

**CyberPower**

# HOW POWER FITS INTO YOUR E-RATE PROJECT



# A BACKGROUND ON E-RATE

Remember the days when schools were filled with chalkboards, paper workbooks, hardbound encyclopedias and rotary phones? Today, the landscape for school technology has changed drastically. Now, schools are information hubs where millions of students and patrons need and expect multiple technologies to be readily available and electronic information to be at their fingertips.

Students are logging on to the Internet to get their class assignments, researching reports, and exchange information.

In an ever evolving digital world, the federal government has made it a priority that all students take advantage of digital, electronic learning curriculum. This is why the E-rate program was created. E-rate (or the Schools and Libraries Program of the Universal Service Fund) makes information and telecommunications services affordable for libraries and schools across the United States, particularly in rural and lower income areas.

The E-rate program has been providing discounted Internet access, connections, and telecommunications to eligible institutions since 1997. The Federal Communications Commission (FCC) adopted the first and second E-rate Modernization Orders in 2014 to update the program.

Under the E-rate program, schools and libraries apply for funding and discounts that help provide telecommunications services, Internet access, internal connections, and basic maintenance of those internal connections.

Any school or library hoping to participate in the E-rate program needs to submit a request for competitive bids for specific E-rate supported services to the Universal Service Administrative Company (USAC, <http://www.usac.org>). USAC shares these requests via its website for a competitive vendor bidding process that must comply with all state and local requirements as well as FCC rules.

Each institution selects its preferred vendor(s) after reviewing bids and submits an application to USAC for approval. USAC then issues funding commitments to eligible applicants.

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# HOW POWER FITS IN...

## POWER AND SCHOOLS

Every school needs power protection and backup. UPS systems ensure the full availability of broadband and telecommunication networks.

Battery backup minimizes the downtime schools and libraries experience during minor power fluctuations and prevent damage that occurs during complete power failures. What's more, an aging grid and older buildings may contribute to inconsistencies in power delivery - UPS systems play a supportive role in these instances too.

Quickly, power protection has become an integral part of equipping schools with uninterrupted access to their digital technology and networks that deliver information and electronic curriculum.

## POWER AND E-RATE

Eligible services for E-rate are divided into two categories. Category One addresses data transmission services, Internet access, and voice services. Category Two concentrates on funding for internal connections, managed internal connections, and basic maintenance of internal connections.

Battery backup and UPS systems fit into Category Two: Internal Connections. They do so by being a data protection component of the information delivery systems E-rate is intended to fund. For a useful overview of E-rate eligible services visit: [http://www.usac.org/\\_res/documents/sl/training/2015/Applicant-Training-06-Eligible-Services.pdf](http://www.usac.org/_res/documents/sl/training/2015/Applicant-Training-06-Eligible-Services.pdf).

It is important to remember that components under category two are eligible only if they are considered an essential element in the transmission of information within a school or library. A notable definition from the USAC on E-rate and UPS systems:

**“An Uninterruptible Power Supply (UPS) / Battery Backup that protects eligible equipment is eligible as a data protection component, but no funding will be provided for UPS systems that can provide continued backup power for substantial periods in excess of that necessary for basic power protection.”**

Schools and Libraries Universal Service Support Mechanism, Eligible Services List Federal Communications Commission, October 22, 2013

[http://www.usac.org/\\_res/documents/sl/pdf/ESL\\_archive/EligibleServicesList-2014.pdf](http://www.usac.org/_res/documents/sl/pdf/ESL_archive/EligibleServicesList-2014.pdf)

Because of this definition, it is important to understand what will be connected to the UPS system, the estimated maximum and typical load of the connected equipment, and other important details on the devices that will be used to support your telecommunications or broadband network. For further details on steps you can take to understand what UPS systems are right for your needs, make sure to check out HOW TO DETERMINE YOUR POWER NEEDS on page four.

CATEGORY ONE	CATEGORY TWO
<ul style="list-style-type: none"><li>• Data Transmission Services Internet Access</li><li>• Voice Services</li></ul>	<ul style="list-style-type: none"><li>• Internal Connections</li><li>• Managed Internal Broadband Services</li><li>• Basic Maintenance of Internal Connections</li></ul>



# E-RATE PROJECT PLANNING

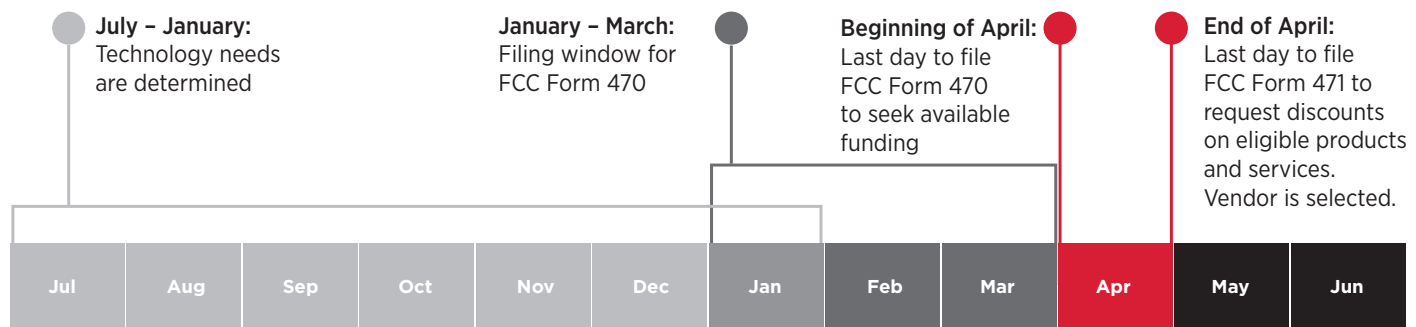
## E-RATE TIMING GUIDELINES

The fiscal year for E-rate typically ends in June. When thinking about the E-rate process and when applications are due, March and April are important months to remember. Deadlines can change from year to year, so it is important to keep track of official dates. Visit <http://www.usac.org/sl/> for official deadlines and updates on the E-rate process.

During the fall of each year is when the planning process begins. Schools and libraries start evaluating needs for their E-rate projects and researching services and equipment they are going to need to build, maintain, and improve their telecommunications and broadband networks. Through the end of the year and into January, February, and March, schools continue this assessment process.

At the beginning of the year, a “filing window” is usually announced. In this filing window is when FCC Form 470 is due to the USAC to seek available funding for projects. Schools solicit bids for services and technology by filing this form. After filing, schools need to wait 28 days before reviewing bids from providers. After 28 days, schools can then begin completing FCC Form 471.

FCC Form 471 is used to request discounts on eligible products and services and is usually due at the end of April of each year. Schools submit Form 471 after they have selected their service providers and vendors. For an outline of how the application, bidding, and filing process works, see the illustration below.



## BEST PRACTICES

When applying for E-rate funding schools and libraries need to consider timing and the most efficient ways of navigating the application process. Below are some tips and best practices we have assembled to keep in mind.

- **Use the USAC as a resource**

If any questions come up during the application process, USAC can provide answers when given time to do so. USAC representatives can also ensure applications are filled out correctly.

- **Plan ahead**

Networking and technology can be a huge undertaking and requires planning up to three years into the future. It's in your best interest to plan ahead to properly allocate and request funding and prioritize projects.

- **Provide details and benefits**

For vendors bidding on E-rate projects, be sure to provide detailed product comparisons and highlight the benefits of the products on offer. Include warranty information and options as these can illustrate lower total cost of ownership over the lifecycle of the product(s).

# HOW TO DETERMINE YOUR POWER NEEDS

School and libraries across the US are going to have different power protection needs based on equipment and environment. Below are six points to consider as you size your UPS needs:

## 1. Consider where your UPS system will be installed.

Battery backup comes in different form factors. The type of UPS system you will need in a network closet is going to be different than a unit needed at a student workstation or in an administrator's office.

## 2. Determine what kind(s) of equipment will be connected to the UPS system.

Knowing the exact equipment that will be connected is going to help you find the right solution for your unique requirements. Also determine how many pieces of equipment will be connected and the outlet types.

## 3. Calculate power for each device.

To keep connected devices operating normally, calculate the maximum and typical load in watts, then adjust to allow for future growth. Many connected devices operate around 60% of their rated wattage. This number may be helpful when estimating your typical power draw.

## 4. Consider the topology needed for your equipment.

Here are the three most common topologies:

**Standby** models provide backup and surge protection for lower cost devices with limited functionality and lower wattage ratings. Examples: routers, modems, and peripherals.

**Line Interactive** UPS systems use buck-boost transformers (AVR) to correct variations in input power. Typically used for PCs, network equipment, and mid-range servers.

**Double Conversion** UPS models convert incoming AC power to DC power and back to AC. This generates clean, consistent AC power. With true sine wave output, generator compatibility, and zero transfer time, these models are optimal for: high-end system components, servers in a data center environment, and sensitive lab equipment.

## 5. Runtime considerations.

The quantity, wattage draw, and capacity of batteries will determine how long the UPS system can support the equipment. Take runtime into consideration and determine baseline requirements.

## 6. Determine if you need advanced features.

While the most basic function of a UPS unit is to supply clean continuous power, provide a short outage buffer, and afford a graceful shutdown of equipment when necessary, you may need additional features depending on your situation. Advanced features of today's UPS systems include: generator compatibility, remote monitoring options, and software management.

THE TYPE OF UPS SYSTEM YOU WILL NEED IN A NETWORK CLOSET IS GOING TO BE DIFFERENT THAN A UNIT NEEDED AT A STUDENT WORKSTATION OR IN AN ADMINISTRATOR'S OFFICE.



# YOUR ULTIMATE ALLY IN POWER — HOW CYBERPOWER CAN HELP

E-rate discounts are based on economic need and the program allows individual libraries, schools and districts to choose the provider(s) and/or technologies that best fit their needs – as long as those are the most cost-effective options.

With years of experience in the education market and its offering of customized, cost-effective power management products, CyberPower is an ideal fit for E-rate projects that include power.

CyberPower can assist with the logistics of project planning and implementation to ensure a hassle-free process. CyberPower is there to help coordinate delivery times, locations, storage prior to deployment, and assisting with installation schedules.

From the moment a solutions provider sends over RFP or RFQ information, CyberPower begins the design and coordination of a customized solution. We use the necessary attributes to identify the best fit for each situation and can also identify power requirements to customize the right battery backup. CyberPower translates each RFP into a custom fit solution.

And whether you're a solutions provider or an IT professional, CyberPower is there for you as the most responsive, hands-on organization to support your efforts and systems.

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## ABOUT US

At CyberPower, we power our channel partners and customers with high quality power protection and management products. Our company designs and manufactures uninterruptible power supply (UPS) systems, power distribution units (PDUs), surge protectors, remote management hardware, power management software and mobile chargers, plus power and connectivity accessories.

CyberPower serves customers in enterprise, corporate, government, education, and small office/home office environments. A global leader in power protection, we are driven to provide high quality engineering, efficient manufacturing processes, and unmatched customer value.

Connect with us for more information to see how we can help customize or help with your E-rate project.

## CONTACT US

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## ADDITIONAL RESOURCES

For more information on the Schools and Libraries program (E-rate), visit <http://www.usac.org/sl/>.

For additional E-rate training and outreach, visit <http://www.usac.org/sl/about/outreach/default.aspx>

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