



Universal Service
Administrative Co.

E-rate Program Applicant Training

Fiber Options

September – November 2016



- 1. Identifying Eligible Fiber Services and Charges**
- 2. Requesting Proposals for Fiber Options**
- 3. Selecting the Most Cost-Effective Service Offering**
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Section 1 Identifying Eligible Fiber Services and Charges



Fiber Options Supported By E-rate

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

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

What is special construction?

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

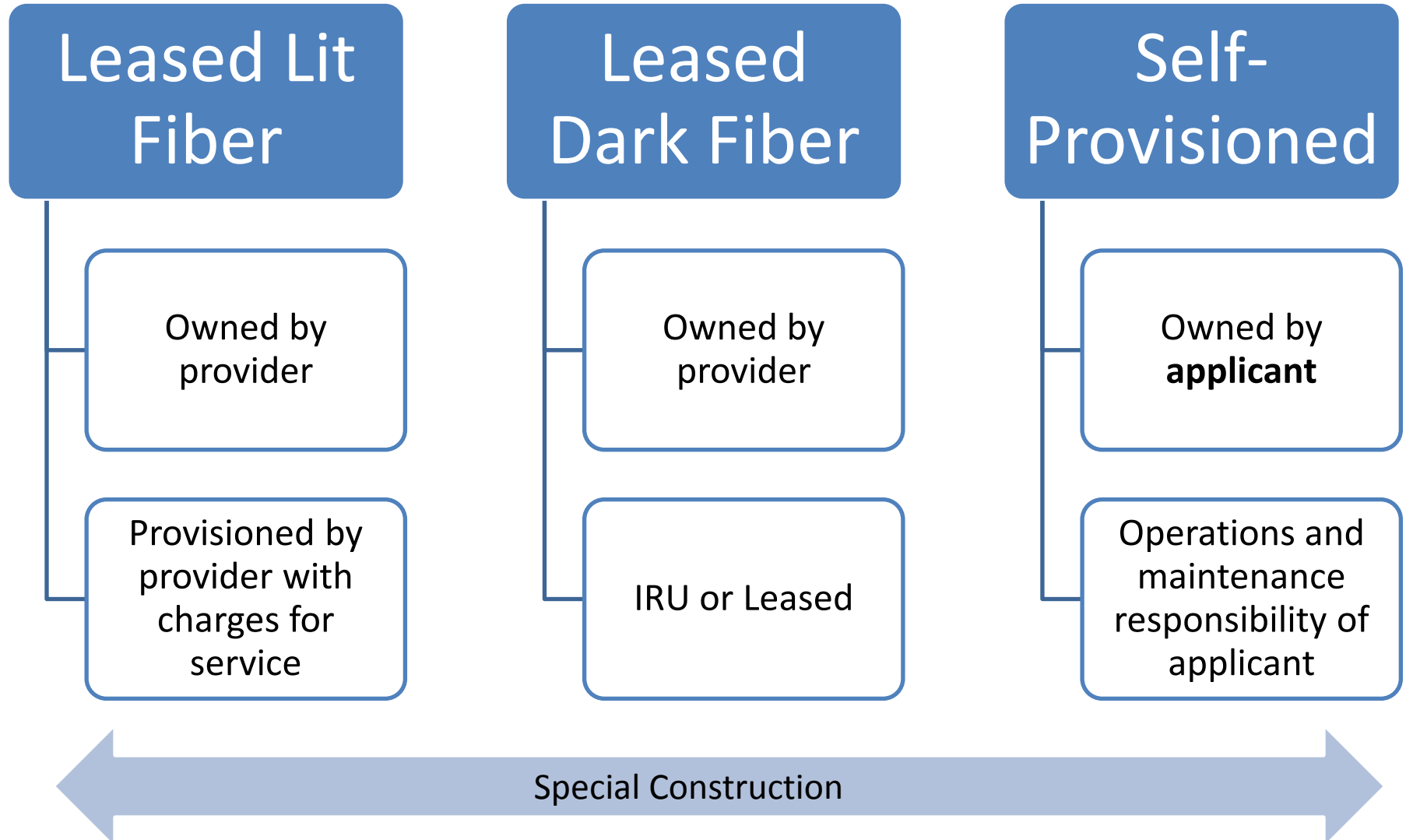
Applicants may seek funding for special construction charges in connection with leased lit fiber, leased dark fiber, and self-provisioning.

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

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

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

E-rate Eligible Fiber Options Recap





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



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



Special Construction Charges – Excess Capacity

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

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

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

Why is terminology important?

- You must seek bids in your FCC Form 470 and accompanying RFP for the service for which you seek E-rate support in your FCC Form 471.

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



Questions About FY16 & FY17 Filings

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



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Section 2

Requesting Proposals for Fiber Options & FCC Form 470 Reminders



Fiber Specific Competitive Bidding Rules

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

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

- **Generally:**

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

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

Additional FCC Form 470 and RFP Tips

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

Note: *If an applicant does not correctly identify the services for which it is seeking bids in FCC Form 470, it has not conducted an open and fair competitive bidding process, even if the requested service is stated in the RFP.*
- **Remember Installment Payment Option:** Applicants interested in an installment payment agreement for the non-discount share of eligible special construction charges must indicate an interest in such an option in their FCC Form 470.



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Section 3 Selecting the Most Cost-Effective Service Offering



Reviewing Bids for Cost-Effectiveness

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

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



Reviewing Bids for Cost-Effectiveness (cont.)

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



Section 4 Preparing a Fiber Funding Request



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

Organize Your FRNs

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

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

Do you qualify for a state match?

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

Do you have an installment plan?

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

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



Section 5 Preparing for PIA



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

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

A Few Misconceptions & Reminders

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



QUESTIONS?



Thank you!