ONT/ONU to be considered “produced in the United States,” the following manufacturing processes, at a minimum, must be conducted entirely within in the United States:

- PCB Assembly;³⁷
- Software integration (including firmware integration, installation of licensed software, and customer specific configuration);
- Chassis assembly;
- Testing and quality assurance; and

³⁶ *Id.*

³⁷ *Id.*

- Packaging and shipping.

Recipients and subrecipients may not avoid application of the Buy America Preference by deploying combined ONTs that function only as a standalone ONT/ONU (*e.g.*, a combined ONT/router with the routing functionality disabled).

b. Enclosures

Enclosures are manufactured products used to protect and house a network function (*e.g.*, active electronics, fiber split or splice, or other connection points). Enclosures can generally be viewed as falling into one of four categories:

i. Cabinets

Cabinets fall into two general categories: passive and active. Passive cabinets offer a housing and management system to split fiber-optic cables from the central office to customer premises. They include a splitter module, responsible for dividing the signal from the feeder cable into individual drop cables, and a chassis that accommodates the ports where fiber-optic cables can be connected. Passive cabinets include optical hub cabinets, optical broadband cabinets, fiber distribution hubs, and primary flex points. Active cabinets are engineered with integrated power and climate control systems.

ii. Vaults and Other Below Ground Housings (Vaults)

Vaults and other below ground housings also fall into two general categories: passive and active. Passive vaults and handholes are underground enclosures that provide access to fiber optic cable for splicing and repairs, and include pull boxes or splice boxes. Active vaults, sometimes referred to as controlled environment vaults, are underground vaults that are engineered with integrated power and climate control systems in which electronics, among other things, can be installed.

iii. Pedestals and Other Above Ground Housings (Pedestals)

Pedestals house splitters and splicers which connect the central office to customer premises. Other above ground housings are, like pedestals, protective units (housing) for splices, taps, splitters, combiners, or other passive optical components.

iv. Closures and Terminals

Closures also fall into two general categories: passive and active. Passive closures are a connection part that connect two or more fiber optical cables together and for housing terminals, splices, splitters/combiners, and taps. They include spliced closures, network interface device (NID) enclosure, and other wall-mount, pole-mount, or aerial closures. Active closures, sometimes referred to as OSP active housing, are closures that are manufactured with an integrated power component.

Terminals are devices used as a connection point for fiber cabling and cable management specifically for splicing, splitting, and distribution. They also provide sealed environmental protection and control for network line deployment (*i.e.*, splices, splitters/combiners, and taps).

v. Application of the Buy America Preference to Enclosures

DOC declines to waive the 55 percent cost of components requirement for cabinets, Vaults, Pedestals, and closures and terminals.³⁸

In order for cabinets, Vaults, or Pedestals to be considered “produced in the United States,” in addition to complying with the cost of components requirement, the following manufacturing processes, at a minimum, must be conducted entirely within the United States:

1. Integrate subassemblies;
2. Install internal components, hardware, and wiring;
3. Seal and waterproof; and
4. Test, label, and document.

In order for closures and terminals to be considered “produced in the United States,” in addition to complying with the cost of components requirement, the following manufacturing process, at a minimum, must be conducted entirely within the United States: Manufacturing of the molded outer shell (*e.g.*, by injection molding).

DOC clarifies that enclosures should be evaluated for compliance with the Buy America Preference on a standalone basis.³⁹ Likewise, construction materials and manufactured products bundled or packaged with an enclosure must themselves be evaluated for compliance with the Buy America Preference.

In addition, as included in the Proposed BEAD BABA Waiver, in order to ensure that enclosures are produced in the United States, the DOC *de minimis* Waiver may not be applied to recipient or subrecipient purchases of enclosures.

c. Passive Optical Equipment

Passive optical equipment is a category of manufactured products that is made of up devices that split, combine, or facilitate the passage of optical signals in a fiber optic communication system without use of power.⁴⁰ Examples of passive optical equipment include splitters, multiplexers, demultiplexers, taps, directional couplers, connectors, optical filters, attenuators, and wave division multiplexers that require no power for operation. DOC waives the Buy America Preference for passive optical equipment.

d. Other Network Equipment

Other network equipment that is not electronics (*e.g.*, conduit, mounting brackets, patch panels, *etc.*) makes up a small percentage of network expenditures. This waiver does not apply to these types of other network equipment. To the extent that there are classes or

³⁸ See *supra* section II.B.3 for the rationale for this change in approach from the Proposed BEAD BABA Waiver. (“DOC’s assessment further indicates, however, that (a) many closures and terminals manufactured outside the United States incorporate a significant percentage of domestic components, and (b) manufacturers have the incentive and ability to invest in domestic capacity to manufacture the molded outer shells of closures and terminals to meet BEAD Program demand.”).

³⁹ See *supra* n. 26.

⁴⁰ For the sake of clarity, neither optical fiber nor fiber optic cable are “passive optical equipment” as defined in or for purposes of this waiver.

categories of other network equipment used in broadband network deployments that are not domestically available, DOC expects that the DOC *de minimis* Waiver will be sufficient for most projects.⁴¹

3. Iron or Steel Products

DOC does not waive the Buy America Preference for any other iron or steel products used for BEAD-funded broadband infrastructure projects, including radio towers used in terrestrial fixed wireless deployments. To the extent that there are products or categories of iron or steel products used in broadband network deployments that are not domestically available, DOC expects the DOC *de minimis* Waiver will be sufficient for most projects.⁴²

B. Additional Requirements

1. Buy America Self Certification

Manufacturers that have expressed a willingness to onshore manufacturing of key electronics are concerned that they will be undercut by companies falsely claiming BABA compliance. In order to address such concerns, DOC will publish and maintain on the NTIA website a list of manufacturers and that manufacturer's individual products that an officer of the company has certified, subject to fine or imprisonment under Title 18 of the United States Code, 18 U.S.C. 1001, are compliant with the Buy America Preference.⁴³ DOC will publish additional self-certification information in separate guidance.

2. Reporting Requirements

BEAD Program recipients are responsible for compliance with BABA reporting requirements under this waiver. In addition, consistent with the approach taken in the Middle Mile Grant Program BABA Waiver, BEAD Program recipients to whom the waiver applies must report on their purchases of items from foreign sources.⁴⁴ Recipients reporting foreign-sourced items will help with future DOC grant programs and awards that also use those items and support market research. DOC will use this information to better understand the market and availability of U.S. products in this supply chain to inform its implementation of the BEAD Program as well as its other broadband infrastructure deployment programs. DOC will publish additional BABA reporting and compliance requirements in separate guidance.

IV. Anticipated Program and Project Impacts Absent Limited Non-Availability Waiver

DOC conducted an extensive effort to engage with a wide-ranging set of stakeholders across the broadband ecosystem. This includes, but is not limited to, ISPs, telecom companies, large and small manufacturers, multinational equipment providers, and many of the associations that represent these entities. Based on this extensive engagement, DOC

⁴¹ See DOC *de minimis* Waiver.

⁴² See *id.*

⁴³ 18 U.S.C. § 1001.

⁴⁴ Department of Commerce, Limited Applicability Nonavailability Waiver of the Buy America Domestic Content Procurement Preference as Applied to Recipients of Middle Mile Grant Program Awards, Notice of Final Waiver (Apr. 19, 2023), <https://www.commerce.gov/sites/default/files/2023-04/NTIA%20Middle%20Mile%20Final%20Waiver.pdf>.

finds that, absent the waiver, potential recipients and subrecipients that may wish to participate in the BEAD Program will be unable to source BABA-compliant electronics or BABA-compliant optical fiber and fiber optic cable in sufficient and reasonably available quantities or of a satisfactory quality. This would create a material, and avoidable, risk to the overall success of the BEAD Program.

V. Effective Date and Duration of the Waiver

For those BEAD awards obligated on or after the effective date of this waiver, February 22, 2024, through February 22, 2029 (i.e., five years from the effective date), the waiver will apply to funds expended by award recipients and subrecipients during the entire period of performance of the award. For awards obligated prior to the effective date of this waiver, the waiver only applies to funds expended by award recipients and subrecipients after the effective date and for the remainder of the period of performance of the award. DOC will review this waiver no less than annually to assess whether it remains necessary to the fulfillment of NTIA’s missions and goals and consistent with applicable legal authorities, such as the IIJA, Executive Order 14005, and 2 CFR Part 184. DOC may, based on the results of that review, terminate or narrow the scope or duration of this waiver, or take such other action as it deems appropriate.

VI. Paperwork Reduction Act

This notice does not contain collection-of-information requirements subject to the Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501 *et seq.*). Notwithstanding any other provisions of law, no person is required to, nor shall a person be subject to penalty for failure to comply with, a collection of information subject to the requirements of PRA unless that collection of information displays a currently valid OMB control number.

Issued in Washington, DC



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