

Eligible Services List

The Eligible Services List is published annually each fall and identifies which services and equipment are eligible for E-rate funding. If a service or equipment component is not included in the ESL, applicants and vendors should assume that the non-listed service or equipment component is *not eligible* for funding.

The final Eligible Services List (ESL) for FY 2017 sets forth only one set of modifications from FY 2016's ESL to provide an explanation and definition of "campus" distinguishing between:

(1) connections between instructional buildings on a single school campus that are Category Two internal connections; and

(2) connections between instructional buildings of a single school that are on separate campuses and connections between different schools, both of which are considered part of a WAN and are Category 1 services.

Categories of Service

The Eligible Services List includes five service types that fall into one of two funding categories:

Category 1:

- Data Transmission Services and Internet Access
- Voice Services (being phased out)

Category 2:

- Internal connections
- Managed Internal Broadband Services
- Basic Maintenance of Internal Connections

FY 2017 Eligible Services List - Category 1 and Category 2

Federal Communications Commission

DA 16-1023

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

In the Matter of)
)
Modernizing the E-rate Program for Schools and) WC Docket No. 13-184
Libraries)

ORDER

Adopted: September 12, 2016

Released: September 12, 2016

By the Chief, Wireline Competition Bureau:

I. INTRODUCTION

1. In this Order, the Wireline Competition Bureau (Bureau) adopts the proposals we made in the *ESL Public Notice*¹ and releases the eligible services list (ESL) for funding year 2017 for the schools and libraries universal service support program (more commonly referred to as the E-rate program).² We also authorize the Universal Service Administrative Company (USAC) to open the annual application filing window no earlier than 60 days after release of this Order.³

II. BACKGROUND

2. Sections 254(c)(1), (c)(3), (h)(1)(B), and (h)(2) of the Communications Act collectively grant the Commission authority to specify the services that will be supported for eligible schools and libraries and to design the specific mechanisms for support.⁴ Pursuant to this authority, the Commission delegated responsibility to the Wireline Competition Bureau to update the ESL annually, as necessary.⁵

3. In the *ESL Public Notice*, we sought comment on the proposed revisions to the ESL for funding year 2017.⁶ Specifically, we proposed revising the description of leased dark fiber in the listing of Category One services to highlight difference between leased dark fiber and self-provisioned fiber under our E-rate program rules, removing the term “special construction” from Note 2 under eligible Category One data transmission services and Internet access services to better reflect the existing requirement that applicants seeking bids for leased dark fiber, with or without special construction, must also seek bids for the needed connectivity over leased lit fiber and must fully consider such bids, moving the location of certain eligibility explanations for Category One and Category Two services, and providing a new explanation of how to classify connections between multiple buildings of a single school.⁷ We also sought comment on any further modifications to the ESL regarding the options

¹ *Wireline Competition Bureau Seeks Comment on Proposed Eligible Services List for the E-rate Program*, WC Docket No. 13-184, Public Notice, 31 FCC Rcd 5715 (WCB 2016) (*ESL Public Notice*).

² See Appendix C, *Schools and Libraries Universal Service Support Mechanism, Eligible Services List for Funding Year 2017* (FY2017 ESL). The ESL specifies the services and products that are eligible for E-rate discounts.

³ 47 CFR § 54.502(d) (requiring the final ESL to be released at least 60 days prior to the opening of the application filing window).

⁴ 47 U.S.C. §§ 254(c)(1), (c)(3), (h)(1)(B), (h)(2).

⁵ See 47 CFR § 54.502 (detailing the procedures for seeking comment on a draft ESL).

⁶ *ESL Public Notice*, 31 FCC Rcd at 5715.

⁷ *Id.* at 5715-16.

available for purchasing affordable high-speed connectivity.⁸ The comment cycle closed on July 20, 2016.

III. DISCUSSION

4. Having considered the record, we update the ESL for funding year 2017 by adopting the four changes proposed in the *ESL Public Notice* with small modifications, for the reasons described below. We also decline to make any further changes to the ESL, including any of the changes proposed in the comments and reply comments received in response to the notice.

5. First, we adopt the proposed changes to the description of eligible leased dark fiber to read “Leased Dark Fiber (including dark fiber indefeasible rights of use (IRUs) for a set term).”⁹ As described in the *ESL Public Notice*, this revision is intended to further explain the distinction between leased dark fiber and self-provisioned fiber under E-rate program rules.¹⁰ We also adopt the proposal to delete “special construction” from Note 2 under eligible Category One data transmission and Internet access services,¹¹ finding that this better reflects the existing requirement that applicants that seek bids for leased dark fiber must also seek and fully consider bids for leased lit fiber service, regardless of whether the funding request includes special construction.¹² We received no comments objecting to these changes. Further, we make slight further revisions to that same Note to make explicit that, consistent with section 54.503(c)(1)(iv) of our rules, applicants that seek bids for self-provisioned broadband networks must also seek bids for the needed connectivity via broadband services provided over third-party networks and must fully consider such bids.¹³

6. Second, we adopt the change proposed in the *ESL Public Notice* to revise the title of the section previously titled “Eligibility Explanations for Certain Category One Services” to include Category Two services, and to move it so that it appears in the ESL after the description of Category Two services. This change better reflects the fact that each of the eligibility explanations include a discussion of both categories of service, and we received no comments objecting to this proposed change.

7. Also, absent objections in the record, we adopt the proposal in the *ESL Public Notice* to provide an explanation of how to classify connections between multiple buildings of a single school for the purposes of requesting Category One or Category Two support.¹⁴ As explained in the *ESL Public Notice*, the E-rate rule’s definition of WAN explicitly excludes “connections between or among instructional buildings of a single school campus or between or among non-administrative buildings of a single library branch.”¹⁵ The rules also specify that internal connections eligible for Category Two

⁸ *Id.* at 5716.

⁹ *Id.* at 5715.

¹⁰ See *Modernizing the E-rate Program for Schools and Libraries, Connect America Fund*, WC Docket Nos. 13-184, 10-90, Second Report and Order and Order on Reconsideration, 29 FCC Rcd 15538, 15550, para. 31 (2014) (*Second E-rate Modernization Order*) (“Dark-fiber leases and other dark-fiber service agreements are commercial arrangements in which a broadband customer purchases use of a portion of a provider-owned and maintained fiber network separately from the service of lighting (i.e. transmitting information over) that fiber.”); *Schools and Libraries Universal Service Support Mechanism, A National Broadband Plan For Our Future*, CC Docket No. 02-6, GN Docket No. 09-51, Sixth Report and Order, 25 FCC Rcd 18762, 18772, para. 19 & n. 51 (2010) (“For purposes of the E-rate program, we will consider Indefeasible Rights of Use (IRU) purchase agreements as a lease of dark fiber.”).

¹¹ *ESL Public Notice*, 31 FCC Rcd at 5715.

¹² *Second E-rate Modernization Order*, 29 FCC Rcd at 15553, 15557, paras. 39, 47-48.

¹³ 47 CFR § 54.503(c)(1)(iv).

¹⁴ *ESL Public Notice*, 31 FCC Rcd at 5716.

¹⁵ 47 CFR § 54.500.

support are services “necessary to transport or distribute broadband within one or more instructional buildings of a single school campus or within one or more non-administrative buildings that comprise a single library branch.”¹⁶ Consistent with those definitions, the ESL provides an explanation of the term “campus” because the classification of connections between multiple buildings of a single school as Category One or Category Two services is determined by whether the buildings are located on the same campus. As described in the ESL, a campus, for the purposes of the E-rate program, is the geographically contiguous grounds where the instructional buildings of a single eligible school are located. A single school may have multiple campuses if it has instructional buildings located on grounds that are not geographically contiguous.¹⁷ Different schools, as opposed to different instructional buildings of the same school, located on the same grounds do not comprise a single campus.¹⁸ The portion of the grounds occupied by the instructional buildings for each school is a campus for that school. For more information on this issue, we have included a series of Frequently Asked Questions in Appendix B.

8. We make no other changes to the ESL for funding year 2017, and we specifically decline to address or consider comments requesting that we add services to the ESL or provide additional clarifications, as beyond the scope of this proceeding.¹⁹ In the *ESL Public Notice*, we reminded commenters that the decisions made by the Commission in the *E-rate Modernization Orders* were not open for reconsideration in this proceeding.²⁰ Several commenters, however, made requests to add services to the ESL that would require the Commission to revisit its previous decisions in the *E-rate Modernization Order* and *Second E-rate Modernization Order* and/or asked the Commission to reconsider other issues resolved in those decisions.²¹ Due to the complexity of these issues and the limited scope of the ESL proceeding, we do not address these requests at this time.

¹⁶ *Id.*

¹⁷ For example, a single school with instructional buildings located miles apart are not a single campus and the connections between those buildings may be classified as Category One services. See Appendix B, Frequently Asked Questions Regarding Classification of Connections as Category One or Category Two, Q7.

¹⁸ For example, a high school and a middle school located on the same grounds are not a single campus and connections between these schools may be classified as Category One services. See Appendix B, Frequently Asked Questions Regarding Classification of Connections as Category One or Category Two, Q3.

¹⁹ See, e.g., DoIT Comments at 2-3 (requesting that dark fiber obtained via lease or IRU as part of a construction project, with the goal of reducing the overall construction cost, be classified as special construction), *contra* CenturyLink Reply Comments at 1-2 (replying that such a substitution could undermine the program by allowing after-the-fact changes to a fair and competitive procurement); see also, e.g., KB & Associates Comments at 1 (requesting that mobile broadband services to school buses be eligible for E-rate support); Wisconsin DPI Reply Comments at 1-2 (supporting eligibility of E-rate support for off-campus household and school bus broadband access). See also, e.g., DoIT Comments at 4 (requesting eligibility for redundant connections). This request would require the Commission to revisit its previous decisions. See Schools and Libraries Universal Support Mechanism, CC Docket No. 02-6, Second Report and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 9202, 9209-11, paras. 22-24 (2003) (declining to support duplicative services); *Requests for Review by Macomb Intermediate School District Technology Consortium, Schools and Libraries Universal Support Mechanism*, CC Docket No. 02-6, Order, 22 FCC Rcd 8771 (2007) (denying a request for review of the denial of support for redundant networks).

²⁰ *ESL Public Notice*, 31 FCC Rcd at 5716, n.7.

²¹ For example, some commenters offered comments advocating for a pause in the phase down of support for voice services. See, e.g., FFL Comments at 1 (requesting a pause in the phase down of support for voice services); Adtec, Inc. Reply Comments at 1-2 (supporting the suspension of the phase down). The Commission adopted the phase down of support for voice services in 2014 with a requirement for a report on the effects of the first two years of the phase-down due no later than by October 1, 2017. Without further action by the Commission, the phase down will continue. See *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 8870, 8926, 8928, paras. 140, 143 (2014) (*First E-rate Modernization Order*). Other commenters sought support for cellular data service for certain staff members for

(continued....)

IV. ORDERING CLAUSE

9. ACCORDINGLY, IT IS ORDERED, that pursuant to the authority contained in sections 1 through 4, 254, 303(r), and 403 of the Communications Act of 1934, as amended, 47 USC. §§ 151-154, 254, 303(r), and 403, and sections 0.91 and 54.502 of the Commission's rules, 47 CFR. §§ 0.91 and 54.502, this Order is ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION

Matthew S. DelNero
Chief
Wireline Competition Bureau

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emergency situations. *See, e.g.,* AdTec, Inc. Comments at 1 (seeking support for cellular data service for certain staff members for emergency situations). *See Second E-rate Modernization Order*, 29 FCC Rcd at 8932-33, para. 151-53 (determining that data plans will only be eligible when they are the most cost-effective option for providing internal broadband access); *see also Requests for Waiver of Decisions of the Universal Service Administrator by Batesville Community School Corporation et al., Schools and Libraries Universal Service Support Mechanism, Modernizing the E-rate Program for Schools and Libraries*, CC Docket No. 02-6 and WC Docket No. 13-184, Order, DA 16-823 (WCB 2016) (denying requests for waivers related to funding for individual data plans based on public safety concerns). Still others sought support for services that the Commission declined to support. *See, e.g.,* FireEye, Inc. Comments at 2 (seeking support for network security services including non-signature based detection and detonation chambers); Cox Comments at 1 (supporting eligibility for distributed denial of service (DDoS) prevention services); DoIT Comments at 3-4 (arguing for support of DDoS mitigation and content filtering services); WDPI Reply Comments at 2 (supporting the recommendation that content filtering be eligible). The Commission declined to further expand eligibility to additional network security services in order to focus Category Two funding on other necessary wireless local area network (WLAN) equipment and services. *See First E-rate Modernization Order*, 29 FCC Rcd at 8919, para. 121 & n.275.

APPENDIX A

List of Commenters

**Comments and Reply Comments in Response to the
*ESL Public Notice***

WC Docket No. 13-184

Commenters

1. AdTec, Inc.
2. Cox Communications, Inc. (Cox)
3. FireEye, Inc.
4. Funds for Learning, LLC (FFL)
5. Illinois Department of Innovation and Technology (DoIT)
6. KB & Associates

Reply Commenters

1. AdTec, Inc.
2. CenturyLink
3. Sprint Corporation
4. Wisconsin Department of Public Instruction (WDPI)

APPENDIX B

**Frequently Asked Questions
Regarding Classification of Connections as Category One or Category Two****Q1: Are costs for applicant-owned wide area networks (WAN) now eligible as Category One services?**

A1. Yes. Beginning in funding year 2016, costs related to applicant-owned WANs will be eligible for Category One support. In the *Second E-rate Modernization Order*, the Commission established a mechanism for applicants to seek Category One support for self-provisioned networks when self-provisioning is the most cost-effective option to meet their connectivity needs. Consistent with that decision, the Commission eliminated a prior rule that prohibited E-rate support for applicant-owned WANs. As a reminder, lease arrangements for non-exclusive access to service provider WANs have long been eligible for Priority One/Category One support under the E-rate program.

Q2. What is a WAN for the purposes of the E-rate program?

A2. For broadband, connections forming a data network between multiple eligible schools or libraries are WAN connections for the purposes of the E-rate program. WAN connections do not include connections between or among multiple buildings of a single school campus or single library branch. Such connections are Category Two internal connections under the E-rate rules.

Q3. What if the different schools or libraries are located on the same campus? Are the connections installed between them eligible for Category One support?

A3. Yes. Under the rules adopted by the *Second E-rate Modernization Order*, connections installed between two or more schools or libraries are eligible for Category One support, irrespective of whether the schools are located on the same campus.

Take, for example, a high-rise building with three different schools located on three different floors. As one option for meeting their connectivity needs, the three schools consider constructing a network that connects their facilities on different floors of the building, with a single connection running out to a service provider's point-of-presence (PoP). That configuration would be a WAN for the purposes of the E-rate program. The costs associated with installing the connection running out to the PoP and between the three schools within the building would be eligible for Category One support. Similarly, a connection between a middle school and high school located on the same campus would be eligible for Category One support.

Q4. Isn't a connection that crosses a public right-of-way eligible for Category One support, and any fiber connection that does not cross a public right-of-way an internal connection?

A4. No. Before the *Modernization Orders*, the E-rate program's definition of "internal connections" included a rebuttable presumption that a connection that crossed a public right-of-way was *not* an internal connection. The purpose of that rebuttable presumption was to distinguish between connections that may be eligible for what was formerly called Priority Two support as part of an applicant's LAN from those that would not be eligible for E-rate support at all because they were part of an applicant-owned WAN.

Now that applicant-owned WANs are eligible for Category One support, there is no need for that distinction. In fact, the *E-rate Modernization Order* removed the rebuttable presumption and the reference to a public right-of-way from the definition of internal connections altogether.

The Commission now defines internal connections as services “necessary to transport or distribute broadband within one or more instructional buildings of a single school campus or within one or more non-administrative buildings that comprise a single library branch.”¹

In short, the classification of a connection as a Category One or Category Two service turns on the function of the connection, *i.e.*, whether it is part of a WAN connecting multiple eligible schools or libraries, or whether it distributes broadband within a single school campus.

Q5. So, in the high-rise example above, if three floors of the building are occupied by instructional facilities of a *single* school, the connections installed between the floors occupied by the single school would be internal connections?

A5. Correct. The connections between the instructional facilities located on different floors of the high-rise building would distribute broadband within a single school campus. They would, therefore, be internal connections eligible for Category Two support.

Q6. What about a single school campus that is intersected by a public right-of-way, with instructional buildings located on either side of the public right-of-way? Would the connections between all of the instructional buildings be internal connections?

A6. Yes. The connections installed between the buildings on either side of the public right-of-way would distribute broadband to the instructional buildings of a single school campus, and would be internal connections eligible for Category Two support as opposed to WAN connections eligible for Category One support.

Q7. What about a single school with multiple campuses that are located miles apart? Would connections installed between the instructional buildings on the different campuses be internal connections?

A7. No. Internal connections distribute broadband within one or more instructional buildings of a single school campus, or within one or more non-administrative buildings that comprise a single library branch. Connections that distribute broadband to buildings of a single school located on *multiple* campuses located miles apart would not be internal connections, and may be eligible for Category One support.

¹ 47 CFR § 54.500.

APPENDIX C**Eligible Services List for Funding Year 2017
Schools and Libraries Universal Service Support Mechanism**

(WC Docket No. 13-184)

The Federal Communications Commission's (FCC's) rules provide that all services that are eligible to receive discounts under the Schools and Libraries Universal Service Support Mechanism (otherwise known as the E-rate program or E-rate) are listed in this Eligible Services List (ESL). The E-rate program is administered by the Universal Service Administrative Company (USAC). Eligible schools and libraries may seek E-rate support for eligible Category One telecommunications services, telecommunications, and Internet access and Category Two internal connections, basic maintenance, and managed internal broadband services as identified herein. 47 CFR §§ 54.5, 54.500, and 54.502(a).

Additional guidance from USAC about the E-rate application process and about eligible services, including a glossary of terms, is available at USAC's website at <http://www.usac.org/sl/>. The documents on USAC's website are not incorporated by reference into the ESL and do not bind the Commission. Thus, they will not be used to determine whether a service or product is eligible. Applicants and service providers are free to refer to those documents, but just for informal guidance. This ESL applies to funding requests for Funding Year 2017.

Category One

The first category of supported services, Category One, includes the services needed to support broadband connectivity to schools and libraries. Eligible Category One services are listed in the entries for data transmission services and Internet access and voice services. This category consists of the services that provide broadband to eligible locations including data links that connect multiple points, services used to connect eligible locations to the Internet, and services that provide basic conduit access to the Internet. With the exception of leased dark fiber and self-provisioned broadband networks, maintenance and technical support appropriate to maintain reliable operation are only eligible for support when provided as a component of these services. Voice services, as described below, are subject to a phase down of support that began in Funding Year (FY) 2015.

Data transmission services and Internet access

Digital transmission services and Internet access are eligible in Category One. These services include:

- Asynchronous Transfer Mode (ATM)
- Broadband over Power Lines
- Cable Modem
- Digital Subscriber Line (DSL)
- DS-1 (T-1), DS-3 (T-3), and Fractional T-1 or T-3
- Ethernet
- Integrated Services Digital Network (ISDN)
- Leased Lit Fiber
- Leased Dark Fiber (including dark fiber indefeasible rights (IRUs) for a set term)
- Self-Provisioned Broadband Networks
- Frame Relay
- Multi-Protocol Label Switching (MPLS)
- OC-1, OC-3, OC-12, OC-n
- Satellite Service
- Switched Multimegabit Data Service
- Telephone dial-up
- Wireless services (e.g., microwave)

Notes: (1) E-rate support is available for leased lit fiber, leased dark fiber, and self-provisioned broadband networks as described in the *Second E-rate Modernization Order* (FCC 14-189). Eligible costs include monthly charges, special construction, installation and activation charges, modulating electronics and other equipment necessary to make a Category One broadband service functional (“Network Equipment”), and maintenance and operation charges. Network Equipment and maintenance and operation costs for existing networks are eligible. All equipment and services, including maintenance and operation, must be competitively bid.

(2) Applicants that seek bids for leased dark fiber must also seek bids for leased lit fiber service and fully consider all responsive bids. Similarly, applicants that seek bids for self-provisioned broadband networks must also seek bids for the needed connectivity via broadband services provided over third-party networks, and fully consider all responsive bids.

(3) Applicants may seek special construction funding for the upfront, non-recurring costs for the deployment of new or upgraded facilities. The eligible components of special construction are construction of network facilities, design and engineering, and project management.

(4) Staff salaries and labor costs for personnel of the applicant or underlying beneficiary are not E-rate eligible.

Eligible voice services

Eligible voice services are subject to an annual 20 percentage point phase down of E-rate support that began in FY 2015, as described in the *E-rate Modernization Order*. For FY 2017, the effective discount rate will be 60 percentage points less than other Category One services. The reduced discount rate for voice services will apply to all applicants and all costs for the provision of telephone services and circuit capacity dedicated to providing voice services including:

- Centrex
- Integrated Services Digital Network (ISDN)
- Interconnected voice over Internet protocol (VoIP)
- Local, long distance, and 800 (toll-free) service
- Plain old telephone service (POTS)
- Radio loop
- Satellite telephone service
- Shared telephone service (only the portion of the shared services relating to the eligible use and location may receive discounts)
- Wireless telephone service including cellular voice and excluding data and text messaging

Category Two

The second category of equipment and services eligible for E-rate support, Category Two, includes the internal connections needed for broadband connectivity within schools and libraries. Support is limited to the internal connections necessary to bring broadband into, and provide it throughout, schools and libraries. These are broadband connections used for educational purposes within, between, or among instructional buildings that comprise a school campus (as defined on p. 7) or library branch, and basic maintenance of these connections, as well as services that manage and operate owned or leased broadband internal connections (e.g., managed internal broadband services or managed Wi-Fi). Category Two support is subject to per-school or per-library budgets as set forth in the *E-rate Modernization Order* and *Second E-rate Modernization Order*. The eligible components and services in Category Two are:

Eligible Broadband Internal Connections

- Access points used in a local area network (LAN) or wireless local area network (WLAN) environment (such as wireless access points)
- Antennas, cabling, connectors, and related components used for internal broadband connections
- Caching
- Firewall services and components separate from basic firewall protection provided as a standard component of a vendor's Internet access service.
- Switches
- Routers
- Racks
- Uninterruptible Power Supply (UPS)/Battery Backup
- Wireless controller systems
- Software supporting the components on this list used to distribute high-speed broadband throughout school buildings and libraries

Notes: (1) Functionalities listed above that can be virtualized in the cloud, and equipment that combines eligible functionalities, like routing and switching, are also eligible.

(2) A manufacturer's multi-year warranty for a period up to three years that is provided as an integral part of an eligible component, without a separately identifiable cost, may be included in the cost of the component.

(3) Caching is defined as a method that stores recently accessed information. Caching stores information locally so that the information is accessible more quickly than if transmitted across a network from a distance. A caching service or equipment that provides caching, including servers necessary for the provision of caching, is eligible for funding.

Eligible Managed Internal Broadband Services

- Services provided by a third party for the operation, management, and monitoring of eligible broadband internal connections are eligible managed internal broadband services (e.g., managed Wi-Fi).
- E-rate support is limited to eligible expenses or portions of expenses that directly support and are necessary for the broadband connectivity within schools and libraries. Eligible expenses include the management and operation of the LAN/WLAN, including installation, activation and initial configuration of eligible components, and on-site training on the use of eligible equipment.
- In some eligible managed services models, the third party manager owns and installs the equipment and school and library applicants lease the equipment as part of the managed services contract. In other cases, the school or library may own the equipment, but have a third party manage it for them.

Basic Maintenance of Eligible Broadband Internal Connections

E-rate support is available for basic maintenance and technical support appropriate to maintain reliable operation when provided for eligible broadband internal connections.

The following basic maintenance services are eligible:

- Repair and upkeep of eligible hardware
- Wire and cable maintenance
- Configuration changes
- Basic technical support including online and telephone based technical support
- Software upgrades and patches including bug fixes and security patches

Eligibility limitations for Category Two:

Eligibility limitations for managed internal broadband services – The equipment eligible for support as part of a managed internal broadband service may include only equipment listed as a broadband internal connections component above. Upfront charges that are part of a managed service contract are eligible for E-rate support except to the extent that the upfront charges are for any ineligible internal connections (e.g., servers other than those that are necessary to provide caching) which, if included in the contract, must be cost allocated out of any funding request.

Eligibility limitations for basic maintenance – Basic maintenance is eligible for support only if it is a component of a maintenance agreement or contract for eligible broadband internal connections. The agreement or contract must specifically identify the eligible internal connections covered, including product name, model number, and location. Support for basic maintenance will be paid for the actual work performed under the agreement or contract. Support for bug fixes, security patches, and technical support is not subject to this limitation. Basic maintenance does not include:

- Services that maintain ineligible equipment
- Upfront estimates that cover the full cost of every piece of eligible equipment
- Services that enhance the utility of equipment beyond the transport of information, or diagnostic services in excess of those necessary to maintain the equipment's ability to transport information
- Network management services, including 24-hour network monitoring
- On-site technical support (i.e., contractor duty station at the applicant site) unless applicants present sufficient evidence of cost-effectiveness
- Unbundled warranties

Eligibility explanations for certain Category One and Category Two services:

Internet access – Eligible Internet access may include features such as basic firewall protection, domain name service, and dynamic host configuration when these features are provided as a standard component of a vendor’s Internet access service. Firewall protection that is provided by a vendor other than the Internet access provider or priced out separately will be considered a Category Two internal connections component. Examples of items that are ineligible components of Internet access include applications, content, e-mail, and end-user devices and equipment such as computers, laptops, and tablets.

Wireless services and wireless Internet access – As clarified in the *Second E-rate Modernization Order*, data plans and air cards for mobile devices are eligible only in instances when the school or library seeking support demonstrates that the individual data plans are the most cost-effective option for providing internal broadband access for mobile devices at schools and libraries. Applicants should compare the cost of data plans or air cards for mobile devices to the total cost of all components necessary to deliver connectivity to the end user device, including the cost of Internet access and data transmission service to the school or library. Seeking support for data plans or air cards for mobile devices for use in a school or library with an existing broadband connection and wireless local area network implicates the E-rate program’s prohibition on requests for duplicative services.

Off-campus use, even if used for an educational purpose, is ineligible for support and must be cost allocated out of any funding request.

Managed internal broadband services, such as managed Wi-Fi, are eligible only for Category Two support.

Connections between buildings of a single school – The classification of connections between multiple buildings of a single school is determined by whether the buildings are located on the same campus. A “campus” is defined as the geographically contiguous grounds where the instructional buildings of a single eligible school are located. A single school may have multiple campuses if it has instructional buildings located on grounds that are not geographically contiguous. Different schools located on the same grounds do not comprise a single campus. The portion of the grounds occupied by the instructional buildings for each school is a campus for that school.

- Connections between buildings on different campuses of a single school are considered to be Category One digital transmission services.
- Connections between different schools with campuses located on the same property (e.g., an elementary school and middle school located on the same property) are considered to be Category One digital transmission services.
- Connections between buildings of a single school on the same campus are considered to be Category Two internal connections.

Miscellaneous

As described below, various miscellaneous services associated with Category One or Category Two are eligible for support. Applicants should request eligible miscellaneous services in the same category as the associated service being obtained or installed.

Fees

Fees and charges that are a necessary component of an eligible product or service are eligible including:

- Change fees
- Contingency fees are eligible if they are reasonable and a regular business practice of the service provider. Contingency fees will be reimbursed only if the work is performed.
- Freight assurance fees
- Lease or rental fees on eligible equipment
- Per diem and/or travel time costs are eligible only if a contract with a vendor for the eligible product or services specifically provides for these costs
- Shipping charges
- Taxes, surcharges, and other similar, reasonable charges incurred in obtaining an eligible product or service are eligible. This includes customer charges for universal service fees, but does not include additional charges for universal service administration.

Installation, activation, and initial configuration

Installation, activation, and initial configuration of eligible components are eligible. These services may include:

- Design and engineering costs if these services are provided as an integral component of the installation of the relevant services
- Project management costs if these services are provided as an integral component of the installation of the relevant services
- On-site training is eligible as a part of installation services but only if it is basic instruction on the use of eligible equipment, directly associated with equipment installation, and is part of the contract or agreement for the equipment. Training must occur coincidentally or within a reasonable time after installation.

Overview of Category 1 Eligibility

Category 1 services fall into two distinct areas of service: Data Transmission Services/Internet Access and Voice Services.

Data Transmission Services/Internet Access

These services cover broadband connectivity and basic conduit access to the Internet – generally services delivered TO the school building. This category does not include charges for content, equipment purchases, or other services beyond basic conduit access to the Internet. This service type also covers leased lit or leased dark fiber and, in special circumstances, self-provisioning (purchase) of dark fiber. The following data transmission services are generally eligible for E-rate funding:

- Fiber (Leased Lit and Leased Dark)
- OC-1, OC-3, OC-12, OC-n
- Microwave Wireless Service
- Satellite Services
- DS-1, DS-2, DS-3
- Ethernet
- T-1, T-3, Fractional T-1
- Frame Relay
- Self-provisioned Broadband Networks
- SMDS
- Cable Modem
- DSL
- ATM
- Telephone Dialup
- Broadband over Power Lines
- Self

In certain end-to-end network services, vendor-owned equipment may be bundled with the cost of the recurring services. Eligibility conditions of this equipment are discussed further in this section.

Voice Services

All voice services, including cellular voice, local, long distance, POTS, 800 service, Centrex, PRI lines, and hosted and interconnected VOIP, are being phased out from FY 2015 – FY 2018. Voice services will no longer be eligible beginning with FY 2019. Beginning in Funding Year 2015, applicants' discounts for voice services will be reduced by 20 discount points each year until no discount remains. The phase out schedule is as follows:

If Your Discount is:	Voice Discount Will Be:				
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
20%	No funding	No funding	No funding	No funding	No funding
25%	5%	No funding	No funding	No funding	No funding
40%	20%	No funding	No funding	No funding	No funding
50%	30%	10%	No funding	No funding	No funding
60%	40%	20%	No funding	No funding	No funding
70%	50%	30%	10%	No funding	No funding
80%	60%	40%	20%	No funding	No funding
90%	70%	50%	30%	10%	No funding

All voice FRNs must be requested on separate funding requests on Form 471 and cannot be “bundled” with other requests so the online system can deduct the appropriate percentage points from the discount rate for that specific FRN. For example, an invoice that includes voice and broadband service must be broken out and listed on two separate funding requests.

The following voice-related services are not eligible for E-rate funding, beginning in FY 2015, for any applicant:

- Paging
- Email
- Telephone Service Components
- Directory assistance charges
- Text messaging
- Custom calling services
- Direct inward dialing (DIDs)
- 900/976 call blocking
- Inside wire maintenance plans

Special Limited Eligibility: Wireless Cellular Data Plans

Wireless cellular data plans are no longer considered to be cost-effective except in very limited circumstances. This includes both the data portion of Smartphone plans, aircards, and tablets and other portable devices with built-in Internet access.

In the past, these data plans were eligible for funding to the extent that they were being used inside an eligible school or library. Off-campus usage of data plans never has been eligible for E-rate and was required to be cost allocated

Beginning in FY 2015, for the first time, the FCC established a bright-line test for the eligibility of wireless data plans.

- If the service is being used in a building that is Wi-Fi enabled, the service is considered not cost-effective (that is the costs are duplicative and unnecessary) when the users can already access the Internet through Wi-Fi networks.
- If being used in a building without Wi-Fi, such plans need to be shown to be cost-effective by showing either that installing a WLAN is not physically possible, or by providing a comparison of the costs to implement an individual data plan solution versus a wireless local area network solution. Applicants must bid the cost of a wireless LAN at the same time they seek bids on the wireless cellular data plans.

This burden of proof is high and an applicant requesting discounts for wireless cellular data plans should be prepared for a cost effective review from PIA. Any applicant who believes that the school or library can meet this burden should file a separate Form 471 application with a wireless cellular data plan funding request and should not include such a request on their primary Form 471 application. This separation hopefully will allow for the prompt processing of the primary Form 471 application while the cost effective review is conducted for the wireless cellular data plan request.

How to Cost Allocate Bundled Voice/Data Plans

Applicants that purchase a bundled voice/data plan, including text messaging, and still have E-rate funding for voice services in FY 2017, must deduct the cost of the wireless cellular data plans on their Form 471 (unless they plan to submit a separate funding request for these charges as described above).

The cost of aircards or data plans for tablets should be easily identifiable from the itemized charges on a monthly bill and these charges must be fully deducted from the pre-discount amount claimed for cellular service.

For Smartphone service, where there is a single bundled price for cellular and wireless data, applicants are required to use a cost allocation that meets the USAC standard of “a tangible criteria that provide a realistic result.”

Applicants may wish to check with their cellular service providers to find out whether the vendor has a recommended cost allocation percentage for wireless data costs and obtain written documentation from the vendor, such as an email or other written explanation. If the service provider does not have a recommended cost allocation percentage or the applicant does not wish to confer with the vendor, then a safe harbor allocation should be 50% of the Smartphone costs to be assumed to be for wireless data service.

Limited Competitive Bidding Exemption for Bundled Internet Access Service:

Applicants that wish to purchase a commercially-available, business-class broadband/Internet package that costs less than \$300/month (pre-discount), may do so without complying with the Form 470 competitive bidding requirement. The exemption will only apply if the package offers speeds of at least 100 mbps downstream and 10 mbps upstream per building and the charges cannot be averaged across multiple buildings. The annual pre-discount \$3600 maximum includes any one-time installation and equipment charges.

VoIP Eligibility

Note: VoIP is considered a voice service (not a broadband service) and therefore is subject to the voice phase-out schedule. VoIP equipment is not eligible for Category 2 funding.

Voice over Internet Protocol (VoIP) is a technology that allows users to place voice phone calls using the same technology as an Internet connection. This technology can replace traditional phone service while providing the same calling features such as call waiting, three-way calling, caller ID, voicemail, etc.

Interconnected VoIP service allows users to make and receive calls to and from traditional phone numbers using an Internet connection, possibly a high-speed (broadband) Internet connection, such as Digital Subscriber Line (DSL), cable modem, or wireless broadband. It can be used in place of traditional phone service. Typically, interconnected VoIP technology works by either placing an adapter between a traditional phone and Internet connection, or by using a special VoIP phone that connects directly to your computer or Internet connection.

Circuits and lines that are used for VoIP service are considered voice service and therefore are subject to the phase-out of voice discounts from FY 2015 through FY 2018. VoIP service bundled with Internet access requires cost allocation to separate the voice from the Internet charges and the voice related charges must be applied for as a separate FRN and are subject to the voice service phase-out. If there is a voice application running over a data circuit with no portion of the circuit dedicated to voice (e.g. QoS), the circuit is not subject to the phase down.

The service may also include features such as three-way calling, caller ID, and voicemail which may be separately itemized as part of the monthly service fee. These features are included in the broader category of Telephone Service Components. Beginning in FY 2015, Telephone Service Components are no longer eligible and the associated costs must be deducted from E-rate funding requests.

Some vendors may include these features as part of the monthly service charge and may not separately itemize the associated charges. In these situations, the applicant must confer with the service provider to determine whether a separate cost for these features may be identified and if so, the cost must be deducted from the applicant's funding request.

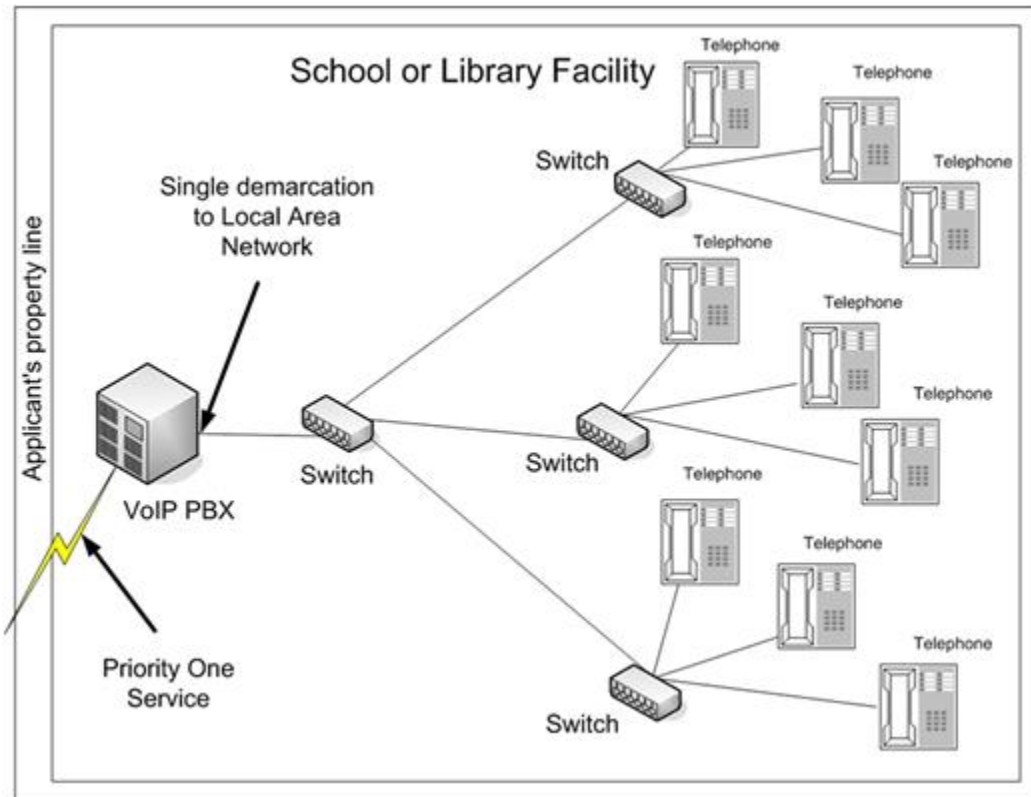
Some vendors may determine that it is not possible to quantify a separate cost for the features. In these limited situations the features may qualify as ancillary service and a cost for them may not have to be deducted from the E-rate funding request.

Eligibility of VoIP

The lease or purchase of VoIP phone system is not eligible for E-rate discounts under either Category 1 service or Category 2 internal connections.

A leased on-premise VoIP phone system is ineligible as Category 1 because the internal communications network (in this case, the voice network) must remain functional without dependence on the leased equipment. If the on-premise VoIP phone system were removed, the school or library would lose its ability to route calls within the building or campus.

The VOIP phone system equipment is not eligible for Category 2 funding beginning in FY 2015 since Category 2 funding is no longer available for any voice internal connections.



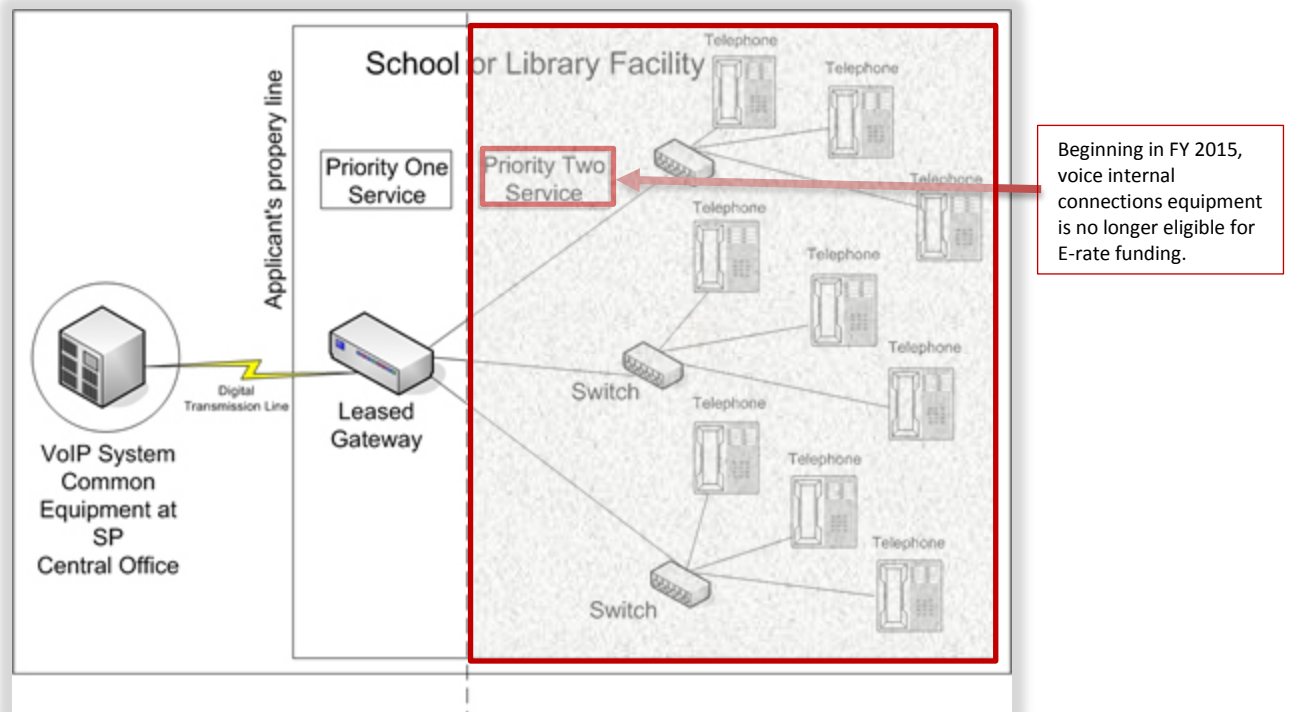
The Children's Internet Protection Act (CIPA) does not apply to stand-alone VOIP service. To the extent that applicants may request discounts on a service that includes both Internet and VOIP, the applicant is required to comply with CIPA.

VoIP Gateway Eligibility

The costs of leasing a gateway device located in the applicant's site may be included as part of an eligible Category 1 service as a single basic terminating component. A gateway device is analogous to a CSU/DSU or a network interface device (NID) in that it functions as the termination point for a Category 1 service. The internal communications network would fail if the gateway were removed and the gateway is necessary to access the public switched telephone. The eligibility of these costs is *not* subject to the On-Premise Category 1 Equipment requirements.

Applicants who seek to lease more than one terminating component may not claim the lease costs of the additional gateways as part of Category 1 or Category 2 service. The associated lease costs for these additional devices must be deducted from the FCC Form 471 funding request.

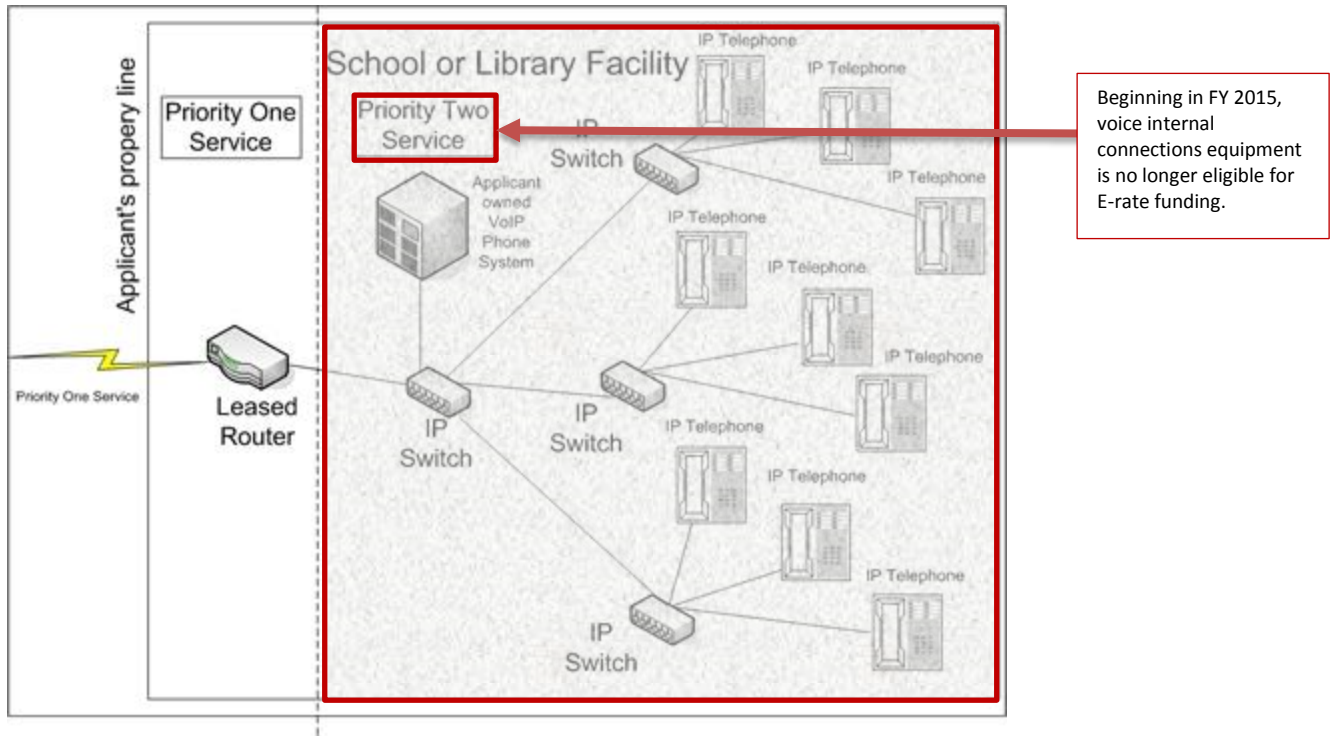
As an example, the following diagram shows the "brains" of the service located in the service provider's central office. This differs from other examples as here the VoIP phone system is located on the applicant's premise. In this diagram the gateway is eligible as Category 1.



Leased Router Eligibility

Hubs, routers, and switches are not considered basic terminating components and are subject to the on-premise Category 1 equipment conditions set forth in the Tennessee Order. For more information and detailed descriptions and examples, refer to the On-Premise, Category 1 Equipment guidance. If all of these conditions are not met, the equipment would be ineligible for E-rate funding.

The following diagram is an example of a leased router that meets the on-premise Category 1 condition that the voice network remains functional without dependence on the leased router. In the diagram, the VoIP phone system is owned by the applicant and not leased from the service provider. This configuration can be eligible as Category 1 assuming the other conditions for On-Premise Category 1 Equipment are satisfied.



Beginning in FY 2015, voice internal connections equipment is no longer eligible for E-rate funding.

End-User Equipment

End-user handsets (telephone sets) and soft phones, leased or purchased, are not eligible for discounts as either Category 1 or Category 2. A soft phone is a piece of end-user application software that allows phone calls to be made using a personal computer microphone and speakers in place of a physical end-user telephone. The costs of this equipment must be excluded and deducted from any funding request on FCC Form 471.

On-Premise, Category 1 Equipment

Vendor-owned equipment that is located at the applicant's site and is an integral part of an end-to-end Category 1 service may be eligible for funding as a part of that Category 1 service. Note: these conditions do not apply to Self-Provisioned Fiber or Leased Dark Fiber networks.

Only certain types of vendor-owned equipment and configurations meet the eligibility requirements for Category 1 services. The conditions are known as the "Tennessee Test," from an order released by the FCC involving a challenge by the State of Tennessee. (*Order* in CC Dockets 96-45 and 97-21, FCC 99-216, Released August 11, 1999.)

1. The Underlying Principle of On-Premise Vendor-Owned Category 1 Equipment

It is important to understand what characteristics distinguish on-premise equipment eligible as Category 1 from Internal Connections equipment (Category 2). Components of Internal Connections are "necessary" to transport information within a school campus or library branch. Internal Connections do not include connections extending beyond a school campus or library branch. This is explained in Section 54.506 of the FCC rules, which indicates there is a rebuttable presumption that a connection does not constitute an internal connection if it crosses a public right of way. Thus, connections beyond an applicant's building premises are presumed to be a part of Category 1 services (either Data Transmission Services or Internet Access), and connections within an applicant's facilities are presumed to be Internal Connections.

In the normal application of this rule, the actual demarcation point between the local network inside the applicant's premises and the Category 1 Data Transmission or Internet services is typically at a wiring closet or computer room within the applicant's premises. This is consistent with historical precedent of network systems, which traditionally rely on a specific dividing line, or demarcation, between a location's inside facilities and outside facilities. (A demarcation at the exact property boundary line would not be practical.)

In the *Tennessee Order*, the FCC affirmed that components located at the applicant's site were presumed to be internal connections, but also discussed the basis by which this presumption could be overcome. The specific conditions relied upon by the FCC are described in the next section. In addition, several underlying requirements are an integral part of the approach and these are described in Section 3.

Exception: The FCC has indicated that E-rate support may be provided for basic termination equipment, such as a CSU/DSU, cable modem, network interface device, or copper-to-fiber converter. In the case of such a single basic termination component at the applicant's site, the requirement to meet all conditions as provided in this document does not apply. The term "single" is used to apply to no more than one basic termination equipment component per site. Configurations of more than a single basic termination component, such as configurations utilizing routers or other complex equipment, must meet the requirements indicated in the following sections.

2. Eligibility Conditions for On-Premise, Vendor-Owned Category 1 Equipment

The On-Premise Equipment must be an integral component of the telecommunications or Internet access service. Support for services that includes charges for this equipment is permissible when all of the following conditions are met:

- A. The equipment will be provided by the same service provider that provides the eligible telecommunications or Internet access service of which it is a part.
- B. Responsibility for maintaining the equipment rests with the service provider, not the school or library.
- C. Ownership of the equipment will not transfer to the school or library in the future, and the relevant contract or lease does not include an option to purchase the equipment by the school or library.
- D. Upfront, capital charges of the equipment are less than 67% of total charges (recurring plus non-recurring) in the funding year.
- E. The equipment will not be used by the school or library for any purpose other than receipt of the eligible telecommunications or Internet access service of which it is a part.
- F. The Local Area Network for data communications of the school or library is functional without dependence on the equipment.
- G. There is no contractual, technical, or other limitation that would prevent the service provider from using the on-premise data communications equipment, in part, for other customers.

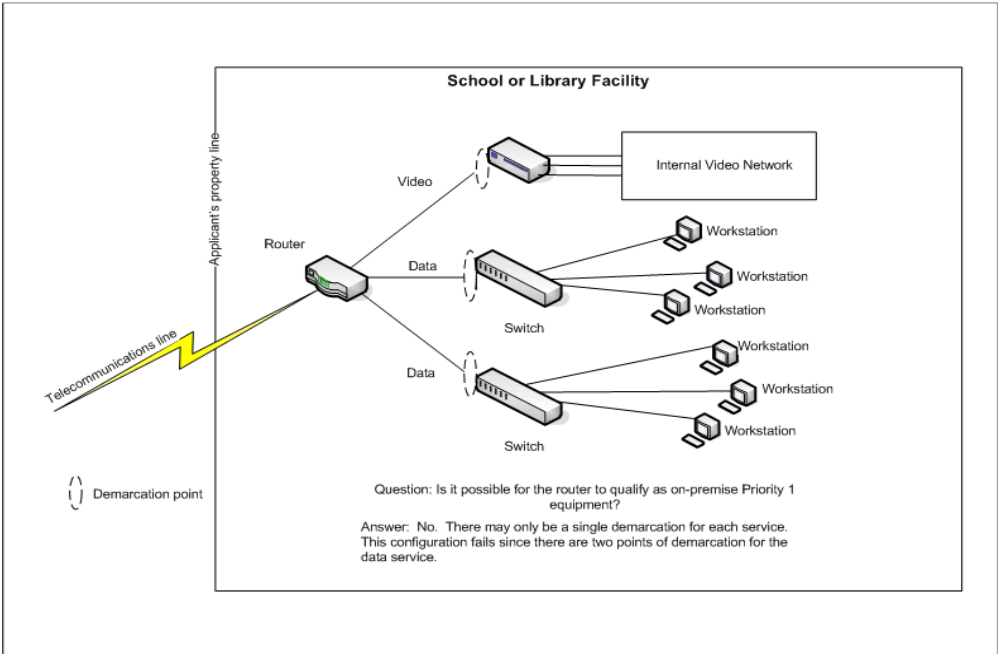
The most important eligibility test of this equipment is whether the Local Area Network (LAN) within the building is dependent on the vendor-owned equipment. The internal network at the applicant's site must continue to function without connection to the service provider's on-premise equipment. If the LAN within a building continues to operate when the vendor equipment is removed, then the equipment would meet this eligibility test. If the LAN ceases to function, then the equipment is generally presumed to not be an integral part of the end-to-end Category 1 service. Similarly, a PBX that routes calls within a school or library would not be eligible for support as Category 1 On-Premise Equipment.

3. Examples of Acceptable and Unacceptable Configurations

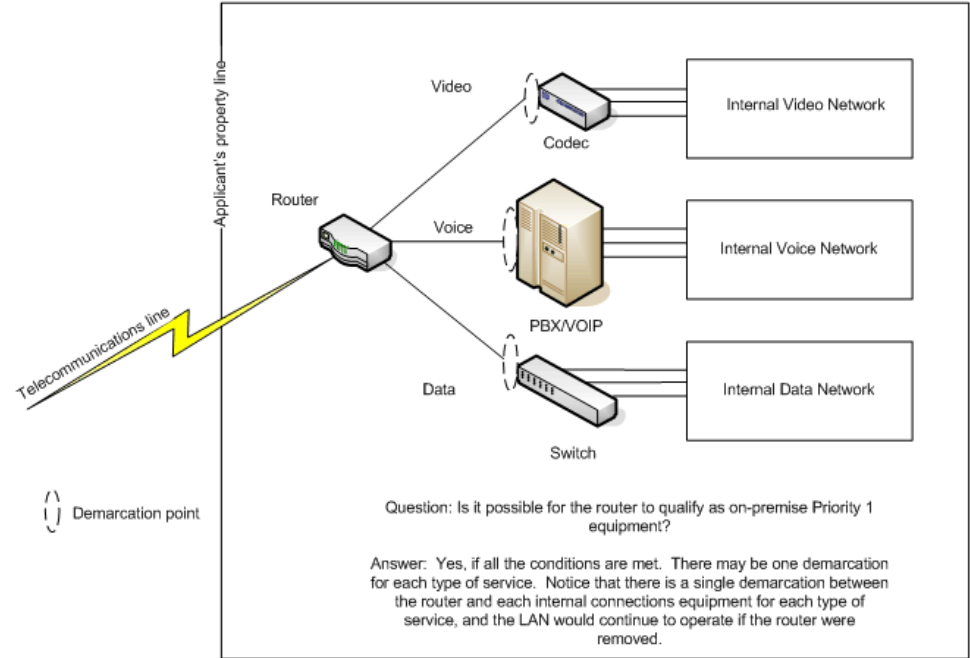
The following diagrams have been created to assist applicants and service providers in understanding the acceptable and unacceptable configurations for On-Premise Priority 1 Equipment:

- Router that does not meet the On-Premise Category 1 conditions
- Router that may meet the On-Premise Category 1 conditions
- Multiple Service request with a Router that does not meet the On-Premise Category 1 conditions
- Multiple Service request with a Router that may meet the On-Premise Category 1 conditions
- Wide area network configuration that might meet the On-Premise Category 1 conditions

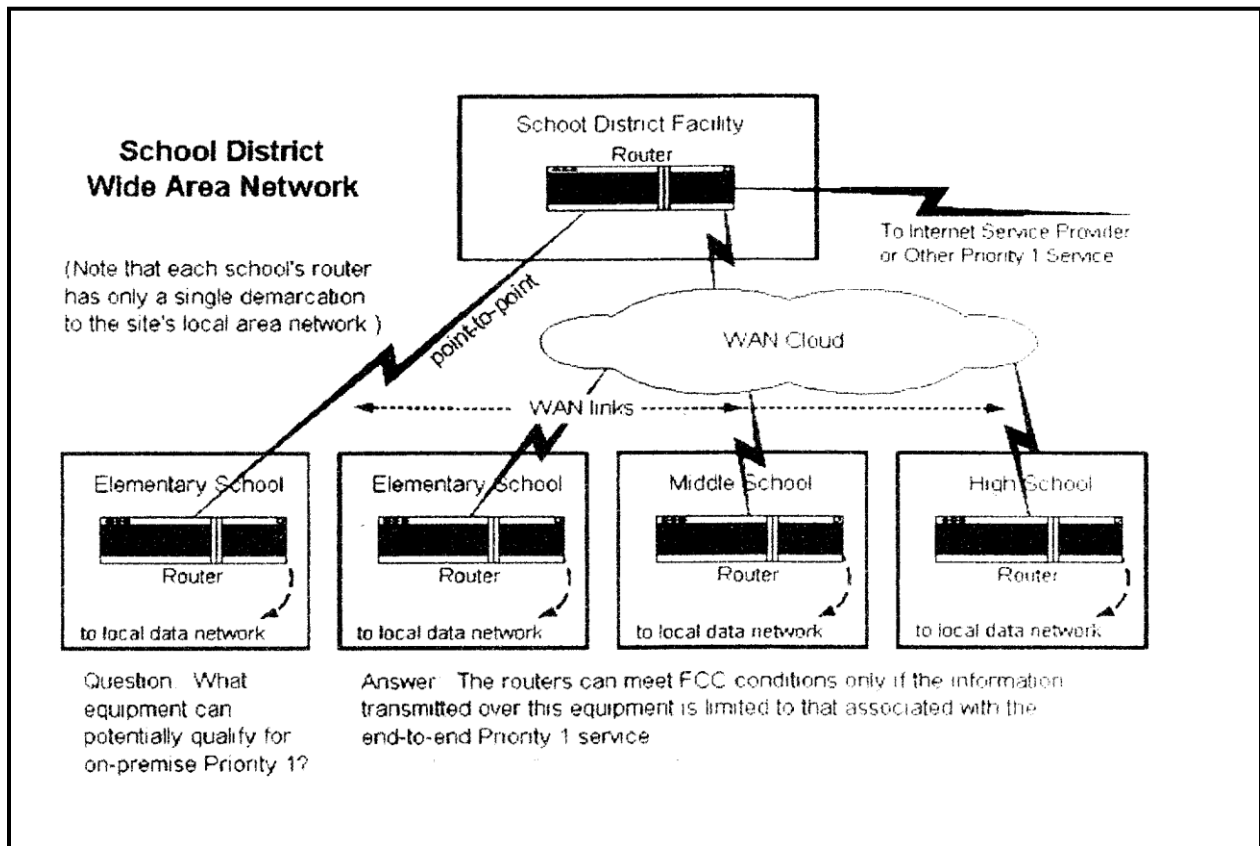
Multiple Service Request With A Router That Does Not Meet The On-Premise Category 1 Conditions



Multiple Service Request With A Router That May Meet The On-Premise Category 1 Conditions



Wide Area Network Configuration That MIGHT Be Able To Meet The On-Premise Category 1 Conditions



Dark Fiber, Self-Provisioning Fiber and Special Construction

There are three ways to procure fiber and receive E-rate discounts:

- Leased Lit Fiber
- Leased Dark Fiber
- Purchased “Self-Provisioning” Fiber

Self-Provisioned Fiber is an option that became eligible beginning in FY 2016 for applicants to contract for the construction and installation of fiber that they will own. The rules for evaluating the cost effectiveness of dark fiber and self-provisioning options are strict and are explained below.

The term “special construction” is used to describe the network build-out costs associated with any of the three fiber options. Special construction charges are E-rate eligible and special financing rules are available to assist applicants with these large one-time costs as described below.

Dark Fiber Overview

The E-rate program uses the term “dark fiber” to differentiate this service from lit fiber service. E-rate eligible dark fiber service requires the applicant to install the modulating electronics and light the fiber as a condition of receiving E-rate support for the service.

New in FY 2016, the modulating electronics and equipment necessary to make the dark fiber service functional are now eligible to be purchased with Category 1 funds.

The second big change for FY 2016 is that the special construction charges for dark fiber may include the costs of installing new fiber from the service provider’s network all the way into the applicant’s building. In prior years, only the cost of installing fiber from the applicant’s property line into the building was eligible for E-rate support.

The FCC made these two changes in order to put dark fiber and self-provisioning options on equal footing with leased lit fiber service.

The E-rate definition of dark fiber is different from the traditional definition of dark fiber used in the broader technology industry where “dark fiber” refers to unlit fiber that is installed but not yet in use – in other words excess fiber. Service providers frequently will install extra fiber facilities when they build out their networks in anticipation of the expansion of service and customer growth. E-rate support is not available for any fiber strands that are not going to be in use during the funding year and these costs must be reduced from the funding request.

Overview of Self-Provisioning of Broadband Fiber Networks

Beginning in FY 2016, applicants are permitted to obtain E-rate support on the costs of constructing dark fiber facilities that will be owned by the applicant when this option is found to be most cost effective

compared to a lit fiber or dark fiber lease solution. The cost effectiveness must be evaluated over the entire life cycle of the facilities and must include all related costs of service and total cost of ownership.

Bidding Requirements that Govern Both Dark Fiber and Self-Provisioning Procurements

- A RFP must be issued along with posting a Form 470.
- Applicants must solicit bids for both service and construction in the same Form 470 and must provide sufficient detail so that cost-effectiveness can be evaluated based on the total cost of ownership over the useful life of the facility for applicants who pursue the self-construction option. Bids for lit fiber service must also be solicited at the same time that bids for self-provisioning are sought.
 - If an applicant previously posted a Form 470 for lit fiber services and did not receive any bids, then the applicant may bid only for self-provisioning in the same funding year.
- The bidding period is expected to be longer than the usual 28 days in order to ensure that service providers have sufficient time to prepare their proposals. It is recommended that there be a minimum six week bidding period.
- Applicants may only receive funding for self-construction if the facilities are built and “lit” within the same funding year.

Special Construction Charges Overview

Special construction charges are defined as construction of network facilities, design and engineering, and project management. From FY 2015 through FY 2018, applicants may seek E-rate funding on the total one-time special construction costs in a single year.

Funding for all special construction projects is available for Category 1 infrastructure costs incurred up to six months prior to the start of the funding year, provided that:

- The service provider is selected pursuant to a posted FCC Form 470;
- A Category One recurring service depends on the installation of the infrastructure; and
- The service start date is on or after the start of the funding year.

Applicants may also receive extensions of up to one year for unavoidable delays due to weather or other reasons.

Fiber Special Construction

E-rate Program funding is available for special construction to connect eligible schools and libraries to broadband networks. The eligible components of special construction are:

- Construction of network facilities;
- Design and engineering; and
- Project management.

Special construction funding is available to applicants as an eligible Category One charge, including applicants that are leasing lit or dark fiber services, and applicants that are self-provisioning all or a portion of their own broadband network. A dark fiber IRU (indefeasible rights of use) is treated as leased dark fiber services for the purposes of the E-rate Program.

As with all requests for E-rate Program funding, before requesting support for special construction, the applicant must make a determination that the most cost-effective solution for meeting connectivity needs has been selected.

Keep in mind that, in seeking bids for special construction of either dark fiber or a self-provisioned network, E-rate Program rules generally require the applicant to seek bids for comparable leased lit services on the same FCC Form 470, and to compare the cost-effectiveness of leased lit services with either the dark fiber or self-provisioning bids that the applicant receives. For more information specific to competitive bidding, review the Requirements for Fiber page.

Fiber Special Construction Options

Lit Fiber Services Special Construction

Many providers of leased lit fiber services do not impose a separate construction charge to deploy fiber (or other high-speed connections) from the applicant's premises to the providers' networks. However, where a lit services provider does charge to deploy a new fiber connection to an applicant's building(s), the applicant may seek Category 1 E-rate Program support for the construction, design and engineering, and project management components of the project as special construction charges. Assuming E-rate Program rules have been followed, including the obligation to select the most cost-effective bid, the E-rate Program will pay the discount share of the special construction charge and of the monthly recurring charge for leasing the lit fiber service.

Special Construction to Connect to Existing Dark Fiber

Applicants may seek Category 1 support for the special construction charges associated with connecting an applicant's building(s) to an existing dark fiber network and a lease of that dark fiber. Assuming E-rate Program rules have been followed, including the obligations to seek lit fiber service bids when seeking dark fiber bids and to select the most cost-effective solution, the E-rate Program will pay the discount share of both a special construction charge and the cost of the dark fiber service, which may be structured as either an upfront IRU or recurring lease payments.

For example, if a school district knows there is dark fiber running near most of its schools, it could seek bids to lease the dark fiber to connect its schools if it also seeks bids for comparable lit fiber services, and evaluates the cost-effectiveness of the responses. If a bidder structures its bid to include upfront special construction charges to connect some of the schools to the dark fiber network, and the bid is the most cost-effective solution, the school district could seek E-rate Program support for the discount share of such construction costs, as well as for the recurring charge for leasing the dark fiber services (or the upfront IRU charge). Remember that if the applicant also seeks support for network equipment and maintenance costs associated with lighting the dark fiber, it must do so in the same application as the dark fiber lease.

Self – Provisioning Fiber

An applicant may seek Category 1 support to self-provision its own network if constructing all or a portion of its own network is the most cost-effective connectivity solution. To qualify for E-rate Program support for a self-provisioned network, the applicant must either: 1) seek bids for leased lit services in the same FCC Form 470, and compare the cost of leased lit fiber service to the total cost of ownership over the life of the self-provisioned network; or 2) have already solicited lit service bids for the upcoming funding year, and not received any bids. In the latter case, the applicant would seek bids for a self-provisioning option through a second posting for the same funding year. Self-provisioned connections may include wide area network (WAN) circuits between eligible schools or libraries, and/or circuits connecting eligible schools or libraries or non-instructional facilities to the commercial Internet.

Additional Information

Timing of Special Construction

Reimbursement is available for special construction that begins as much as six months before the start of the funding year. That means a vendor can begin special construction after the applicant has selected the vendor pursuant to E-rate Program rules, but before the applicant has received a funding commitment. If, however, an applicant allows special construction to start before receiving a funding commitment, the applicant assumes the risk that USAC will find a problem with the application that requires its denial or a reduction of the amount requested, or that USAC may not commit funds for some other reason.

Installment Payments

Typically, an applicant is required to pay the non-discount share of E-rate Program supported services within 90 days of receipt of service. However, if an applicant is considering seeking support for special construction charges, the applicant may request on the FCC Form 470 that bidders allow payment of the non-discount share of special construction charges in installment payments over up to four years. Bidders are not required to offer installment payments upon request. If installment payments are not requested on the FCC Form 470, or were declined by the selected vendor as an option, the non-discount share of special construction charges must be paid by the applicant within 90 days of receipt of service.

Applicant Payment of Non-Discounted Share of Construction Charges

With the agreement of the service provider, applicants may pay the non-discounted portion of special construction charges in installment payments of up to four years. To qualify, applicants must include this request on their Form 470 applications. Vendors are not required to offer this option; however vendors that are willing to offer this option must include in their proposals all material terms of the arrangement, including any interest rate they would charge the applicant and the term of the installment payment plan they are offering. Applicants that enter into installment plans must certify on Form 471 that they have the funds to pay for all required installments over multiple years.

Fiber FAQs

Q1: What is “dark fiber” and how do the FCC’s new rules “equalize” the treatment of dark fiber and lit fiber?

A1: Dark fiber leases, and other dark fiber service agreements [e.g., indefeasible rights of use (IRU)], are commercial arrangements in which a customer purchases use of a portion of a provider-owned and maintained fiber network separately from the service of lighting (i.e., transmitting information over) that fiber. Many providers now offer such arrangements. Funding for dark fiber may be a cost-effective option for some applicants.

Starting in FY2016, pursuant to the https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-189A1.pdf, support is available for special construction projects for lit fiber services, leased dark fiber, and for self-provisioned networks. The Order also made the network equipment necessary to light dark fiber eligible for Category One E-rate Program support.

Applicants that seek bids for leased dark fiber must also seek bids for lit fiber service over a comparable time period. Applicants must include equipment and maintenance costs associated with lighting dark fiber in the same application with the dark fiber lease. Additionally, applicants will not receive E-rate Program support for recurring services associated with dark fiber until it is lit, and may only receive special construction support for dark fiber that is lit in the same funding year.

Q2: What is special construction?

A2: Special construction projects deploy new fiber or upgraded facilities to E-rate Program eligible locations. Special construction charges are the upfront, non-recurring costs of such installations or upgrades. Special construction consists of three components: (1) construction of network facilities; (2) design and engineering; and (3) project management. Charges for network electronics needed to light the fiber, while eligible for Category One support, are not considered part of special construction.

Applicants may receive funding for special construction charges incurred up to six months prior to the funding year provided that the service provider is selected pursuant to a posted FCC Form 470, a Category One recurring service depends on the installation of the infrastructure, and the service start date is on or after the start of the funding year. Applicants may also receive extensions of up to one year for unavoidable delays (e.g., unavoidable weather delays).

Q3: What is the difference between special construction and self-provisioning of fiber?

A3: Self-provisioning is complete applicant ownership of a high-speed broadband network. An applicant that self-provisions will construct, own, operate, and maintain the network or a portion of the network. Special construction refers to the upfront, non-recurring costs associated with the installation of new fiber, regardless of whether the owner is the applicant or the service provider (e.g., special construction charges may be incurred in the deployment of service provider-owned lit, service provider-owned dark, and applicant-owned self-provisioned fiber).

Q4: What FCC Order provides rules about fiber, special construction, and self-provisioning of fiber?

A4: The Second Report and Order on Reconsideration released December 19, 2014, commonly known as the https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-189A1.pdf, provides program rules about fiber, special construction, and self-provisioning of fiber.

Q5: In what funding year will the changes to special construction and self-provisioning of dark fiber go into effect?

A5: Beginning with FY2016 (July 1, 2016 - June 30, 2017), special construction and self-provisioning of dark fiber will be supported.

Q6: Can applicants receive E-rate Program funding to construct their own high-speed broadband networks?

A6: Yes. A "self-provisioned" network is one that is constructed, owned, and operated by the applicant. If a self-provisioned broadband network is the most cost-effective solution, applicants may seek E-rate Program support to construct their own high-speed broadband networks, or portions of such networks, beginning in FY2016. Applicants must demonstrate that self-provisioning is the most cost-effective option by soliciting bids for both a leased lit fiber service and a self-provisioned network on the same FCC Form 470 and comparing the cost of leased lit fiber service to the total cost of ownership over the life of the self-provisioned network. Applicants may also seek a self-provisioning option if they do not receive any bids in response to a services-only FCC Form 470. In such a case, the applicant would request support for self-provisioning through a second posting for the same funding year.

Applicants may only receive support for self-provisioned facilities built and used in that funding year, and must secure all resources necessary to make effective use of services purchased. Further, applicants may not resell service on the self-provisioned networks.

Q7: What is USAC's best advice to applicants who are considering self-provisioning?

A7: Start early. The process will involve developing a Request for Proposal (RFP), soliciting bids, and evaluating the bids to make sure self-provisioning is the most cost-effective option. Remember that you are required to solicit bids for both lit service and self-provisioning through the same FCC Form 470 unless you have previously issued an FCC Form 470 for lit fiber service and received no bids. If this is the case, you may pursue a self-construction option through a second posting for the same funding year.

Q8: Do states that have existing fiber networks have to switch to the self-provisioned model? Or must applicants for fiber services consider the option of self-provisioning?

A8: There is no requirement to consider self-provisioning. It is an option that applicants may choose to pursue if they find that it is the most cost effective option in comparison to their existing situation.

Q9: Does USAC have representatives who can explain the rules and help provide basic guidance as we consider the self-construction option?

A9: Yes. Those who need more information should call the Client Service Bureau at (888) 203-8100.

Q10: Should I indicate anything specific when I apply for lit fiber?

A10: Yes. The more descriptive you are, the more likely you are to receive a comprehensive bid. You should indicate the bandwidth you are seeking. If you are also seeking bids for leased dark fiber or a self-provisioned network, the bandwidth should be comparable to the speeds that you expect to achieve in the dark fiber or self-provisioned solution. If you would like specific pricing for any bandwidth increments, be sure to include that information in the narrative section of the funding request.

For example, if you state the minimum speed is 2 Gbps and the maximum speed is 5 Gbps, you may want to include a statement like, "Please provide pricing for bandwidth increments of 500 Mbps." Asking for pricing for a range of bandwidths will assist the applicant in comparing lit service with special construction options.

Q11: If I want to seek bids for dark fiber, is there anything special I need to indicate on the FCC Form 470?

A11: Yes. If you are filing an FCC Form 470 for dark fiber, you will need to do the following things in the E-rate Productivity Center (EPC):

- Create an RFP or equivalent document that provides all potential vendors sufficient information to formulate a bid.
- Before selecting dark fiber as a funding request line item, you must first upload the RFP associated with your dark fiber request.
- Select "Dark Fiber" from the "Function" dropdown.
- Indicate the quantity of strands of fiber you would like to lease.
- Enter the number of entities seeking dark fiber.
- Indicate whether you are requesting bids on installation charges.
- Indicate whether you are requesting bids on maintenance charges.
- Notify potential bidders that you are interested in bids that would allow you to pay the non-discount portion of special construction charges in installment payments and the length of time you would like to make these payments (up to four years).
- Add a new "Service Request" line for "Network Equipment" to light the dark fiber.
- Add a new "Service Request" line for bids on lit fiber services.

Q12: Do I select "Dark Fiber" on the FCC Form 470 if I am seeking bids to build and own my own network?

A12: If you are seeking bids on a self-provisioned network, select the "Self-Provisioning" option from the dropdown menu in EPC.

Q13: On the FCC Form 470, how do I indicate my intent to seek bids for network equipment?

A13: To seek bids for network equipment to light dark fiber or for self-provisioning, utilize the "Other" selection from the dropdown menu in EPC. Provide the type of network equipment you are requesting in the "Functional Description" box and add any additional details to the "Narrative Description" section.

Q14: Where do I indicate that I am seeking bids that provide for installment payments for special construction?

A14: The installment payment question will appear on the "Service Requests" page in EPC, below the "Narrative" after you have created and saved your line item seeking dark fiber with special construction.

Q15: Can you explain the competitive bidding requirement for special construction projects?

A15: As with all requests for E-rate Program funding, before seeking support for special construction via the FCC Form 471, the applicant must make a determination that the most cost-effective solution for meeting connectivity needs has been selected.

Keep in mind that, if seeking bids for either dark fiber or a self-provisioned network, E-rate Program rules usually require the applicant to seek bids for comparable leased lit services and to compare the cost effectiveness of leased lit services with either the dark fiber or self-construction bids that you receive. If the FCC Form 470 seeks bids for self-provisioning, the applicant must seek lit service bids on the same form.

Q16: How does an applicant determine the elements of a cost comparison between lit services and special construction?

A16: Expected useful life of the asset is the key consideration when comparing the combined upfront and recurring costs of leased lit service to those of dark fiber or self-provisioning. The expected use may vary for equipment, fiber, etc. Applicants should determine a reasonable, defensible period of time for the comparison, based on their anticipated use of the assets. Applicants that choose to self-provision or purchase the equipment required to operate dark fiber may expect to recover their costs in five, seven, ten, or even 20 years. The case can reasonably be made for a range of time periods.

Applicants should also take care to consider all the costs of owning and operating a fiber network. Annual fees for fiber maintenance and operations including time and materials for fiber cut repair, monthly fees for managed service if a third party is managing the network for the applicant, and refresh of equipment should all be considered as part of the self-construction analysis. On the lit services side, applicants also have to project their demand for bandwidth over the comparison period. Applicants also must consider and project how the costs of bandwidth will vary over time and make this part of their comparison model.

Applicants should be prepared to describe their assumptions clearly for their comparisons. Things like expected useful life of the dark fiber or self-provisioned fiber should be easy to determine, as should the

annual costs of operating the self-provisioned or leased dark fiber. The comparison with the lit service should be clear and straightforward.

Q17: How do you compare the cost of network equipment (lit vs. dark vs. self-provisioned) in competitive bidding?

A17: The cost of network equipment is generally built into lit service charges. There will likely be no direct one-to-one comparison for the costs of network equipment. Instead, you will compare the total lit fiber charges to the sum of all of the dark fiber or self-provisioned components (special construction, if applicable), lease or indefeasible rights of use (IRU) charges, network electronics and maintenance, and operation compared to the total lit fiber charges.

Q18: Since the refresh of equipment on existing dark fiber or self-provisioned networks is not special construction and the requirement to compare dark or self-provisioned fiber to lit fiber is only for new service, do I still need to file an FCC Form 470 to seek bids on existing equipment?

A18: While there is no requirement to do a full dark and lit fiber comparison if seeking only network equipment to light dark fiber, applicants are still required to submit an FCC Form 470 to competitively bid the network equipment.

Q19: If I am seeking bids only to refresh network equipment for leased dark fiber, how do I post for this on the FCC Form 470?

A19: Utilize the "Other" drop-down in the "Function" menu in EPC as you add a new services request.

Q20: If I have a dark fiber lease or an IRU already, do I still need to post a new FCC Form 470?

A20: Dark fiber and dark fiber IRUs have been eligible for E-rate Program support since FY2011. If you have already purchased a dark fiber IRU using an E-rate Program compliant competitive bid process, and that lease or IRU has not expired, you do not need to repeat your competitive bidding process.

Q21: Adding on to the last question about pre-existing leases or IRUs, do I need to perform the new competitive bid comparison of dark vs. lit fiber to determine which is the most cost-effective?

A21: Pre-existing dark fiber contracts which were signed prior to FY2016 and were competitively bid through the FCC Form 470 process are not required to perform the dark vs. lit fiber comparison.

Q22: Can applicants get E-rate Program support for dark fiber that is not lit?

A22: No. The E-rate Program will support only fiber that is lit in the same funding year. However, applicants may receive up to a one-year extension of the service start date if they demonstrate that construction was unavoidably delayed due to weather or other reasons.

Q23: Is there a cap on the funding that is available for self-provisioning?

A23: No. However, the self-provisioned solution must be the most cost-effective solution.

Q24: When can I begin my special construction project?

A24: Applicants may receive support for special construction charges incurred as much as six months before the start of the funding year (this is January 1 for a funding year that commences on July 1), provided that the following three conditions are met:

- Construction starts only after selection of the service provider pursuant to a posted FCC Form 470;
- A Category One recurring service must depend on the installation of the infrastructure; and
- The actual service start date of that recurring service is on or after the start of the funding year (July 1). This means that a vendor can begin special construction after the applicant has selected the vendor pursuant to the E-rate Program competitive bidding rules, but before the applicant has received a funding commitment.

If, however, an applicant allows special construction to start before receiving a funding commitment, the applicant takes the risk that USAC may find a problem with the application and may not commit funds.

Q25: Am I still required to amortize large capital costs over a period of three years for charges of \$500,000 or greater?

A25: Amortization requirements for FY2015 through FY2018 have been suspended for all non-recurring charges in excess of \$500,000.

Q26: Can you explain the rules around an applicant requesting installment payments for special construction projects?

A26: E-rate Program rules previously required applicants to pay the non-discount share of E-rate Program supported services within 90 days of receipt of service. However, if an applicant anticipates that it may seek support for special construction charges, it may now specify on its FCC Form 470 that it is requesting that bidders allow the applicant to pay the non-discount share of special construction charges in installment payments for up to four years. Bidders are not required to offer installment payments upon request. If an applicant does not request installment payments in its FCC Form 470, or did request it, but the winning vendor selected declined to offer installment payments as an option, then the applicant must pay its non-discount share of special construction charges within 90 days of receipt of service. An applicant can, however, use a bidder's willingness to accept the installment payment option as part of the applicant's evaluation of competitive bids.

Q27: Do I have to do anything special if I want to take advantage of installment payments?

A27: Yes. You need to indicate the number of years (up to four years) over which you would like to pay using the dropdowns on the FCC Form 470 found below the "Narrative" section in EPC after you have completed your dark fiber "Service Request" entry.

Q28: Are service providers required to do anything when their bid includes an installment payment option?

A28: Those service providers that do offer an installment payment option must disclose all material terms and conditions of that arrangement including any interest rate charged over the lifespan of the installment payments.

E-rate Program Applicant Training

Fiber Options

September – November 2016

Washington DC • Orlando • Houston • Philadelphia • Minneapolis • St. Louis • Seattle • Los Angeles

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Agenda

- 1. Identifying Eligible Fiber Services and Charges**
- 2. Requesting Proposals for Fiber Options**
- 3. Selecting the Most Cost-Effective Service Offering**
- 4. Preparing a Fiber Funding Request**
- 5. Preparing for PIA**

Section 1

Identifying Eligible Fiber Services and Charges

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Fiber Options Supported By E-rate

- **Leased Lit Fiber:** A fiber-based broadband service where the service provider owns and manages the network, and the E-rate applicant pays a recurring fee to have data transported over the network.
- **Leased Dark Fiber (including IRUs):** The E-rate applicant leases a portion of a provider-owned and maintained fiber network and separately pays to have that fiber lit in order to transmit information over that fiber.
- **Self-Provisioned Network:** Complete applicant ownership of a high-speed broadband network. The applicant hires a vendor to construct the network or a portion of the network, and thereafter owns and maintains that network or portion.

Note: Although included as a fiber option, applicants may seek support for self-provisioned networks using technologies other than fiber.

What is special construction?

Special construction refers to the upfront, non-recurring costs associated with the installation of new fiber to or between eligible entities.

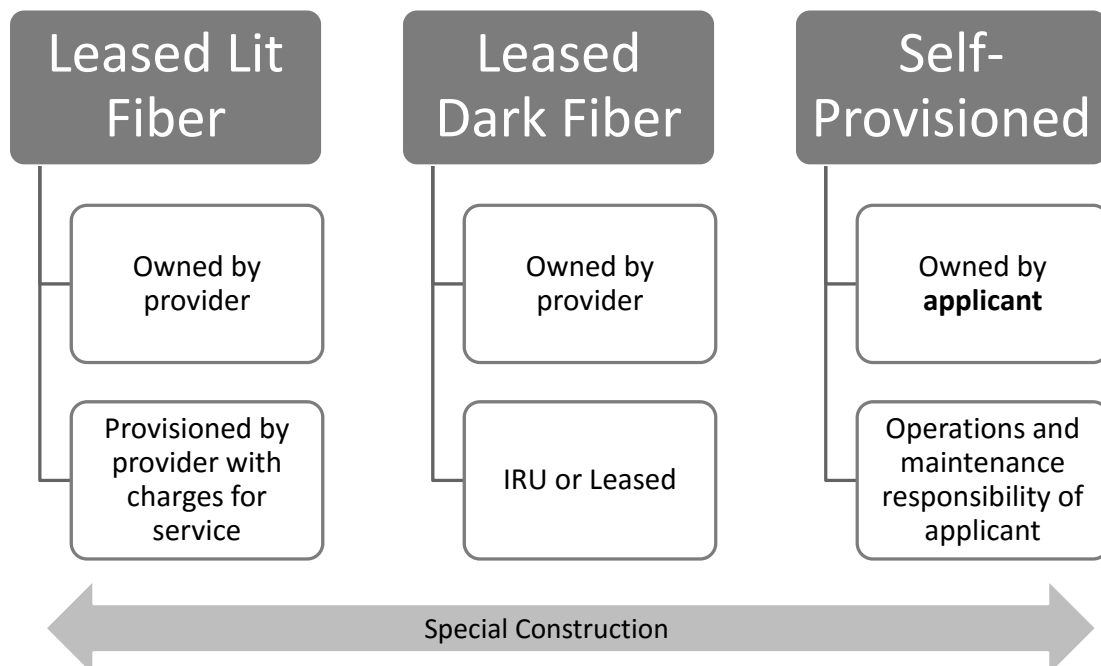
Applicants may seek funding for special construction charges in connection with leased lit fiber, leased dark fiber, and self-provisioning.

Special construction charges eligible for Category One support consist of three components:

1. construction of network facilities;
2. design and engineering; and
3. project management.

Note: The term “special construction” does not include Network Equipment necessary to light fiber, nor the services necessary to maintain the fiber. Charges for Network Equipment and fiber maintenance are eligible for Category One support as separate services, but not as special construction.

E-rate Eligible Fiber Options Recap



- **General Rule:** E-rate support is only available for leased dark fiber (with and without special construction) that is lit, and self-provisioned networks that are constructed and used, in the same funding year.
- **Limited Exceptions For Special Construction:**
 - Special construction charges incurred up to six months prior to the beginning of the funding year are eligible for support if:
 - Construction begins after selection of a service provider pursuant to a valid competitive bidding process;
 - A Category One recurring service depends on the installation of the infrastructure; and
 - Actual service start date is after the start of the funding year.
 - Note: Applicants that start construction early, before a funding request is approved, assume the risk that the request will be denied.*
 - Applicants may request a one year extension to light leased dark fiber, or to construct and use a self-provisioned network, if the applicant demonstrates that construction was unavoidably delayed due to weather or other reasons.

- **When Considering Special Construction:**
 - Plan early. The twelve month funding year combined with the ability to incur special construction costs up to six months before the funding year starts results in an effective 18-month construction window for a given funding year.
 - Plan carefully. If an applicant knows in advance that a special construction project will take additional time to complete, it should consider breaking the project down into stages, and seek funding for each stage in separate funding years.
 - Milestone Payments are OK (with a caveat): Applicants may submit invoices for special construction charges at any point during the funding year. If the leased dark fiber is not lit, or the self-provisioned network is not constructed and used, by the end of the funding year, however, the applicant will be required to reimburse the Fund for any disbursements.

Special Construction Charges – Excess Capacity

- **Purpose for Time Limits on Eligibility:** Safeguard against warehousing of fiber and use of USF funds to pay for unnecessary services.
- **Excess Capacity For Applicant’s Future Use:**
 - A vendor may install additional strands of fiber for the applicant’s future use whether the facilities constructed are owned by the vendor (i.e., in connection with leased lit fiber or leased dark fiber) or by the applicant (i.e., a self-provisioned network).
 - Any fiber strands that are not lit that funding year must be cost-allocated out of the funding request.
 - Excess fiber capacity installed for the applicant’s future use will be eligible for support in the funding year that it is lit by the applicant, and may not be resold.

***Example:** If an applicant currently needs 2 strands of fiber, but wishes to install 12 strands of fiber for future expansion, it may install the 12 strands of fiber if it allocates the cost of the 10 excess strands of fiber out of its funding request.*

Observations From FY16

- Make sure you understand the differences between:
 - Leased lit fiber;
 - Leased dark fiber; and
 - Self-provisioned networks.
- Do not use “dark fiber” as a catchall term for any type of fiber service in RFPs, form narrative blocks, and communications.
- Do not identify one type of service in FCC Form 470 and a different type of service in the accompanying RFP (e.g., FCC Form 470 states “self-provisioning,” but RFP states “dark fiber laterals” with no mention of self-provisioning a network).
- Do not confuse self-provisioning with special construction.

Why is terminology important?

- You must seek bids in your FCC Form 470 and accompanying RFP for the service for which you seek E-rate support in your FCC Form 471.
Example: If an applicant files an FCC Form 470 requesting bids for “lit fiber” and for “dark fiber,” the applicant should not file an FCC Form 471 seeking support for a self-provisioned network.
- Applicants that may want the option to seek support for leased dark fiber or self-provisioned networks must follow competitive bidding and application rules that are specific to each type of service.
- RFPs should request information from vendors that addresses the different cost-effectiveness analyses required for leased dark fiber vs. self-provisioned networks.
- Incorrectly identifying the service for which funding is requested in FCC Form 471 and supporting documents will significantly delay the PIA process and may result in a denial.

Questions About FY16 & FY17 Filings

- **FY 2016 Applications:** PIA is reviewing applications and will address issues with misidentified services and ineligible charges with applicants as part of the PIA process.
- **FY 2017 FCC Form 470 Filings and RFPs:**
 - Repost your FCC Form 470 and/ RFP if you posted for the wrong service type or Category.
 - Restart your 28 day waiting period if you make cardinal changes and/or added information necessary to respond to the RFP

Section 2

Requesting Proposals for Fiber Options & FCC Form 470 Reminders

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Fiber Specific Competitive Bidding Rules

- **Leased Dark Fiber:** Applicants seeking bids for leased dark fiber (with and without special construction) must also seek bids for the needed connectivity via leased lit fiber.
- **Self-Provisioned Networks:** Applicants seeking bids for self-provisioned networks must also seek bids for the needed connectivity provided over third-party networks in the same FCC Form 470.
 - **Limited Exception:** Applicants that receive no bids in response to a FCC Form 470 that only requested bids for services provided over third-party networks may seek bids for self-provisioning in a second posting without renewing the prior services-only request.

***Reminder:** The competitive bidding process must be **open and fair**. Applicants may not state a preference for self-provisioning vs. leased dark fiber vs. leased lit service when soliciting the required bids.*

What should be in my FCC Form 470 & RFP?

- **Generally:**
 - Type of service(s) sought (e.g., leased lit fiber, leased dark fiber, self-provisioning, services over a third-party network generally).
Note: *Make sure FCC Form 470 and RFP(s) match up.*
 - Location of the recipients of service to be connected.
 - Desired term of agreement with provider.
 - Bandwidth sought (may be stated in a range).
 - Desired bandwidth expansion over time and request for pricing.
 - Any permissible disqualification factors.
 - Required deadlines.
 - Any state or local procurement requirements.
 - Bid evaluation criteria.
 - Any templates that bidders should use and other bid submission instructions (including instructions on how to ask questions).
-

Special Construction RFPs

- RFPs should request that vendors provide comprehensive specifications for their proposed special construction solutions and invoice-level detail on associated costs, such as:
 - Route assessment, maps, ROW access and/or easement requirements.
 - Whether fiber will be buried, strung through conduit (existing or newly installed), and/or strung aerially on poles (existing or newly installed), and any associated terms and costs (e.g., pole attachment agreements imposing make-ready costs, trenching and/or boring costs).
 - Quantity and cost of other plant elements (e.g., handholes, splice enclosures, vaults).
 - Charges for engineering, environmental assessments, traffic control and permits, surveys, testing, etc.
-

- **Check Your Form Drop Down Selections:**
 - For leased dark fiber bids – Select “Dark Fiber”
 - For self-provisioned network bids – Select “Self-Provisioning”
 - For leased lit fiber – Select “Lit Fiber Service”
 - For services provided over third party networks generally – Select “Transport Only – No ISP Service Included” and state requested capacity.

***Note:** If an applicant does not correctly identify the services for which it is seeking bids in FCC Form 470, it has not conducted an open and fair competitive bidding process, even if the requested service is stated in the RFP.*

- **Remember Installment Payment Option:** Applicants interested in an installment payment agreement for the non-discount share of eligible special construction charges must indicate an interest in such an option in their FCC Form 470.

Section 3

Selecting the Most Cost-Effective Service Offering

Reviewing Bids for Cost-Effectiveness

- Expected useful life of the asset is the key consideration when comparing the combined upfront and recurring costs of leased lit fiber vs. leased dark fiber vs. self-provisioned networks.
- Determine a reasonable, defensible period of time for the comparison, based on the applicant's anticipated use of the assets.

***Note:** Applicants that self-provision networks or purchase the network equipment required to light leased dark fiber may expect to recover costs in 5, 7, 10, or 20 years.*

Reviewing Bids for Cost-Effectiveness (cont.)

- Identify a **comprehensive** and specific total cost for each option that you are comparing.
 - **Self-Provisioned Networks:** Consider all costs of owning, operating, and maintaining a network (e.g., recurring fees for maintenance and operations, Network Equipment).
 - **Leased Dark Fiber:** Consider all of the costs of leasing, lighting, maintaining, and/or operating the dark fiber.
 - **Leased Lit Fiber:** Comparison should project demand for bandwidth over the comparison period and how costs of bandwidth will vary over time.
- Divide total cost of the leased dark fiber or self-provisioned network by number of years to determine annual cost. Compare that annual cost against the annual cost of other responsive proposals received.
- Be prepared to explain any assumptions made, such as expected useful life, cost for Network Equipment for leased dark fiber or self-provisioned network.

Section 4

Preparing a Fiber Funding Request

Know Your FRNs

- Understand the distinct funding requests that you may need to submit in your FCC Form 471:
 - **Special Construction:** Discussed above.
 - **Network Equipment:** Modulating electronics and other equipment needed to light dark fiber or make self-provisioned network functional.
 - **Maintenance & Operations:** Recurring charges for maintenance and operations of leased dark fiber or a self-provisioned network.
Note: Do not use the M&O FRN to request support for payments on a dark fiber lease or IRU.
 - **Network Equipment/M&O:** An applicant can file a single FRN for network equipment M&O when the applicant signed a single contract for the product and services.
- Applicants that file special construction requests, but not Network Equipment or M&O funding requests, should be prepared to explain why the latter are not necessary (e.g., applicant already owns Network Equipment needed to light fiber).

Organize Your FRNs

- Funding requests for Network Equipment and Maintenance & Operations costs associated with lighting leased dark fiber must be included in the same FCC Form 471 seeking support for the dark fiber lease or IRU, so that USAC may evaluate all the costs together.
Note: Including all FRNs related to a particular fiber service in one FCC Form 471 will facilitate review in PIA.
- Draft Helpful Funding Request Narratives (recommendations):
 - Describe the solution you chose and the options considered.
 - Describe your existing service and its capacity.
 - Explain variables, such as why you are not requesting support for Network Equipment to light newly constructed fiber.
 - If you are seeking support to update WAN connections, specify the capacity to your ISP connection (and vice versa).

Reminder: Use the EPC contract module to upload your vendor agreements. If the agreements incorporate other documents by reference (e.g., the vendor's bid response), please make sure they are included.

Do you qualify for a state match?

- Applicants may request an additional discount up to 10% to match state funding for special construction charges on a one-to-one dollar basis (not to exceed 100%). USAC will review eligibility, including:
 - Whether the source of the funding is eligible (i.e., the state or, for tribal entities, a state, Tribal government, or federal agency).
 - Whether the request is limited to special construction costs for a project that meets the FCC's connectivity targets.
 - Whether the state funding program's requirements comply with other E-rate rules (e.g., competitive bidding requirements).
- Check USAC's State Match webpage to see if your state program has received preliminary approval for E-rate matching funds:
<http://www.usac.org/sl/applicants/beforeyoubegin/state-matching-provision.aspx>
- State match details must be submitted with the special construction funding request, including evidence confirming the applicant has been granted funding by the eligible state or Tribal entity.

Do you have an installment plan?

- Applicants may request to pay their non-discount share of special construction costs in installments over up to four years.
 - Applicants must have indicated interest in an installment payment option on their FCC Form 470.
 - Service providers are not obligated to offer an installment option.
- Applicants that do enter an installment payment arrangement must provide details about the payment plan in their special construction FRN, including: (a) the total amount financed; (b) the term of the agreement; and (c) the annual interest rate.

Remember: *The installment payment option is available for the applicant's non-discount share of special construction charges only, not the total cost of a special construction project.*

Section 5 **Preparing for PIA**

Know the Details

- Applicants will be asked to explain why the service offering they selected is the most cost-effective solution. Be ready to:
 - Provide specifications for special construction solutions and invoice-level detail on associated costs.
 - Explain the reasonableness and need for the costs, such as:
 - Directional boring (buried)
 - Galvanized conduit (buried)
 - A large number of fusion splices
 - A large number of handholes, vaults (buried)
 - Installation of new poles (aerial)
 - Expensive make ready costs (aerial)
 - Confirm build route with GIS data as part of cost-per-foot evaluation.
 - State when a capital investment made by USF will yield cost-savings.
 - Respond to questions about whether all costs have been considered (e.g., maintenance and operations, Network Equipment).

***Reminder:** Vendors may assist applicants with preparing funding requests and responding to PIA questions, and may speak directly with PIA reviewers.*

A Few Misconceptions & Reminders

- The FCC's rules encourage self-provisioned networks: **False.**
 - Competitive bidding and the cost-effectiveness of the connectivity solution are still the bedrock concepts of E-rate.
- OK, but applicants can state a preference for self-provisioning: **False.**
 - Competitive bidding must be open and fair, and not imply bias for or against a particular connectivity solution. E-rate is technology neutral.
- "Dark fiber" refers to leased dark fiber and self-provisioning: **False.**
 - Leased dark fiber and self-provisioned networks are different service types and must be distinguished in FCC Form 470, RFPs, & FCC Form 471.

QUESTIONS?