

Eligible Services List

The Eligible Services List is adopted 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 FCC issues a draft ESL, usually in June, seeking comments on what changes should be made.

As of the preparation of this resource, the final Eligible Services List (ESL) for FY 2021 has not yet been issued. Included here is the proposed, draft ESL and the FCC's associated Public Notice inviting comments. The draft ESL for FY 2021 includes no substantive changes. However, the Commission did include the recently codified requirement from the 2019 Protecting Against National Security Threats Order: E-rate funds may not be used to purchase, obtain, maintain, improve, modify, or otherwise support equipment or services produced or provided by any covered companies designated by the Public Safety and Homeland Security Bureau (PSHSB), as well as their parents, affiliates, and subsidiaries. This restriction currently applies to Huawei Technologies Company and ZTE Corporation.



PUBLIC NOTICE

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WIRELINE COMPETITION BUREAU SEEKS COMMENT ON PROPOSED ELIGIBLE SERVICES LIST FOR THE E-RATE PROGRAM

WC Docket No. 13-184

Comment Date: August 20, 2020

Reply Comment Date: September 4, 2020

The Wireline Competition Bureau (WCB) seeks comment on the attached proposed eligible services list (ESL) for the schools and libraries universal service support mechanism (more commonly known as the E-Rate program) for funding year (FY) 2021.¹ We invite stakeholders to comment on any aspect of the proposed FY2021 ESL. Below, we identify two specific changes made between the FY2020 ESL and the proposed FY2021 ESL.

- In the 2019 *Protecting Against National Security Threats Order*, the Commission adopted a rule prohibiting the use of universal service support, including E-Rate funds, to purchase or obtain any equipment or services produced or provided by a covered company posing a national security threat to the integrity of communications networks or the communications supply chain.² Accordingly, use of E-Rate funds to purchase, obtain, maintain, improve, modify, or otherwise support equipment or services produced or provided by any covered companies designated by the Public Safety and Homeland Security Bureau (PSHSB), as well as their parents, affiliates, and subsidiaries, is prohibited.³ Therefore, in the proposed FY2021 ESL, we add a note under the “Eligibility Explanations for Certain Category One and Category Two Services” section to reflect this prohibition on the use of E-Rate support.⁴
- In the 2019 *Category Two Report and Order*, the Commission adopted rules changing the category two budget calculations from entity-level budgets to school district-wide and library

¹ See 47 CFR § 54.502(d) (detailing the procedures for seeking comment on a draft E-Rate program eligible services list); Attachment, Draft Schools and Libraries Eligible Services List for Funding Year 2021.

² See *Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs*, WC Docket No. 18-89, PS Docket Nos. 19-351, 19-352, Report and Order, Further Notice of Proposed Rulemaking, and Order, 34 FCC Rcd 11423, 11433, para. 26 (2019) (*Protecting Against National Security Threats Order*); 47 CFR § 54.9.

³ On June 30, 2020, PSHSB issued final designations of Huawei Technologies Company and ZTE Corporation as covered companies posing a national security threat for the purposes of this rule, effective beginning in FY2020. See *Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs – Huawei Designation*, PS Docket No. 19-351, Order, DA 20-690, para. 63, n.229 (PSHSB June 30, 2020); *Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs – ZTE Designation*, PS Docket No. 19-352, Order, DA 20-691, para. 29, n.104 (PSHSB June 30, 2020); see also 47 CFR § 54.9.

⁴ Attachment at 6.

system-wide budgets effective in FY2021.⁵ Accordingly, the proposed FY2021 ESL reflects this change.⁶

Pursuant to section 1.419 of the Commission's rules,⁷ interested parties may file comments on or before August 20, 2020 and reply comments on or before September 4, 2020. All comments are to reference WC Docket No. 13-184 and may be filed by paper or by using the Commission's Electronic Comment Filing System (ECFS).

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

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

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701. U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington, D.C. 20554.
- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19.⁸

People with Disabilities. To request materials in accessible formats (braille, large print, electronic files, or audio format), send an e-mail to fcc504@fcc.gov or call the Consumer and Governmental Affairs Bureau at 202-418-0531 (voice), 202-418-0432 (TTY).

Availability of Documents. Comments, reply comments, and *ex parte* submissions will be publicly available online via ECFS.⁹

Ex Parte Rules. The proceeding this Public Notice initiates shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.¹⁰ Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda, or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments,

⁵ *Modernizing the E-Rate Program for Schools and Libraries*, WC Docket No. 13-184, Report and Order, 34 FCC Rcd 11219 (2019) (*Category Two Report and Order*).

⁶ See Attachment at 3.

⁷ 47 CFR § 1.419.

⁸ See *FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy*, Public Notice, DA 20-304 (March 19, 2020), <https://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy>.

⁹ Documents will generally be available electronically in ASCII, Microsoft Word, and/or Adobe Acrobat.

¹⁰ 47 CFR §§ 1.1200 *et seq.*

memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the *ex parte* memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with section 1.1206(b) of the Commission's rules.¹¹ In proceedings governed by section 1.49(f) of the Commission's rules,¹² or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through ECFS in the docket available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

For further information, please contact Gavin Logan, Telecommunications Access Policy Division, Wireline Competition Bureau, by email at gavin.logan@fcc.gov or by phone at (202) 418-1490 or TTY (202) 418-0484.

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¹¹ 47 CFR § 1.1206(b).

¹² 47 CFR § 1.49(f).

ATTACHMENT

**DRAFT Eligible Services List for Funding Year 2021
Schools and Libraries Universal Service Support Mechanism****WC Docket No. 13-184**

The Federal Communications Commission's (FCC) 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). 47 CFR § 54.502(a). The E-Rate program is administered by the Universal Service Administrative Company (USAC). 47 CFR § 54.5. 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 §§ 54.500 *et seq.*

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 <https://www.usac.org/e-rate/applicant-process/before-you-begin/eligible-services-list/>. 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 may refer to those documents, but they should do so only for informal guidance. This ESL applies to funding requests for Funding Year (FY) 2021.

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 and/or Internet access. 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.

Data Transmission and/or Internet Access

Data transmission and/or Internet access services 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)
 - *Note:* Dedicated voice channels on an ISDN circuit are no longer eligible.
- Leased Lit Fiber
- Leased Dark Fiber (including dark fiber indefeasible rights of use (IRUs) for a set term)
- Self-Provisioned Broadband Networks (applicant owned and operated networks)
- Frame Relay
- Multi-Protocol Label Switching (MPLS)
- OC-1, OC-3, OC-12, OC-n

- Satellite
- Switched Multimegabit Data Service
- Telephone dial-up
- Wireless (e.g., microwave)

Notes: (1) 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 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.

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 below in the section titled “Eligibility Explanations for Certain Category One and Category Two Services”) 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 district- or library system-wide budgets as set forth in 47 CFR § 54.502. The eligible components and services in Category Two are.

Eligible Broadband Internal Connections

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

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 internal broadband 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 the equipment for it.

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 Services

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 above as broadband internal connections. 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

Note: Equipment or services produced or provided by a company that the FCC has designated as a national security threat to the integrity of communications networks or the communications supply chain are not eligible for E-Rate support. 47 CFR § 54.9(a).

Internet access/ISP service – Eligible Internet access services 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 service provider or priced out separately will be considered a Category Two internal connections component. Examples of items that are ineligible components of Internet access services 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 *2014 Second E-Rate Order* (FCC 14-189), 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 data transmission and/or Internet access 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 WLAN 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 data 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 data transmission services, unless they share the same building.
- Connections between buildings of a single school on the same campus are considered to be Category Two internal connections.

Network equipment with mixed eligibility – On-premises equipment that connects to a Category Two-eligible LAN is eligible for Category One support if it is necessary to make a Category One broadband service functional. If the price for components that enable the LAN can be isolated from the price of the components that enable the Category One service, those costs should be cost-allocated out of the Category One funding request.

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. These types of charges include customer charges for universal service fees, but do 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.

Schools and Libraries (E-Rate) Program

Eligible Services List (ESL) Glossary



The following glossary contains a list of common terms that relate to the eligibility of products and services that applicants may request in the E-rate Program. This glossary should NOT be used by applicants to determine the eligibility of a service or product or to determine the E-rate category of service for a particular service or product. Instead, applicants must refer to the Eligible Services List (ESL) for a particular funding year to determine eligibility for services and products for E-rate support for that funding year. Products and services that are not listed in the ESL are presumed to be ineligible.

ANTENNAS

An antenna is a device for transmitting and/or receiving radio frequency signals.

ASYNCHRONOUS TRANSFER MODE (ATM)

ATM is a high-speed Digital Transmission Service that can provide bandwidth of 622 Megabits per second or higher.

BROADBAND OVER POWER LINES (BPL)

Broadband over Power Lines (BPL) is a carrier current system installed and operated on an electric utility service as an unintentional radiator that sends radio frequency energy on frequencies between 1.705 MHz and 80 MHz over medium voltage lines or low voltage lines to provide broadband communications. It is also located on the supply side of the utility service's points of interconnection with customer premises.

CABLE MODEM

A cable modem is a modem designed for use on a TV coaxial cable circuit and provides a high-speed data path. It can provide high-speed access to the Internet over a coaxial cable circuit.

CABLING

Cabling refers to the wires or groups of wires capable of carrying voice, video, or data transmissions. Cabling provides electrical (or, in the case of fiber optics, lightwave) connectivity between points.

CACHING SERVICES/EQUIPMENT

A method that stores recently accessed information locally so that the information is accessible more quickly than if transmitted across a network from a distance.

CELLULAR SERVICE

Cellular service uses radio transmissions to provide a wireless telephone and data service. The voice component of cellular service is ineligible for E-rate discounts.

CONNECTORS

Connectors are devices that connect wires or fibers.

DIGITAL SUBSCRIBER LINE (DSL)

Digital Subscriber Line (DSL) is a technology that provides high-speed connections over telephone lines. Different types of DSL service are available, using descriptions such as ADSL, HDSL, and SDSL. The DSL family of technologies sometimes goes by the general name xDSL.

DS-1

DS-1 is a type of Data Transmission Service, and stands for "Digital Signal, level 1." It operates at a bandwidth of 1.544 megabits per second. Other DS levels—DS-2, DS-3, and DS-4—operate at higher bandwidths.

ETHERNET

Ethernet is a type of Data Transmission Service. Traditionally, Ethernet operates at a bandwidth commonly known as 10Base-T which is equivalent to 10 megabits per second (Mbps). 100Base-T at 100 Mbps and Gigabit (1,000Mbps) are also available.

FIBER OPTICS OR FIBER SERVICE

Fiber Optics is a technology that uses light to transport information over thin strands of glass (called fiber optic cable) and can provide a Data Transmission Service.

FIREWALL OR FIREWALL SERVICE

A firewall is a hardware and software combination that sits at the boundary between an organization's network and the outside world, and protects the network against unauthorized access or intrusions.

FRAME RELAY

Frame relay is a type of Data Transmission Service. Frame relay networks in the United States support data transfer rates at T-1 (1.544 Mbps) and T-3 (45 Mbps) speeds.

INTEGRATED SERVICES DIGITAL NETWORK (ISDN)

ISDN is a type of Data Transmission Service that uses traditional phone lines to transmit digital voice and data over telephone lines. There are two types of service. Basic Rate Interface (BRI) provides a total bandwidth of 144 kilobits per second. Primary Rate Interface (PRI) provides a total bandwidth of 1.544 megabits per second. The voice component of an ISDN is ineligible for E-rate discounts.

INTERNET ACCESS

The definition of internet access comes from section 54.5 of the FCC's rules which states that internet access includes the following elements: (1) The transmission of information as common carriage; (2) The transmission of information as part of a gateway to an information service, when that transmission does not involve the generation or alteration of the content of information, but may include data transmission, address translation, protocol conversion, billing management, introductory information content, and navigational systems that enable users to access information services, and that do not affect the presentation of such information to users; and (3) Electronic mail services (e-mail).

LEASED DARK FIBER

Dark fiber refers to fiber optic cable for which the service provider has not provided modulating electronics, and that is not being used to transmit data. Leased dark fiber is a type of fiber service in which the 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. For the purposes of the E-rate Program, the term "leased dark fiber" includes infeasible rights of use.

LEASED LIT FIBER

Lit fiber refers to fiber optic cable for which the service provider provides modulating electronics to light the fiber. Leased lit fiber is a fiber-based broadband service where the service provider owns, maintains, and manages the network, and the E-rate applicant pays a recurring fee to have data transported over the network.

LOCAL AREA NETWORK (LAN)

A data* network that provides connections generally within an eligible school or library to other locations within the school or library.

*The voice and video components of a LAN are ineligible for E-rate discounts.

MANAGED INTERNAL BROADBAND SERVICES (MIBS)

MIBS are services provided by a third party for the operation, management, and monitoring of eligible broadband internal connections components.

MICROWAVE

Microwave is a wireless technology used for point-to-point communications systems.

OC-1

OC-1 stands for "optical carrier 1," which is a Data Transmission Service that operates at 51.84 Megabits per second. Multiples of this bandwidth are also available, such as, OC-3 and OC-12.

RACKS

A rack is a metal supporting framework for mounting cables, equipment, and/or wires.

ROUTER

Routers are switching devices that can act as an interface between two networks and connect different segments, such as departments or floors in a building. Functionally, routers select the routing path for traffic.

SATELLITE SERVICE

Satellite service provides communication between points on Earth by using an orbiting satellite as a communications relay point.

SELF PROVISIONED NETWORK

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 completely or partially owns and maintains that network or portion.

SHIPPING CHARGES

Shipping Charges are the charges associated with the delivery of products from their point of origin to the customer premises.

SWITCH

A switch is a mechanical or electronic device that completes or breaks an electrical path or that selects the paths for communication. More specifically, network switches provide capability similar to a network hub but provide a dedicated bandwidth at each network port, rather than shared bandwidth among all ports.

SWITCHED MULTIMEGABIT DATA SERVICE (SMDS)

Switched Multimegabit Data Service (SMDS) is a type of Data Transmission Service offered by telephone companies that operates at speeds of from 1.544 Megabits per second to 45 Megabits per second or even more.

T-1

T-1, which stands for Trunk Level 1, is a Data Transmission Service that operates at 1.544 Megabits per second. Greater speeds are available from other Trunk Levels, such as T-2 (6.312 Mbps) or T-3 (44.736 Mbps). Slower speeds are known as Fractional T-1.

UNINTERRUPTIBLE POWER SUPPLY (UPS) / BATTERY BACKUP

UPS, also called a battery backup, is a device that provides backup electric energy to a piece of equipment in the event of a power failure.

WIDE AREA NETWORKS (WANS)

A WAN is a data* network that provides connections from within an eligible school or library to other locations beyond the school or library.

*The voice and video components of a WAN are ineligible for E-rate discounts.

WIRELESS ACCESS POINT

A Wireless Access Point is used to distribute a wireless signal to allow devices to connect to a network and/or access the Internet within a wireless LAN.

WIRELESS CONTROLLER SYSTEM

A Wireless Controller System is used in conjunction with access points to create a wireless local area network.

WIRELESS LOCAL AREA NETWORK (LAN)

A Wireless Local Area Network provides the functionality of a local area network using wireless components rather than cabling.

Overview of Category 1 Eligibility

Category 1 services consist of Data Transmission Services and/or Internet Access 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: In prior years the program also supported voice phone service but beginning in FY 2015 funding for voice phone service began phasing out. The phase-out is now complete and therefore there is no longer any funding available for any voice phone service.

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 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
- Self-provisioned Broadband Networks
- Frame Relay
- SMDS
- Cable Mode
- DSL
- ATM
- Telephone Dialup Internet
- Broadband over Power Lines

Internet Access Service Components

Eligible

- Basic firewall protection*
- Domain Name Service*
- Dynamic Host Configuration*
- Leased termination equipment (such as a router)

Ineligible

- Other firewall service from different vendor or priced separately
- Applications
- Content
- E-mail
- End-user devices

*Must be part of standard Internet offering from vendor (must be provided to all vendor's customers with no separate cost).

Important FCC Eligible Services Notes:

(1) 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 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.

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 is not considered to be 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.

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.

Building-to-Building Connections: Please refer to the end of this section for more information about the Category 1/Category 2 determination for connections between schools and buildings.

Dark Fiber, Self-Provisioning Fiber and Special Construction

The E-rate program has three distinct terms when referring to eligible fiber:

- **Leased Lit Fiber**
- **Leased Dark Fiber**
- **Purchased “Self-Provisioning” Fiber** – An option that became eligible beginning in FY 2016 for applicants to contract for the construction and installation of fiber that they will own.

* **Special Construction of Fiber** - 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.

IMPORTANT: The rules for evaluating the cost effectiveness of dark fiber, self-provisioning, and any funding request containing special construction charges are strict, ever-evolving, and are explained below as they are currently known. Applicants considering bidding and procuring leased dark fiber, self-provisioning fiber, or any type of fiber that contains special construction should carefully review this document, as well as refer to the PIA questions they can expect to receive from USAC. Denial rates for these requests are significantly higher than traditional leased lit fiber with no special construction.

Leased 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 is not owned by the applicant, but rather is leased from a service provider where the applicant then installs the modulating electronics and lights the fiber as a condition of receiving E-rate support for the service.

- A dark fiber IRU (indefeasible rights of use) is treated as leased dark fiber services for the purposes of the E-rate Program.
- The modulating electronics and equipment necessary to make the dark fiber service functional are eligible to be purchased with Category 1 funds.
- 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.

The E-rate definition of dark fiber is different from the traditional industry or service-provider definition of dark fiber 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 by an eligible school or library, and these costs must be reduced from the funding request.

Self-Provisioning of Fiber Overview

Starting 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 for leased lit fiber, leased dark fiber, and self-provisioning (purchasing) of their own fiber. 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 Form 470;
- A Category 1 recurring service depends on the installation of the infrastructure; and
- The service start date is on or after the start of the funding year.

Upon request, applicants may also receive extensions of up to one year to complete the installation for unavoidable delays due to weather or other reasons.

As with all requests for E-rate Program funding, before requesting support for special construction, the applicant must determine that the most cost-effective solution for meeting connectivity needs has been selected. This typically means that the lowest cost option has been chosen.

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.

USAC Fiber FAQs

Eligible Fiber and Services

Q1: What are the fiber services eligible for E-rate support and how do they differ?

A1: There are three types of fiber options eligible for E-rate support:

- **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 Indefeasible Rights of Use (IRU)):** The E-rate applicant leases capacity (i.e. a specific number of fiber strands) on a provider-owned and maintained fiber network. The applicant pays separately for modulating equipment to light the fiber in order to transmit data over that fiber. The maintenance and operations (M&O) charges related to leased dark fiber service can be the responsibility of the service provider or the applicant dependent on the terms of the contractual agreement. The applicant can negotiate M&O charges with the leased dark fiber service provider to provide these services or the applicant may obtain this service via another third-party vendor.
- **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, including all the fiber strands and conduit.

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

Q2: When are the recurring charges associated with leased lit fiber, leased dark fiber, and self-provisioned networks eligible for E-rate support?

A2: Applicants may not receive E-rate support for any recurring charges incurred before the start of the funding year (i.e., July 1).

- Applicants may only receive E-rate support for recurring charges for leased lit fiber services delivered within the funding year.
- Applicants may not receive E-rate support for recurring charges for leased dark fiber until the fiber is lit.
- Applicants may not receive E-rate support for recurring charges associated with a self-provisioned network until the network is constructed and is in use.

Q3: What is special construction?

A3: Special construction is the deployment of new fiber or upgraded facilities to E-rate eligible entities. For the purposes of the E-rate program, special construction charges are the upfront, non-recurring costs of deploying new fiber or upgraded facilities to eligible entities. Special construction consists of three components: (1) construction of network facilities; (2) design and engineering; and (3) project

management. Special construction does not include charges for Network Equipment, (i.e., modulating electronics and other equipment necessary to make a Category One service functional).

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

Q4: Can applicants incur charges for special construction in one funding year and light the fiber in a later funding year? Stated differently, can applicants request support for special construction of fiber that is not lit, or a self-provisioned network that is not used (if another technology is employed), within the funding year of my funding request?

A4: No. Applicants may only request E-rate support for special construction charges related to leased lit fiber and leased dark fiber if the fiber is lit within the same funding year (i.e., by June 30) as the funding request. Applicants may only receive E-rate support for special construction charges for a self-provisioned network if the network is constructed and is in use by the end of the same funding year as the funding request.

Applicants may not request E-rate support for special construction of fiber in one funding year if the fiber will not be lit until a later funding year. For example, an applicant may not spend two years constructing a network that will not be lit until year three, and submit E-rate funding requests for the special construction charges incurred in years one and two.

Q5: What if special construction for a fiber run or network cannot be completed in one year because of the terrain, the extensiveness of the build, or other foreseeable factors? Are there any exceptions that will let me seek special construction charges for fiber that is not lit within the same funding year as the funding request?

A5: No. There are no exceptions to the requirement to light the fiber by the end of the funding year (i.e., June 30) when the reasons are foreseeable events. Foreseeable events may include, for example, the size or complexity of the build, the terrain involved, limitations expressed by a service provider or contract terms. Applicants may receive up to a one year extension if they can demonstrate that construction was unavoidably delayed due to weather or other reasons. See Q7 for additional information.

Q6: What can an applicant do if the scope of the project might prevent them from completing construction and lighting the fiber by June 30?

A6: Applicants can call the Client Service Bureau at (888) 203-8100 to review their special construction plan. It may be possible to break up the special construction project into stages that will allow applicants to complete special construction and light the fiber for some of their eligible school and/or library locations in one year, and complete additional connections to other eligible school and/or library locations in a subsequent funding year. The special construction charges associated with the fiber installed and lit within each funding year would be eligible for support in that funding year.

Q7: What if my special construction project is delayed by an extreme weather event, a natural disaster, or other unforeseen, unavoidable factor?

A7: Applicants may request a one-year extension to complete special construction and light the fiber (or use the self-provisioned network if another technology is employed), if the applicant can demonstrate that construction was unavoidably delayed due to weather or other reasons. Examples of circumstances that may be an unavoidable delay include:

Unforeseen weather event or pattern resulting in saturated or frozen ground that prevents the work from occurring;

- Occurrence of a natural disaster;
- Scheduled delivery of required plant components does not arrive;
- USAC issues an FCDL too late for the applicant to complete special construction and light the associated fiber by the end of the funding year;
- Another unforeseeable, unavoidable event.
- To obtain a one-year extension based on an unforeseen, unavoidable construction delay, applicants must submit an extension request to USAC before the end of the funding year (i.e., June 30). Please call the Client Service Bureau at (888) 203-8100 for assistance in obtaining a one-year extension.

Q8: What is Network Equipment?

A8: Network Equipment is limited to modulating electronics and other equipment necessary to make a Category One broadband service functional. Network Equipment is eligible for Category One support.

While Network Equipment is eligible for Category One support, it is a different service than special construction. Applicants that wish to request E-rate support for special construction must seek bids for Network Equipment separately on their FCC Form 470. Additionally, on the FCC Form 471, applicants must request E-rate support for Network Equipment in a funding request that is separate from a special construction funding request.

For additional information on how to seek bids and E-rate support for Network Equipment, see Q26 below.

Q9: How do I know when on-premise equipment is Network Equipment eligible for Category One support or an internal connection eligible for Category Two support?

A9: In most cases, the connection providing Category One broadband connectivity to a school would terminate into one device, and that device would serve as a demarcation point between the last mile circuit and the school LAN. In that case, the terminating router or switch would be Network Equipment eligible for Category One support, because without it, the needed broadband connectivity could not be delivered to the school (i.e., the Category One broadband service would not function). The mere fact that the device also interfaces with the school's LAN and ultimately enables the LAN's connectivity does not preclude the school from requesting Category One support for the cost of the device.

For example, fiber to a school may terminate into a router that is then connected to the school's LAN via a series of switches. The terminating router or switch must interface with the LAN for the LAN to receive connectivity. The router into which the Category One fiber service terminates would be Network Equipment. It is necessary so that Category One broadband service to the school can function. That remains true even though the router is connected to the school's LAN via a series of switches. The series of switches, however, would not be Network Equipment. The purpose of those devices is to enable the

functionality of the LAN. They are not necessary to deliver Category One broadband service to the school.

Note that the demarcation points for different schools and libraries may vary based on the configurations of their networks. If you have questions about whether equipment involved in a particular network configuration would constitute Network Equipment eligible for Category One support or internal connections eligible for Category Two support, please contact the Client Service Bureau to discuss the specific facts necessary to make that determination.

Q10: If on-premise equipment performs both Category One and Category Two functions, and it is determined that it qualifies as Category One Network Equipment, does an applicant have to cost-allocate anything out of their funding request due to the Category Two functionality?

A10: Cost allocation is not required if: (1) purchasing the device is the most cost-effective means of making the Category One broadband service to the school function; and (2) a price for the components of the device that enable the school's LAN to receive connectivity (i.e., the Category Two function) cannot be isolated from the price of the components that enable broadband connectivity to the school (i.e., the Category One function). Under those circumstances, the components of the device that interface with the school's LAN and enable the LAN's connectivity would be ancillary, and the school may seek a discount based on the full cost of the terminating device in a Category One funding request.

If, however, a price for the components of the device that enable the school's LAN to receive connectivity can be isolated from the price of the components that enable the Category One service, those charges should be cost allocated out of the Category One funding request.

Q11: May I request E-rate support for new Network Equipment and Maintenance and Operations (M&O) charges for an existing leased dark fiber or self-provisioned network?

A11: Yes. Applicants that currently own a leased dark fiber or self-provisioned network may obtain Category One support for new Network Equipment (i.e., an equipment refresh or upgrade) and Maintenance and Operations (M&O) charges for those existing networks. See Q26 and Q27 for information on how to request bids and E-rate support for those charges.

Q12: So, to recap, of the charges I may incur for each type of eligible fiber service, which are eligible for E-rate support?

A12: Applicants may request E-rate support for the following charges (by type of fiber service):

Leased Lit Fiber	Leased Dark Fiber*	Self-Provisioned Networks*
<ul style="list-style-type: none"> • Monthly recurring charges • Special construction charges • Basic Installation charges 	<ul style="list-style-type: none"> • Recurring dark fiber lease or IRU payments • Maintenance and operations charges • Special construction charges • Basic Installation charges • Network Equipment 	<ul style="list-style-type: none"> • Maintenance and operations charges • Special construction charges • Network Equipment

* Remember that applicants seeking bids for leased dark fiber and self-provisioned networks must seek bids for their Internet access service separately in an FCC Form 470 posting and seek E-rate support for Internet access service in a separate FCC Form 471 funding request.

See also Qs 14-28 for information about how to request bids for these services through an FCC Form 470 posting and Qs 30-38 for how to request E-rate support for the charges through an FCC Form 471 filing.

Q13: I understand that special construction charges incurred after the close of the funding year (i.e. June 30) are ineligible for E-rate support. Is it possible for me to start work early and incur charges for special construction and Network Equipment purchases incurred prior to the July 1 start of the funding year?

A13: Applicants may begin special construction six months prior to the start of the funding year (i.e., January 1), and seek E-rate support for the charges incurred, provided that: (1) construction begins after selection of a service provider pursuant to a valid competitive bidding process; (2) a Category One recurring service depends on the installation of the infrastructure; and (3) the service start date is on or after the start of the funding year.

In addition, if an applicant opts to begin special construction during the six months prior to start of the funding year (i.e., January 1), applicants may also request E-rate support for Network Equipment installed during the course of that work.

Applicants are cautioned, however, that if they choose to incur charges for either special construction or Network Equipment before receiving funding commitment decision letters for those funding requests, they assume the risk that their funding requests may be denied or reduced.

Requesting Bids for Fiber Services – FCC Form 470 & Requests for Proposal (RFPs)

Q14: Are there any competitive bidding requirements applicable to leased dark fiber?

A14: Applicants who are requesting E-rate support for leased dark fiber must also seek bids for leased lit fiber in an FCC Form 470 posted in E-rate Productivity Center (EPC).

Q15: If I have a pre-existing, multi-year dark fiber lease or an IRU, do I need to post a new FCC Form 470 for the current funding year and request competitive leased lit fiber bids?

A15: Leased dark fiber has been eligible for E-rate support since Funding Year (FY) 2011. If the applicant entered a multi-year dark fiber lease or IRU in a prior funding year, pursuant to an E-rate-compliant competitive bidding process, and the lease or IRU has not expired, the applicant is not required to post an FCC Form 470 prior to requesting E-rate support for continued service under that multi-year agreement. When that dark fiber lease or IRU expires or otherwise terminates, and the applicant posts an FCC Form 470 seeking bids for a new service contract, the applicant will be required to comply with all applicable competitive bidding rules at that time. For instance, if the applicant seeks bids for another dark fiber lease or IRU at that time, the applicant will be required to seek bids for the needed connectivity via leased lit fiber, as well.

Q16: What is the competitive bidding requirement applicable to self-provisioned networks?

A16: Applicants requesting E-rate support for a self-provisioned network must also seek bids for the services provided over third-party networks in the same FCC Form 470 posted in EPC.

If an applicant has already sought bids for services provided over third-party networks in an FCC Form 470, and did not receive any bids in response, the applicant may post a second FCC Form 470 seeking bids for a self-provisioned network only (i.e., the applicant does not need to repeat a request for bids for services provided over third-party networks).

Q17: Is "services provided over third-party networks" a technology-neutral standard? What if I'm only interested in bids for a fiber service?

A17: Self-provisioned networks are a technology-neutral eligible service. Applicants may self-provision a fiber network, but applicants may also self-provision networks using other technologies (i.e., fixed microwave), or a mix of fiber and other technologies. In light of this, the FCC adopted a technology-neutral competitive bidding standard for self-provisioned networks – service provided over third party networks.

If an applicant specifies a requested bandwidth that other providers can provide, the technology-neutral competitive bidding standard expands the competitive bidding pool, and helps to ensure that applicants requesting E-rate support for self-provisioned networks only do so when it is the most cost-effective service option to meet their connectivity needs. It is possible that based on the applicant's bandwidth specifications that fiber may be the only option for receiving the requested bandwidth.

Q18: Are there any competitive bidding requirements applicable to leased lit fiber?

A18: If an applicant is only interested in seeking bids for leased lit fiber, they may do so by posting an FCC Form 470 in EPC that only specifies leased lit fiber as the requested service.

Q19: How do I request bids for fiber services? Do I have to attach a separate Request for Proposal (RFP)?

A19: As with all other eligible services, applicants must request bids for fiber services by submitting the FCC Form 470. Please see the FCC Form 470 user guide for information about how to properly identify the fiber services for which you are seeking bids.

Although the E-rate rules do not specifically require applicants to prepare a separate RFP for any eligible service, applicants seeking bids for leased dark fiber services, self-provisioned networks or utilizing the "Other" option based on the information required, will need to upload an RFP in EPC. Please see the FCC Form 470 user guide for additional information.

Q20: What if I don't seek bids for fiber on the FCC Form 470 itself, but I do request fiber bids in an attached RFP? Does that satisfy E-rate Program rules requiring a fair and open competitive bidding process?

A20: No. The FCC Form 470 is required to open and start the competitive bidding process in the E-rate Program. Any service for which applicants are requesting E-rate support must be identified on their FCC Form 470. It is not sufficient if the service is identified in their RFP, because service providers may not look beyond the posted FCC Form 470 to see the additional request in the RFP. For example, if an applicant's FCC Form 470 seeks bids for leased dark fiber and leased lit fiber, and their RFP also includes a request for bids for a self-provisioned network, the applicant may not receive E-rate support for a self-provisioned network as this service was not included in their FCC Form 470.

Q21: Can the applicant state that they would prefer to self-provision a network over a leased lit fiber or leased dark fiber solution? Can the applicant state that they would prefer a leased dark fiber solution over a leased lit fiber or self-provisioning a network?

A21: No. As with all other E-rate eligible services, competitive bidding for fiber services must be open and fair. That means an applicant may not specify a preference for any of the services for which it is required to seek bids in an FCC Form 470 or an RFP, or through another medium during the competitive bidding process. For instance, if an applicant seeks bids for leased dark fiber, they are also required to seek bids for the requested connectivity via leased lit fiber. The applicant may not state that, although it is requesting bids for both types of fiber service, they would prefer leased dark fiber solutions over leased lit fiber solutions. Similarly, applicants may not state a preference for self-provisioning a network over a service provided over third-party networks.

Q22: If I post a separate RFP, should I identify all of the services for which I am seeking bids in that RFP, or is it enough to just have those services identified in the FCC Form 470?

A22: Applicants must identify all services for which they are seeking bids on their FCC Form 470. The RFP may contain additional detail about the connectivity needs that would be useful to service providers submitting bids for the various options. To avoid the appearance of a preference for one type of service over another, USAC recommends that applicants identify all of the services for which they are requesting bids in any RFP that they attach to their FCC Form 470, as well. For example, if an applicant seeks bids for a self-provisioned network, their RFP should note that they are seeking bids for services provided over third-party networks, as well.

Q23: What kind of information should I include in an FCC Form 470 and/or RFP seeking bids for fiber services?

A23: The FCC Form 470 and RFP should provide enough information to request comprehensive proposals with line-item cost details from service providers, but not so much information that the applicant states a preference for a particular connectivity solution, a particular construction route, or particular method of construction. The idea is to communicate connectivity needs to service providers in a manner that allows the providers to ascertain and propose the most cost-effective way that they can provide the requested services to the applicant, with line-item cost details.

For instance, an FCC Form 470 and RFP seeking bids for fiber services should generally identify:

- All of the connectivity solutions for which the applicant is seeking bids (e.g., leased lit fiber, leased dark fiber, self-provisioning, services over a third-party network). Applicants should make sure those solutions match the drop-down options they have selected on FCC Form 470.
- Location of the recipients of service to be connected.
- Desired term of agreement with provider (for leased lit and leased dark fiber).
- 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).

If an applicant is seeking bids for a self-provisioned network, or knows that their request for leased lit fiber or leased dark fiber will require special construction to the recipients of service specified, USAC would also expect that the applicant's RFP would request that service providers specify in their proposals:

- Route assessment, maps, ROW access and/or easement requirements.
- Complete specifications for the special construction project as a whole, including whether fiber will be buried, strung through conduit (existing or newly installed), and/or strung aerially on poles (existing or newly installed).
- All terms and conditions associated with the completion of the work.
- Invoice-level detail specifying quantities and costs associated with the special construction project as a whole (e.g., number and cost of fiber strands installed, pole attachment make-ready costs, trenching and/or boring costs, costs and quantities with respect to any conduit, hand holes, vaults, splicing).
- Charges for engineering, environmental assessments, traffic control and permits, surveys, testing, and the like.
- Again, these are details that service providers should provide to applicants. Applicants should not attach pre-engineered plans or otherwise specify the route, type of construction, or plant components they would like service providers to use. Service providers are likely to be in the best position to propose the most cost-effective route to applicants.

That said, applicants should feel free to include general, high-level information in RFPs that they think may be helpful to service providers putting together a proposal (e.g., information about the terrain,

existing facilities on school/library property that can be leveraged, compatibility requirements with existing school/library facilities). In addition, while applicants should not attach pre-engineered construction plans for a special construction project they would like service providers to bid on, they may attach maps or plans that provide information about school/library property and existing infrastructure in the area.

If applicants have specific questions about how to formulate their RFP, they should call the Client Service Bureau at (888) 203-8100 or enter a customer service case in EPC.

Q24: What if I do not expressly request bids for special construction in conjunction with my FCC Form 470 seeking bids for a fiber service? Can a service provider still include special construction charges in their proposal?

A24: In the case of leased lit fiber and leased dark fiber, yes. The E-rate rules do not expect applicants to always know whether and to what extent special construction may be required to connect eligible recipients to a service provider's network. So, if applicants post an FCC Form 470 seeking bids for bandwidth for a specified list of recipients of service, and service providers respond with proposals that include special construction that is fine.

If applicants determine that a proposal that includes special construction as the most cost-effective option for their connectivity needs, however, applicants are advised that they will be required to answer the same questions during PIA review as applicants that specifically sought bids for special construction.

Special construction is a necessary component for self-provisioning a new network or a new part of an existing network. Accordingly, all FCC Form 470s seeking bids for a self-provisioned network should specifically seek bids for special construction.

Q25: Do I need to do anything during the competitive bidding process to indicate that I would like service providers to offer an installment payment option for my non-discount share of special construction charges?

A25: Yes. Applicants interested in an installment payment agreement for their non-discount share of eligible special construction charges must indicate that interest on their FCC Form 470. When applicants are filing their FCC Form 470, on the "Services Request" page in EPC, they should look for a check box under the "Narrative" box for this option.

See Q35 for additional information on installment payment arrangements for an applicant's non-discount share of eligible special construction charges.

Q26: How do I seek bids for Network Equipment for a leased dark fiber or a self-provisioned network?

A26: As with all other eligible services, applicants must request bids for Network Equipment. Applicants should reference the FCC Form 470 user guide for information about how to specify that they are seeking bids for Network Equipment in an FCC Form 470.

Q27: How do I seek bids for Maintenance & Operations (M&O) services for a leased dark fiber or self-provisioned network?

A27: As with all other eligible services, applicants must request bids for Maintenance & Operations (M&O) services using the FCC Form 470. Applicants should reference the FCC Form 470 user guide for information about how to specify that they are seeking bids for M&O services.

Q28: If I'm seeking bids for Network Equipment or Maintenance and Operations (M&O) services for an existing leased dark fiber or self-provisioned network, what are the competitive bidding requirements?

A28: Applicants seeking E-rate support for Network Equipment or M&O services for an existing leased dark fiber or self-provisioned network do not need to seek competitive bids for leased lit fiber (in the case of existing leased dark fiber) or services provided over third-party networks (in the case of self-provisioned networks). Applicants do have to file an FCC Form 470 seeking competitive bids for the Network Equipment and M&O services. Applicants should reference the FCC Form 470 user guide for information about how to specify that they are seeking bids for these services.

Selecting the Most Cost-Effective Service Offering

Q29: How do I determine the elements for a cost comparison between leased dark fiber vs. leased lit fiber; leased dark fiber vs. self-provisioned networks; and self-provisioned networks vs. services provided over third party networks?

A29: When comparing the cost effectiveness of the three fiber service offerings – leased lit fiber, leased dark fiber, and self-provisioned networks – the expected useful life of the asset is a key consideration when comparing the combined upfront and recurring costs. To do this, applicants should determine a defensible period of time for the comparison, based on their anticipated use of the assets. Depending on a variety of factors, an applicant may expect to recover their costs for a self-provisioned network or leasing and lighting dark fiber in five, seven, ten, or, in some circumstances, 20 years.

Applicants should then identify a specific and comprehensive total cost for each of the responsive proposals received:

- 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.

Once that is done, applicants should divide the total cost for each option by the number of years in their comparison period to determine annual cost. Compare that annual cost against the annual cost of other responsive proposals received over the duration of the defensible time period. From this comparison, applicants should provide documentation of their findings to their reviewer via EPC with a narrative that summarizes the logic of the comparison. Presenting comprehensive comparison data is an important piece of the cost-effectiveness review process. By providing detailed information it helps the reviewers assess the validity of the cost-effectiveness of a solution more efficiently.

Applicants should be prepared to explain any assumptions made, such as how they set their comparison period, and cost for Network Equipment for leased dark fiber or self-provisioned fiber and any equipment refresh needs.

Preparing a Fiber Funding Request (FCC Form 471)

Q30: What are the different types of funding requests that I may need to include in my FCC Form 471 if I request E-rate support for leased dark fiber or a self-provisioned network?

A30: The funding request options available to applicants seeking support for leased dark fiber and self-provisioned networks when filing FCC Form 471 are listed below. An applicant does not have to file each type of funding request when seeking support for leased dark fiber or a self-provisioned network (e.g., an applicant that already owns Network Equipment and is not seeking support for the purchase of Network Equipment would not file a Network Equipment funding request). Applicants should be prepared to explain why they have not filed certain funding requests during review of the fiber application (e.g., when seeking funding for special construction applicants should be prepared to explain why they are not requesting Network Equipment necessary to light fiber).

Self-Provisioning FRN Types

- Maintenance and Operations (M&O) (use when M&O is contracted for separately from Network Equipment)
- Network Equipment (use when Network Equipment is contracted for separately from M&O)
- Network Equipment/M&O (use when a single contract is signed for Network Equipment & M&O services)
- Special Construction

Leased Dark Fiber FRN Types

- Data Transmission and/or Internet Access (use for recurring dark fiber lease/IRU payments)
- Maintenance and Operations (use when M&O contracted for separately from Network Equipment)
- Network Equipment (use when Network Equipment is contracted for separately from M&O)
- Network Equipment/M&O (use when a single contract for Network Equipment & M&O services)
- Special Construction

Please see the FCC Form 471 user guide for information on how to complete and submit these funding requests in EPC.

Q31: What types of funding requests might an applicant file when seeking support for leased lit fiber?

A31: An applicant would use the leased lit fiber FRN type to seek E-rate support for leased lit fiber. If the applicant is seeking support for special construction associated with leased lit fiber, they may opt to do so using a dedicated special construction FRN.

Q32: Do I have to include all funding requests related to the same requested service in one FCC Form 471?

A32: Funding requests seeking support for Network Equipment and Maintenance & Operations (M&O) charges associated with lighting leased dark fiber must be included in the same FCC Form 471 as the funding request seeking support for the dark fiber lease or IRU. Given that the review of all of the costs associated with a fiber application will occur during the PIA process, it is recommended that applicants include all related funding requests in the same FCC Form 471. For instance, if an applicant is seeking E-rate support for a self-provisioned network, USAC recommends that the applicant include any funding requests for Network Equipment and Maintenance & Operations (M&O) in the same FCC Form 471 as the special construction funding request.

Q33: What helpful information should I put in the narrative of a special construction funding request?

A33: It is recommended that applicants use the narrative field in the FCC Form 471 to:

- Describe the fiber solution selected (e.g., "This funding request is for special construction charges necessary to connect X Elementary School, Y Middle School, and Z Middle School to our existing leased dark fiber WAN").
- Identify any related FRNs (e.g., "Support for the recurring payments required by our existing dark fiber lease is requested in FRN 12345678. We are also requesting support for recurring Maintenance & Operations charges in FRN 910111213. We seek support for the Internet access provided over the leased dark fiber in FRN 87654321").
- Briefly explain why the requested service was deemed to be the most cost-effective option of all the bids received.
- If applicants are changing the manner in which their schools and libraries receive service (e.g., they previously used a leased lit fiber service, but are switching to a leased dark fiber solution), applicants should describe their existing service and its capacity.
- Explain the plan for transitioning services if an applicant plans to light new fiber after the start of the funding year.
- Describe any variables that may help a reviewer understand an application, such as why the applicant is not requesting Network Equipment to light newly constructed fiber.

Q34: Am I still required to amortize large non-recurring capital costs over a period of three years for charges of \$500,000 or greater?

A34: The FCC has permanently extended the amortization requirement.

Q35: Can you explain the requirements regarding installment payments for the non-discount share of special construction charges?

A35: E-rate Program rules require applicants to pay the non-discount share of E-rate supported services within 90 days of receipt of service. Applicants may, however, request that service providers allow them to pay their non-discount share of costs for eligible special construction services in installments over up to four years from the first day of the relevant funding year. To take advantage of this option, applicants must have indicated an interest in an installment payment arrangement in their FCC Form 470.

Service providers are not obligated to offer an installment payment option to applicants if one is requested. However, if a service provider chooses to offer an installment payment plan, they must disclose the material terms, including the interest rate and the term of the payment plan, in their bid submission.

Applicants that enter an installment payment arrangement for the non-discount share of eligible special construction charges must also be prepared to provide details about the payment plan in their special construction funding requests, including: (a) the total amount financed; (b) the term of the agreement; and (c) the annual interest rate.

Q36: Can I obtain additional E-rate support to match funding that I receive from my state, Tribal government, or other federal agency for special construction charges?

A36: If a state provides eligible schools and libraries with funding for special construction charges for high-speed broadband that meets the FCC's bandwidth targets, the E-rate Program will provide a one-to-one dollar match up to an additional ten percent discount in Category One support. For Tribal schools and libraries, the E-rate Program will also match special construction funding provided by states, Tribal governments, or other federal agencies for special construction on a one-to-one basis, up to an additional ten percent discount in Category One support. However, total support for a special construction project through the E-rate Program including matching funds from a state, Tribal government, or other federal agency may not exceed 100 percent.

Q37: What will USAC evaluate to determine if I may receive additional E-rate discounts to match state, Tribal, or federal funding for my special construction funding request?

A37: An applicant seeking additional E-rate discounts to match state funding for special construction must submit information with its FCC Form 471 that USAC will use to determine: (a) whether the state funding is from an eligible source; (b) that any terms and conditions associated with the state funding are not in conflict with E-rate rules; (c) the appropriate calculation of the additional E-rate discount, if any; and (d) whether the project meets the Commission's connectivity targets.

For instance, an applicant should be prepared to submit documentation to USAC about the specific state legislation that appropriated the state funds at issue, or the state, Tribal government, or federal agency legislation for a Tribal school or library that has committed the funds for the applicant's special construction project. The applicant should also be prepared to submit documentation verifying that the state funding has, in fact, been committed for the applicant's special construction project, and specifying the amount of the commitment and any terms and conditions associated with the commitment. These requirements also apply to Tribal schools and libraries that are seeking matching funds based on funding from a state, Tribal government, or other federal agency.

Q38: Does USAC have a list of state, federal, or Tribal sources of funding that have been deemed eligible for the purposes of obtaining additional E-rate discounts for special construction charges?

A38: Yes. The list of programs that have been approved as eligible sources of funding for the E-rate matching funds for special construction is available [here](#). The evaluation of these programs is based on general information available at the time of review, and final approval for all E-rate matching funds is

based on compliance with E-rate Program rules and a detailed review of the special construction funding requests.

Applicants, states, Tribal governments, and other federal agencies interested in having their programs reviewed and added to USAC's State Match webpage should send detailed information about the programs to USAC's Customer Service Bureau by calling (888) 203-8100.

Program Integrity Assurance (PIA) Review

Q39: What kind of information should I be prepared to provide to USAC to demonstrate that I have selected the most cost-effective solution for my connectivity needs?

A39: When applicants are preparing their response to demonstrate the cost-effectiveness of their service selection, they should work with their service provider to provide a comprehensive explanation that details the cost breakdown of their selection versus the other service options. All associated costs that are related with the services that are being compared must be included in the cost comparison. For example, if considering a leased dark fiber solution, the charges associated with leasing the fiber, along with any modulating equipment that is needed to light the fiber, and any maintenance and operations cost, should be included in the cost comparison. Applicants should also account for any equipment refreshes that would be needed for the time span that is being evaluated. Applicants should also present detailed documentation along with the cost-effectiveness evaluation instead of summary data. If applicants have questions regarding determining the cost-effectiveness of their service selection, they should enter a customer service case in EPC or contact the Customer Service Bureau at (888) 203-8100.

Q40: I understand that USAC might ask very technical and detailed questions about my fiber build. I'm not an engineer or techie. Is there someone who can help me understand the information that the questions are asking for and whether I'm providing USAC with the correct information?

A40: Yes. If applicants have inquiries regarding the questions they may receive from USAC during review of an application, they can open a customer service case in EPC that will be routed to USAC's Fiber Team to provide guidance. The team is available to help applicants understand the information that is being requested about their fiber build project.

Q41: I understand the questions, but I do not have all of the information that PIA reviewer has requested. Do I still have to respond to the questions? If so, what do I do?

A41: Applicants are required to respond to all PIA review questions, even if they are requesting information that is not currently in the applicant's possession. The failure to respond to the PIA review questions may result in the denial of an applicant's funding request.

If a question asks for information or documentation about a fiber service or project that is not currently in an applicant's possession, they should request the information or documentation from their service provider. If the service provider does not understand the information request, applicants should ask their service provider to call the PIA reviewer to discuss the questions directly. Applicants do not have to

be on the line when this call occurs, but participating in the call may help them better understand why the information is being requested, and prepare applicants for future PIA reviews.

If the service provider does not provide the required information in response to an applicant's request, applicants should let their PIA reviewer know right away that they have requested the information and are having difficulty obtaining it. The PIA reviewer may reach out to the service provider directly to seek the requested information.

Invoicing

Q42: May I submit "milestone" invoices in connection with my special construction project, or do I need to wait until the project is complete and the new fiber is lit to submit an invoice to USAC?

A42: Yes, as is the case with all E-rate eligible costs, applicants that have received a funding commitment may submit invoices for eligible special construction expenses at any point during the funding year. If, however, the fiber is not lit in that year, the applicant may need to reimburse the fund for the special construction charges.

General Tips

Q43: Does USAC have representatives who can explain the rules and help provide basic guidance as we consider the self-construction option?

A43: Yes. E-rate participants that need additional information or guidance can call the Client Service Bureau at (888) 203-8100 to ask questions or receive other assistance.

PIA Questions - Leased Dark Fiber and Special Construction

The rules for evaluating the cost-effectiveness of dark fiber and self-provisioning options are strict, frequently evolving, and therefore are in a state of flux. As of the date of preparing this Resource Manual, the PIA inquiries for FY 2021 applications seeking funding for leased dark fiber and/or special construction had not yet been approved by the FCC and therefore the specific questions were not available. The information that was requested as part of FY 2020 reviews is set forth below and is subject to change once the FCC and USAC finalize the questions and begin the reviews of FY 2021 applications for leased dark fiber, self-provisioned networks and any fiber project with a special construction charge.

Applicants considering bidding and procuring leased dark fiber, self-provisioning fiber, or any type of fiber that contains special construction should carefully review this document. Denial rates for these requests are significantly higher than traditional leased lit fiber with no special construction.

Applicants are encouraged to explain in their RFPs for these services that the winning bidder is required to divulge to USAC cost-related information concerning the preparation of their proposal. The service provider's commitment to cooperate and provide the requested information is vital to ensure the receipt of funding approval. USAC has procedures in place to preserve the confidentiality of service provider's proprietary and competitively sensitive information. Service providers should refer to the USAC website for more information.

See <https://www.usac.org/sl/service-providers/step03/requesting-confidentiality.aspx>

Applicants may require that the service provider agree in the parties' agreement to cooperate with supplying the requested information, as a condition of submitting a qualified bid and then ensure that this provision is included in the final contract document.

Information that Proposers Should Be Prepared to Submit to USAC (Upon Request)

- 1) Total Project Plant Route Feet**
- 2) Average Cost per Foot of Outside Plant**
- 3) Total Strands**
- 4) Number of E-rate Eligible Strands**
- 5) Detailed breakdown for the Special Construction Charges**
 - a. Provide a Bill of Materials.
 - b. Identify and explain in detail the most expensive items on the construction invoice/bill of materials.
 - i. For example, if labor is the most expensive line item provide details such as the size of the labor crew, the number of hours of estimated work
 - ii. Was there a minimum number of hours for which the crew had to be hired that exceeded the labor hours required for the build

- iii. Were there unique construction issues (e.g., a directional bore requirement because of rocky soil or a surface that could not be plowed; expensive make ready for pole attachments; bridge crossings; waterway crossings; railroad crossings; historic preservation issues or environmental issues) that caused the cost per foot to be inflated? If so, please provide a detailed explanation of these issues.

6) Fiber Route Maps

Please provide a map file of the route being constructed. That mapped out route should be available in either a .kmz or .json file.

7) Latitude and Longitude of Fiber Route Start Points and Fiber Route End Points

Please provide all of the details requested below of each route's endpoint within your fiber network that is being constructed.

Route Start Point		
<u>Start Point Name (Include BEN Name and Number, if applicable)</u>	<u>Latitude</u>	<u>Longitude</u>
	0	0
	0	0
	0	0
	0	0

Route End point		
<u>End Point Name (Include BEN Name and Number, if applicable)</u>	<u>Latitude</u>	<u>Longitude</u>
	0	0
	0	0
	0	0
	0	0

8) Plant Type and Plant Mix Percentages and Costs

Please provide the information requested below for the whole project:

Plant Mix:	<u>Plant Type</u>	<u>Expected Plant Mix</u>	<u>Existing Plant Mix</u>	<u>Average Cost per Foot for Type of Plant Mix</u>
	Please indicate what % of build will be Aerial.	0.00	0.00	0.00
	Please indicate what % of build will be Direct Buried.	0.00	0.00	0.00
	Please indicate what % of build will be Buried with Conduit (underground).	0.00	0.00	0.00
	Total (of the three categories above must = 100%)	0.00	0.00	N/A

9) Plant Type and Plant Mix Details

- a. Please indicate the cost per foot for the Aerial portion of the fiber build.
 - i. Please provide a further breakout of this cost:
 - ii. What is the average cost per foot for the Fiber Material? (e. g, cost per foot of only the fiber cable.)
 - iii. What is the average cost per foot for the Fiber Placement? (e. g. cost of attaching only the fiber cables on to the poles.)
 - iv. What is the average cost per foot for the Structure Material (all outside plant materials except fiber cable this could include anchors, j-hooks or guywires)?
 - v. What is the average cost per foot of the Structure Placement (E.g., adding of new poles, anchor or guywires that will be owned by applicant)?
 - vi. What is the average cost per foot for the Pole Make Ready? (E.g., on carrier owned poles, any enhancement that needs to be done to accept new fiber such as addition of guy, anchor or clearing of attachment points for new cable. This also includes the cost of placing new poles that will be owned by the pole owner.)
- b. Please indicate the cost per foot for the Direct Buried portion of the fiber build.
 - i. Please provide a further breakout of this cost:
 - ii. What is the average cost per foot of the Fiber Material? (E.g., cost per foot of the fiber cable that will be directly placed into the ground (no conduit).
 - iii. What is the average cost per foot of the Fiber Cable Placement? (E.g., labor cost per foot of placing the fiber cables in to the ground.)
 - iv. What is the average cost per foot for the Buried Conduit (e.g., in direct bury installations conduit that is necessary for special portions of the builds such as

railroad crossings, road crossings or in bores under waterways (rivers, creeks, streams, ponds))?

- v. What is the average cost per foot of the Trenching (e.g., cost of digging trench, cost of machinery needed for trenching and any permitting cost to lay new fiber)?
- c. Please indicate the cost per foot for the Buried with Conduit (Underground) portion of the fiber build.
 - i. Please provide a further breakout of this cost:
 - ii. What is the average cost per foot for the Fiber Material? (E.g., cost of the actual fiber cables that will be pulled through the conduit.)
 - iii. What is the average cost per foot for the Fiber Placement? (E.g., cost placing or pulling the fiber through the conduit.)
 - iv. What is the average cost per foot for the Structure Material (E.g., Cost of conduit, handholes, vaults, markers, etc.)?
 - v. What is the average cost per foot of the Structure Placement (E.g., labor and permitting for placement of all structure materials)?

10) Electronics Cost Detail (for lit fiber or managed solutions only)

Please provide the information requested below for the whole project:

Electronics Cost Detail	Material	Labor
Please provide the cost of Material and Labor for Customer Premise Equipment (CPE) needed to light the fiber being built.		
Please provide the cost of Material and Labor for Core Equipment needed to light the fiber being built.		
If you are not seeking any E-rate funding for CPE or Core Equipment needed to light the fiber, please explain why.		

11) Count of Remote Nodes

Please provide the information requested below for the whole project:

<u>Count of Remote Nodes by Speed</u>	Number Facilities/Locations
In your network, how many facilities/service location will be provided a 1gbps or less circuit to your hub/demarc?	
In your network, how many facilities/service locations will be provided at greater than 1gbps circuit to your hub/demarc?	
Node Count	

12) Core/Host Node Detail

Please provide the information requested below for the whole project:

Core/Host Node Detail	
At the network Hub, there is generally either a router or a switch to which the circuits from service locations/facilities connect.	
On the equipment located at the Hub, how many ports are connecting a service location at the speed of 1gbps or less ?	Active Ports
On the equipment located at the Hub, how many ports are connecting a service location at the speed of greater than 1gbps but less than or equal to 10gbps?	
Node Count	

13) Alternative Route Questions

- a. Did you explore any alternative routes for the fiber build requested?
- b. If yes, please provide the cost estimates and route specifics for these alternative routes explored.
- c. If no alternatives were explored, please explain how the chosen route was identified as the most cost-effective route.

14) Additional Eligibility Question(s)

Please answer **all** of the following questions and/or provide the documentation requested. For all documentation attached please identify which question it corresponds to.

#	Questions	Response (Required)
1	For FRN ----- please indicate the total number of fiber strands that will be installed at the time of construction. Note 1: By “total number of fiber strands,” we mean the total number of strands installed as part of the special construction build, irrespective of whether the strands: (a) will be lit for the applicant’s use or a potential other purpose; (b) will be lit this funding year or a future funding year; (c) have been cost-allocated out of the funding request; or (d) were not included in the one-time charges quoted to the applicant for the special construction project in the first instance.	
2	Of the total number of strands identified in response to Question 1,	

	how many of the strands will be installed for the applicant's exclusive use <u>and</u> will be lit within this funding year?	
2(a)	<p>How many recipients of service will be served by the strands identified in response to Question 2?</p> <p>Note: Please state whether multiple recipients of service are located in one building and will be served by the same set of fiber strands.</p>	
2(b)	<p>What will be lit date for the fiber strands identified in response to Question 2 (if different segments of the build will be lit at different times prior to June 30, provide the latest lit date)?</p> <p>If the lit date is currently unknown, please state "unknown," and proceed to Question 3. Note that you will be asked to demonstrate compliance with the obligation to light the fiber by the end of the funding year (i.e., June 30), when invoices for this FRN are submitted to USAC for reimbursement.</p>	<p>/ /</p> <ul style="list-style-type: none"> • <u>If the date entered above is on or before June 30, 2020, proceed to Question 3.</u> • <u>If the date entered above is after June 30, 2020, proceed to Question 2(c).</u>
2(c)	<p>If the lit date entered in Question 2(b) is after June 30, 2018, do you contend that special construction has been unavoidably delayed due to weather or other reasons?</p> <p>If yes, proceed to Question 2(d).</p> <p>If no, proceed to Question 3.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A (lit date on or before June 30, 2018).
2(d)	<p>Applicants may request a one-year extension of the deadline to complete special construction and light the fiber if they demonstrate that special construction has been unavoidably delayed due to weather or other reasons.</p> <p>Please provide an explanation of the unavoidable delay that is preventing special construction from being completed in time to light the fiber by the end of the funding year (i.e., June 30). Please include a description of any intervening events (e.g., an unusual weather events), relevant facts about the complexity of the fiber build, and any other factors you would like USAC to consider.</p> <p>Then proceed to Question 3.</p>	
3	Enter the total number of remaining strands here [Answer to Q1 – Answer to Q2 = Answer to Q3] ("Excess Fiber Strands").	

	<p>If the response to this question is zero (0), you may disregard the remaining questions in this document. Otherwise, proceed to Question 4.</p>	
4	<p>Will <u>ALL</u> of the Excess Fiber Strands installed in your project be specifically for the applicant's exclusive future use (e.g., anticipated growth in bandwidth requirements or future expansion)?</p> <p>If yes, proceed to Question 4(a). If no, proceed to Question 6.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
4(a)	<p>Will all of the Excess Fiber Strands installed for the applicant's exclusive future use remain dormant (dark) until lit for the applicant's exclusive use during a future funding year (i.e., no other party will use the Excess Fiber Strands between the time they are installed and the time the applicant is ready to use them in the future)?</p> <p>If yes, proceed to Question 4(b). If no, proceed to Question 7.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
4(b)	<p>Have the Excess Fiber Strands been cost-allocated out of the special construction FRN?</p> <p>If yes, proceed to Question 4(c). If no, proceed to Question 5.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
4(c)	<p>Please state the amount cost-allocated out of the special construction FRN and provide documents showing the basis for the cost-allocation. If your documents do not delineate specific costs of fiber installation, explain the tangible basis for the cost-allocation provided. Please contact the service provider for any additional information required to respond to this question.</p> <p>After doing so, you may disregard the remaining questions in this document. You may be contacted in a separate communication regarding your responses to these questions.</p>	
5	<p>An applicant may install Excess Fiber Strands that will not be lit within the same funding year as the funding request if: (i) the strands are installed exclusively for the applicant's future bandwidth needs; and (ii) the strands will remain dormant until lit for the applicant's exclusive future use. The cost of such Excess Fiber Strands must be allocated out of the relevant special construction FRN. Remaining special construction charges do not have to be cost-allocated.</p> <p>Because the above-referenced cost-allocation was not included in your funding request, the amount of the funding request will need to be</p>	

	<p>adjusted. Please provide the information requested by Questions 5(a)-(c). If you do not have the information requested in Questions 5(a)-(c), contact the service provider to obtain it.</p> <p>After providing the requested information, you may disregard the remaining questions in this document. You may be contacted in a separate communication regarding your responses to these questions.</p>	
5(a)	Please provide the specific cost of the Excess Fiber Strands that: (i) will not be lit this funding year; (ii) are being installed for the applicant's exclusive future use; and (iii) will remain dormant until lit for the applicant.	
5(b)	Please provide the documentation identifying the cost of the Excess Fiber Strands stated in response to Question 5(a).	
5(c)	If your documentation does not delineate the cost of the Excess Fiber Strands, please provide the tangible basis for the cost identified in response to Question 5(a) above.	
6	<p>You have stated that Excess Fiber Strands will be installed as part of your project. You have also indicated that the Excess Fiber Strands will not be installed for the exclusive future use of the applicant</p> <p>Will the Excess Fiber Strands be installed as part of the special construction project <u>solely</u> because using a cable with a higher strand count than what will be lit for the applicant's use within this funding year has been deemed to be more cost effective than installing just the number of strands that will be lit for the applicant's use within this funding year?</p> <p>If yes, proceed to Question 6(a). If no, proceed to Question 7.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
6(a)	<p>Please provide an explanation and documents demonstrating that the higher strand solution, resulting in the installation of the Excess Fiber Strands, is the most cost effective option. Please be as specific as possible. For example, if the applicant seeks to light 6 strands for its use this year, but a 12-strand cable was deemed more cost-effective, provide a breakdown of the relative costs of installing 6-strands vs. 12-strands, and provide supporting documentation.</p> <p>Proceed to Question 6(b).</p>	
6(b)	Will all of the Excess Fiber Strands remain dormant (dark) unless lit for the applicant's exclusive use during a future funding year (i.e., no other party will use the Excess Fiber Strands until used exclusively by the applicant in the future)?	<input type="checkbox"/> Yes <input type="checkbox"/> No

	<p>If yes, you may disregard the remaining questions in this document. You may be contacted in a separate communication regarding your responses to these questions.</p> <p>If no, proceed to Question 7.</p> <p>Note: Please answer Question 6(b) irrespective of whether the Excess Fiber Strands: (a) would be lit this funding year or a future year by the applicant or any entity other than the applicant; (b) have been cost-allocated out of the funding request; or (c) were not included in the one-time charges quoted to the applicant for the special construction project and stated in the FRN.</p>	
7	<p>You have indicated that Excess Fiber Strands will be installed as part of your project. You have also indicated that either:</p> <ul style="list-style-type: none"> ▪ The Excess Fiber Strands will not be installed for the applicant's exclusive future use; ▪ The Excess Fiber Strands will be installed for the applicant's exclusive future use, but will not remain dormant (dark) until the fiber is used by the applicant in a future year; ▪ The Excess Fiber Strands will not be installed solely because installation of a higher strand count than what will be lit for the applicant's use this funding year has been deemed to be the most cost-effective option; or ▪ The Excess Fiber Strands will be installed solely because installation of a higher strand count than what will be lit for the applicant's use this funding year has been deemed to be the most cost-effective option, but the Excess Fiber Strands will not remain dormant (dark) until they are used by the applicant in a future year. <p>Please provide the information requested by Questions 7(a)-(d).</p> <p>Note: Answers to these questions are required irrespective of whether the Excess Fiber Strands: (a) would be lit this funding year or a future year; (b) have been cost-allocated out of the funding request; or (c) were not included in the one-time charges quoted to the applicant for the special construction project and stated in the FRN.</p>	
7(a)	<p>What other party is planning to use the Excess Fiber Strands? If multiple parties plan to use the Excess Fiber Strands, please identify all of them. If the fiber provider intends to use the Excess Fiber Strands to serve other customers, name the</p>	

		<p>fiber provider.</p> <p>Note: This question does not seek information about the ultimate end-users of fiber strands. For example, if a leased lit fiber or leased dark fiber provider intends to use the Excess Fiber Strands to serve other customers, the answer to this question would be the name of the service provider. If a municipality plans to use Excess Fiber Strands installed as part of a self-provisioned network to serve other community institutions, the answer to this question would be the name of the municipal entity.</p>	
	7(b)	<p>On what date does the other party plan to start using the Excess Fiber Strands? If multiple parties plan to use the Excess Fiber Strands, please identify the dates that each party plans to start using them.</p> <p>If the lit date for the Excess Fiber Strands is unknown, please state "unknown."</p>	____/____/____
	7(c)	<p>Is the applicant receiving any compensation in exchange for the planned use of the Excess Fiber Strands by another party (e.g., is the applicant being paid a fee, receiving a gift, receiving services/products in trade, or otherwise being compensated for use of the Excess Fiber Strands)?</p> <p>If so, please describe the compensation that the applicant will receive.</p>	
	7(d)	<p>Please provide any documents pertaining to the information provided in response to Questions 7(a)-(c). If you do not know the answers to one or more of the questions above, please contact the service provider to obtain them.</p> <p>Proceed to Question 8.</p>	
8		<p>Please provide the specific cost of installing the Excess Fiber Strands for use by another party as described in Question 7. Your response should include the both costs of the Excess Fiber Strands themselves and any additional special construction charges incurred due to the addition of the Excess Fiber Strands to the build (i.e., beyond what would be necessary if only the fiber strands that will be lit for the applicant's use within this funding year were installed).</p>	
	8(a)	<p>Please provide documentation substantiating the costs identified in response to Question 8. If you do not have such documents, please contact the service provider.</p>	

		Then proceed to Question 9.	
	8(b)	If you are unable to provide the documentation requested by Question 8(a), please explain the tangible basis for the costs you have identified in response to Question 8. Then proceed to Question 9.	
9		Have the costs that you identified in response to Question 8 been identified in your special construction FRN as ineligible costs allocated out of the funding request?	<input type="checkbox"/> Yes <input type="checkbox"/> No

C1 or C2 Classification of Connections on Single Campus

Connections Between Buildings of a Single School

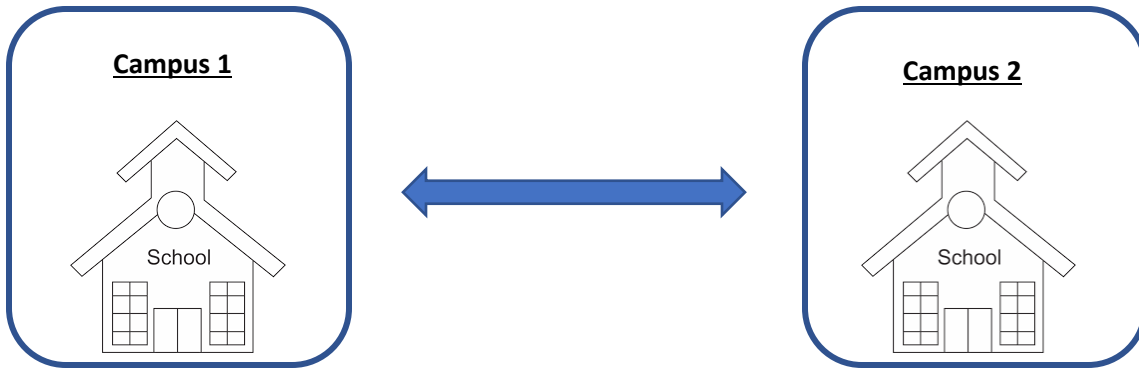
The classification of connections between multiple buildings of a single school is determined by whether the buildings are located on the same campus. A “campus” is defined as the geographically contiguous grounds where the instructional buildings of a single eligible school are located. A single school 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 Category 1 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 Category 1 digital transmission services, unless they share the same building. If they share the same building, then connections are Category 2.
- Connections between buildings of a single school on the same campus are Category 2 internal connections.

Why does this matter?

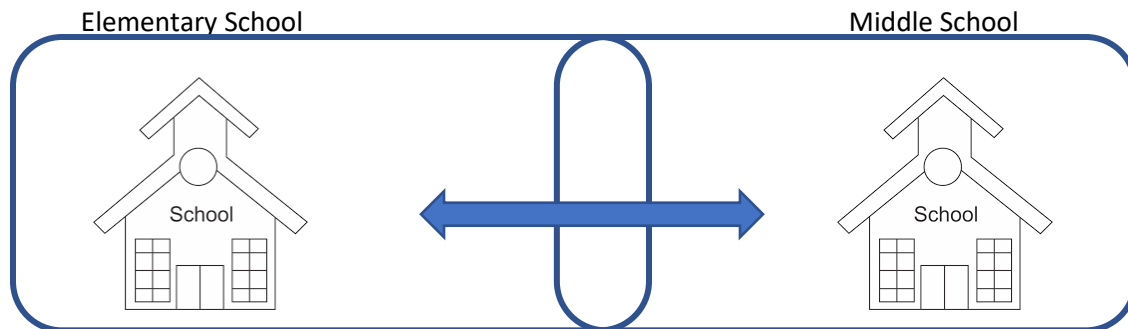
- Typically, short distance connections between nearby buildings have been viewed as Category 2 internal connections.
- If, however, the connection is classified under Category 1, then the applicant must be sure to post the service request under Category 1 on the Form 470.
- Purchase and installation of a Category 1 connection is considered to be a self-provisioning project, and under FCC rules, requires the issuance of an RFP and acceptable of bids for leased lit fiber, leased dark fiber in addition to self-provisioning.

CATEGORY 1 CONNECTION



Connection between different schools, as well as connection between two buildings of the same school but on different campuses

**CATEGORY 1 CONNECTION
2 Different Schools
Adjacent Campuses**



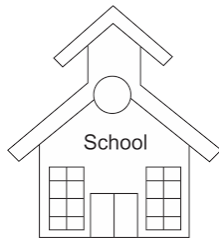
The connection is classified as C1.

Although schools may be located on same contiguous parcel of land and do not cross a public road, each school is considered to have a separate campus.

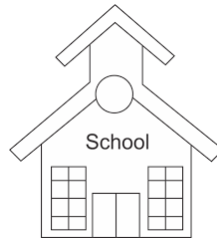
Per FCC, different schools located next to one another are on different campuses.

CATEGORY 2 CONNECTION
1 School
2 Buildings of Same School
Single Campus

**Elementary School
Building #1**

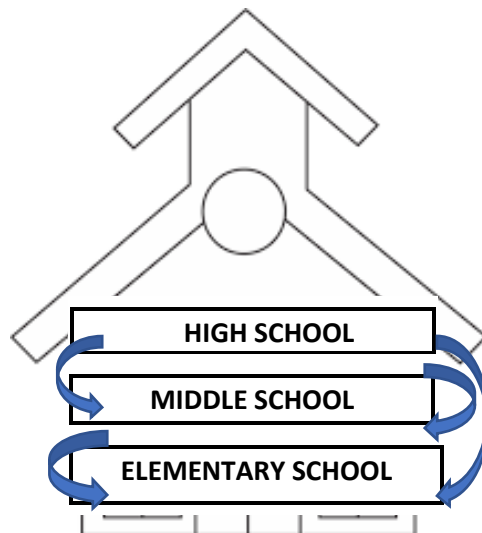


**Elementary School
Building #2**



The connection is classified as C2.

CATEGORY 2 CONNECTION
1 Physical Building, Multiple Schools



The connections are classified as C2.