# MEPNN Supplier Scouting Opportunity Synopsis

## Section 1: General Information

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| Scouting Number | 2025-275 |
| Item to be Scouted | Uninterruptible Power Supply |
| Days to be scouted | 30 |
| Response Due By | 09/21/2025 |
| Description | Uninterruptible Power Supply (UPS: Real-Time Active Power Conditioner) is needed for use within a Traffic Control Cabinet.<br>Florida Department of Transportation (FDOT) specifications require a line-interactive UPS with pure sine wave output and automatic voltage regulation (AVR) to provide reliable backup functionality for traffic control systems, including traffic signal and intelligent transportation system (ITS) devices. |

## Section 2: Technical Information

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| Type of supplier being sought | Manufacturer |
| Reason | PABA<br>Florida |
| Describe the manufacturing processes (elaborate to provide as much detail as possible) | Product must meet FDOT Standard Specification requirements; see attached file.<br>Requirements include:<br>UPS assemblies must include batteries provided by the UPS manufacturer or in accordance with manufacturer's<br>requirements. Batteries must be sealed and require no maintenance, cause no corrosion, and be capable of maintaining 80% of original capacity and performance for a minimum of five years.<br>Loss of utility power, transfer from utility power to battery power, and transfer back to utility power must not interfere with normal operation of connected equipment. In the event of UPS failure or battery depletion, connected equipment must be energized automatically upon restoration of utility power.<br>Removal and replacement of the UPS must not disrupt the operation of the equipment being protected.<br>All harnesses necessary to connect and operate the system must be included.<br>996-7.2.6 Mechanical: All parts shall be made of corrosion-resistant materials such as plastic, stainless steel, anodized aluminum, brass, or gold-plated metal. All fasteners exposed to the elements shall be Type 304 or 316 passivated stainless steel. |
| Provide dimensions / size / tolerances / performance specifications for the item | Product must meet FDOT Standard Specification requirements; see attached file.<br>Requirements include:<br>685-2.2.1 Electrical: UPS assemblies used to provide backup power in an ITS cabinet must provide a minimum of 350 watts (at 120 VAC) of continuous backup power for a minimum of two hours.<br>UPS assemblies used to provide backup power in a traffic signal controller cabinet must provide a minimum 400 watts (at 120 VAC) of continuous power for a minimum of 6.5 hours. |
| List required materials needed to make the product, including materials of product components | Product must meet FDOT Standard Specification requirements; see attached file.<br>Requirements include: Batteries, Harnesses, aluminum cabinet, Ethernet port (RJ45), |
| Are there applicable certification requirements? | Yes |
| Certification(s) required | UL |

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| Details | Product must meet FDOT Standard Specification requirements; see attached file.<br>The UPS needs to support SNMP, including configurable alarm and event trap notifications.<br>SNMP= Simple Network Management Protocol<br>Operating Environment requirements: NEMA TS 2, Sections 2.2.7, 2.2.8, and 2.2.9.<br>The UPS shall be listed to the requirements of UL 1778. |
| Are there applicable regulations? | Yes |
| Details | Product must meet FDOT Standard Specification requirements; see attached file. |
| Are there any other stndards, requirements, etc.? | Yes |
| Details | Product must meet FDOT Standard Specification requirements; see attached file. |
| Additional Technical Comments | |

## **Section 4:** Business Information

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| Estimated potential business volume | Estimated 1,000 annually |
| Estimated target price / unit cost information (if unavailable explain) | $2,000. per each |
| When is it needed by? | 5 months |
| Describe packaging requirements | No packaging requirements. Best available. Delivered undamaged. Specifics discussed in negotiation. |
| Where will this item be shipped? | Florida |

## Additional Comments

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|---|---|
| Is there other information you would like to include? | Agency providing funds: Florida Department of Transportation<br>Name/POC for BABA related questions: Melissa Hollis or Karen Byram<br>Email address of contact: Melissa.Hollis@dot.state.fl.us or Karen.Byram@dot.state.fl.us |

# SECTION 685
# TRAFFIC CONTROL SYSTEM AUXILIARIES

## 685-1 Description.

Furnish and install traffic control system auxiliaries as shown in the Plans.

## 685-2 Materials.

**685-2.1: General:** Meet the following requirements:

Uninterruptible Power Supply* .....Section 996
Remote Power Management Unit*.....Section 996
*Use products listed on the Department's APL.

**685-2.2 Uninterruptible Power Supply (UPS):** Use a line interactive or online/double-conversion UPS as shown in the Plans. UPS assemblies must be designed for installation in a roadside NEMA 3R enclosure to provide battery backup functionality for traffic control systems, including traffic signal and intelligent transportation system (ITS) devices. UPS assemblies must include batteries provided by the UPS manufacturer or in accordance with manufacturer's requirements. Batteries must be sealed and require no maintenance, cause no corrosion, and be capable of maintaining 80% of original capacity and performance for a minimum of five years.

Loss of utility power, transfer from utility power to battery power, and transfer back to utility power must not interfere with normal operation of connected equipment. In the event of UPS failure or battery depletion, connected equipment must be energized automatically upon restoration of utility power.

Removal and replacement of the UPS must not disrupt the operation of the equipment being protected.

All harnesses necessary to connect and operate the system must be included.

**685-2.2.1 Electrical:** UPS assemblies used to provide backup power in an ITS cabinet must provide a minimum of 350 watts (at 120 $V_{AC}$) of continuous backup power for a minimum of two hours unless otherwise shown in the Plans.

UPS assemblies used to provide backup power in a traffic signal controller cabinet must provide a minimum 400 watts (at 120 $V_{AC}$) of continuous power for a minimum of 6.5 hours unless otherwise shown in the Plans.

**685-2.2.2 Traffic Signal UPS Cabinet:** Cabinets used to house traffic signal UPS assemblies must be designed to be mounted to the side of a traffic cabinet or base mounted. Cabinets must meet the requirements of Section 676 and must include shelves and rack rails to house all UPS system components including the UPS, batteries, harnesses, switches, surge protective device, power terminal block and a generator hookup with transfer switch. The UPS cabinet must allow a maintenance technician to safely insert power for traffic signal operation while the UPS or associated equipment is serviced or replaced.

A surge protective device must be installed where the supply circuit enters the cabinet in accordance with 620-2.7.1.

**685-2.2.2.1 Transfer Switch and Generator Access Panel:** The cabinet must include an automatic transfer switch and generator access panel in accordance with Section 676. The generator access door must not protrude more than 1 inch when closed.

**685-2.3 Remote Power Management Unit (RPMU):** Use a RPMU as shown in the Plans. The RPMU must be designed for installation in a roadside Traffic Cabinet to provide remote control of electrical receptacles.

**685-3 Installation.**

Install UPS assemblies in accordance with the manufacturer's recommendations. All equipment used to keep the intersection signalized must be backed up and protected by the UPS. Include a UPS operation and maintenance manual in the cabinet where the UPS is installed that includes cabinet wiring schematics, electrical interconnection drawings, parts layout and parts lists.

Install the RPMU in accordance with the manufacturer's recommendations. Include a RPMU operation and maintenance manual in the cabinet where the RPMU is installed that includes cabinet wiring schematics, electrical interconnection drawings, parts layout and parts lists.

**685-4 Testing.**

Provide a field acceptance test plan to the Engineer for approval at least 14 days prior to commencement of testing. After approval of the acceptance test plan, perform testing of the installed UPS and RPMU equipment. Furnish all equipment, software, and supplies necessary for conducting the test.

**685-5 Warranty.**

Ensure the UPS includes a manufacturer's warranty covering defects for a minimum of 3 years (5 years for the batteries in accordance with 685-2.2) from the date of final acceptance. The warranty must include provisions for providing a replacement UPS within 10 calendar days of notification for any UPS found to be defective during the warranty period at no cost to the FDOT or the maintaining agency.

Ensure the RPMU includes a manufacturer's warranty covering defects for a minimum of 3 years from the date of final acceptance.

**685-6 Method of Measurement.**

The Contract unit price for each UPS or RPMU, will include furnishing, placement, and testing of all equipment and materials as specified in the Contract Documents, and all tools, labor, operational software packages and firmware, supplies, support, documentation (including the field acceptance test plan), and incidentals necessary for a complete and accepted installation.

**685-7 Basis of Payment.**

Price and payment will be full compensation for all work specified in this Section.

Payment will be made under:

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| Item No. 685- 1- | Uninterruptible Power Supply - each |
| Item No. 685- 2- | Remote Power Management Unit - each |

## SECTION 996

## INTELLIGENT TRANSPORTATION SYSTEM DEVICE AND AUXILIARY COMPONENT MATERIALS

**996-1 Description.**

**996-1.1 General:** This Section governs the requirements for all permanent intelligent transportation system devices, surge protection devices for traffic control devices, pull boxes, splice boxes, fiber optic splice vaults, camera lowering devices, and traffic control system auxiliaries. All equipment shall be permanently marked with manufacturer name or trademark, part number, and date of manufacture or serial number.

**996-1.2 Product Acceptance:** All specified products shall be items listed on the Department's Approved Product List (APL), unless otherwise noted below. Manufacturers seeking evaluation of products for inclusion on the APL shall submit an application in accordance with Section 6 and include the following documentation. A separate application must be submitted for each product to be evaluated, showing that the product meets the applicable requirements.

Table 996-1

| Documentation | Requirements |
|---|---|
| Assembly and Installation Instructions | Include any surface preparations, assembly/installation instructions, operation manual, troubleshooting guides, and repair procedures. |
| Independent Laboratory Test Results | Product meets requirements of this Section. |
| Product Label Photo | Labeling shows the manufacturer's name, trademark, and product model number/name. Label shows the date of manufacture and/or the manufacturer's batch number. Additional label requirements, as listed within this Section. |
| Product Photo | Displays the significant features of the product as required in this section. |
| Compliance Matrix | Include completed compliance matrix at https://www.fdot.gov/traffic/traf-sys/product-specifications.shtm |
| Manufacturer's Product Specifications | Include product specifications showing electrical requirements, voltages, etc. |
| Product Drawings or Cut Sheet | Show mounting points, mechanical details, block diagrams, schematics, etc. |
| Parts List | List major parts and field serviceable components. |

**996-1.3 Abbreviations:** The following abbreviations are used in this Section:

Alternating Current (AC)
Closed Circuit Television (CCTV)
Direct Current (DC)
Hypertext Transfer Protocol (HTTP)

International Electrotechnical Commission (IEC)
Internet Protocol (IP)
International Organization for Standardization (ISO)
Local Area Network (LAN)
Network Time Protocol (NTP)
Pan, Tilt, Zoom (PTZ)
Telecommunications Industry Association (TIA)
Uniform Resource Locator (URL)
Ultraviolet (UV)

**996-7 Traffic Control System Auxiliaries.**

**996-7.1 General:** Traffic Control System Auxiliaries shall be listed on the Department's Approved Product List (APL). Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6.

**996-7.2 Uninterruptible Power Supply (UPS):** The UPS shall be either a line interactive or online/double-conversion UPS. UPS assemblies shall be designed for installation in a roadside NEMA 3R enclosure to provide battery backup functionality for traffic control systems, including traffic signal and intelligent transportation system (ITS) devices. UPS assemblies shall include batteries provided by the UPS manufacturer or in accordance with manufacturer's requirements.

Loss of utility power, transfer from utility power to battery power, and transfer back to utility power shall not interfere with normal operation of connected equipment. In the event of UPS failure or battery depletion, connected equipment shall be energized automatically upon restoration of utility power.

The UPS shall operate in hot standby mode with power transfer being accomplished in 40 milliseconds or less.

Removal and replacement of the UPS shall not disrupt the operation of the equipment being protected.

All harnesses necessary to connect and operate the system shall be included. All connectors shall be keyed to prevent improper connection.

**996-7.2.1 Configuration and Management:** The UPS shall support local and remote configuration and management, including access to all user-programmable features as well as alarm monitoring, event logging, and diagnostic utilities. The UPS shall support SNMP, including configurable alarm and event trap notifications.

Configuration and management functions shall be password protected.

Alarm function monitoring shall include the following: loss of utility power, inverter failure, low battery, voltage, and temperature out of range. The UPS shall include an event log that indicates the date and time of the following events: AC high, AC low, AC frequency error, AC fail/blackout, and over temperature. The UPS event log shall be able to store a minimum of 60 events.

The UPS shall include a front panel display and controls that allows programming of configurable parameters, features, and functions without the need for another input device. The UPS shall have visual indications for Power-On, Mode of Operation (utility power or inverter), Battery Status, Alarm Status, Load Levels, and AC Output Voltage.

**996-7.2.2 Communication Interfaces:** The UPS shall include an Ethernet port (RJ45) for local control using a laptop PC and remote control via a network connection.

**996-7.2.3 Batteries:** Batteries must be provided by the UPS manufacturer or in accordance with manufacturer's recommendations. Batteries shall be sealed and require no maintenance, cause no corrosion, and be capable of maintaining 80% of original capacity and performance for a minimum of five years.

The UPS shall be supplied with a wiring harness for battery connections. The battery wiring harness shall allow 6 feet of separation between the UPS and its battery bank. Battery terminals shall include a protective covering to prevent accidental spark or shorting.

The UPS shall include battery management functions that includes active or equalized balancing; monitoring of temperature, voltage, and amperage of charge and discharge; and temperature compensated automatic charging to maximize the life of the batteries.

**996-7.2.4 Electrical:** UPS assemblies used to provide backup power in an ITS cabinet shall provide a minimum of 350 watts (at 120 $V_{AC}$) of continuous backup power for a minimum of two hours.

UPS assemblies used to provide backup power in a traffic signal controller cabinet shall provide a minimum 400 watts (at 120 $V_{AC}$) of continuous power for a minimum of 6.5 hours.

Frequency shall be regulated to 60 Hz, plus or minus 0.5 Hz, while the UPS is supplying power. The UPS shall operate on 85 to 140 $V_{AC}$ without requiring assistance from the batteries.

The UPS shall be listed to the requirements of UL 1778. Upstream back feed voltage from the UPS shall be less than 1 $V_{AC.}$

Double-conversion UPS shall be capable of simultaneously producing fully regenerated and regulated, conditioned, True Sine Wave power and hot standby AC output, and have a minimum operating efficiency of 90%.

**996-7.2.5 Traffic Signal UPS Cabinet:** Cabinets used to house traffic signal UPS assemblies shall be designed to be mounted to the side of a traffic cabinet or base mounted. Cabinets shall meet the requirements of Section 676 and include shelves and rack rails to house all UPS system components including the UPS, batteries, harnesses, switches, surge protective device, power terminal block and a generator hookup with transfer switch. The UPS cabinet shall allow a maintenance technician to safely insert power for traffic signal operation while the UPS or associated equipment is serviced or replaced.

A surge protective device shall be installed where the supply circuit enters the cabinet in accordance with Section 620-2.

The cabinet shall include a 20 A, 120 volt, 60 Hz GFCI receptacle. The receptacle shall be wired to utility power and not regulated by the UPS module. The cabinet shall include a main breaker and a breaker for the technician GFCI outlet.

**996-7.2.5.1 Transfer Switch and Generator Access Panel:** The cabinet shall include an automatic transfer switch and generator access panel in accordance with Section 676. The generator access door shall not protrude more than 1 inch when closed.

**996-7.2.6 Mechanical:** All parts shall be made of corrosion-resistant materials such as plastic, stainless steel, anodized aluminum, brass, or gold-plated metal. All fasteners exposed to the elements shall be Type 304 or 316 passivated stainless steel.

**996-7.2.7 Environmental:** UPS assemblies, including batteries, shall provide continuous power with specified wattage and operate properly during and after being subjected to the environmental testing procedures described in NEMA TS 2, Sections 2.2.7, 2.2.8, and 2.2.9.

**996-7.3 Remote Power Management Unit (RPMU):** The RPMU shall be designed for installation in a roadside Traffic Cabinet to provide remote control of electrical receptacles.

**996-7.3.1 Configuration and Management:** Provide a RPMU that supports local and remote configuration and management, including access to all user-programmable features as well as alarm monitoring, event logging, and diagnostic utilities.

Configuration and management functions shall be password protected.

The RPMU shall include an event scheduler that can store a minimum of 60 events.

The RPMU shall include LED indicators for relay inputs and outlet status.

Upon loss of communications the RPMU shall maintain each receptacle and relay in its currently stored state of operation.

Upon restoration of electrical power after an outage the RPMU shall automatically restore each receptacle and relay to its previously stored state of operation and all configurable parameters shall be retained.

The unit shall support SNMP v2c, including trap notifications of receptacle state changes.

**996-7.3.2 Communication Interfaces:** The RPMU shall have an Ethernet port (RJ45) for local control using a laptop PC and remote control via a network connection.

**996-7.3.3 Electrical:** The RPMU shall have a minimum of 6 NEMA 5-15R receptacles, nominal 120 $V_{AC}$. The RPMU shall have a minimum current capacity of 12 amperes (amps).

**996-7.3.4 Mechanical:** All parts shall be made of corrosion-resistant materials such as plastic, stainless steel, anodized aluminum, brass, or gold-plated metal. All fasteners exposed to the elements shall be Type 304 or 316 passivated stainless steel.

**996-7.3.5 Environmental:** The RPMU shall operate properly during and after being subjected to the environmental testing procedures described in NEMA TS 2, Sections 2.2.7, 2.2.8, and 2.2.9.