



STATE OF ARKANSAS
OFFICE OF STATE PROCUREMENT
1509 West 7th Street, Room 300
Little Rock, Arkansas 72201-4222

INVITATION FOR BID
BID SOLICITATION DOCUMENT

SOLICITATION INFORMATION			
Bid Number:	SP-21-0023	Solicitation Issued:	September 23, 2020
Description:	Uninterruptible Power System Equipment		
Agency:	Arkansas Department of Health		

SUBMISSION DEADLINE			
Bid Opening Date:	October 1, 2020	Bid Opening Time:	2:00 p.m., Central Time
Sealed bids must be delivered to the Office of State Procurement before the bid opening time and on or before the bid opening date. Sealed bids are opened contemporaneously at the bid opening time. Late bids must be rejected as untimely. See section 1.2 for information regarding Live Bid Openings.			

DELIVERY OF RESPONSE DOCUMENTS	
Delivery Address and Bid Opening Location:	<p>Office of State Procurement 1509 West 7th Street, Room 300 Little Rock, AR 72201-4222</p> <p>Delivery providers, USPS, UPS, and FedEx deliver mail to OSP's street address on a schedule determined by each individual provider. These providers will deliver to OSP based solely on the street address. Prospective Contractors assume all risk for timely, properly submitted deliveries.</p>
Bid's Outer Packaging:	<p>Seal outer packaging and properly mark with the following information. If outer packaging of bid submission is not properly marked, the package may be opened for bid identification purposes.</p> <ul style="list-style-type: none">• Bid number• Date and time of bid opening• Prospective Contractor's name and return address

OFFICE OF STATE PROCUREMENT CONTACT INFORMATION			
OSP Buyer:	Julia Shackelford	Buyer's Direct Phone Number:	501-371-6079
Email Address:	Julia.shackelford@dfa.arkansas.gov	OSP's Main Number:	501-324-9316
OSP Website:	https://www.transform.ar.gov/procurement/		

SECTION 1 – REQUIREMENTS

- **Do not** provide responses to items in this section unless specifically and expressly required.

1.1 INTRODUCTION

This Invitation for Bid (IFB) is issued by the Office of State Procurement (OSP) for the Arkansas Department of Health (ADH) to obtain pricing and to contract with a manufacturer for the purchase of a three-phase continuous duty, on-line, double conversion, solid-state Uninterruptible Power System, hereafter referred to as UPS.

The scope of this IFB covers only the purchase of the UPS equipment including the UPS module, battery cabinets, maintenance bypass, warranty, support, enhancements, and other equipment specified herein. Installation of the UPS is not included in this IFB.

The UPS equipment **must** be an Eaton 9395 UPS system. No substitutes of manufacturer equipment will be allowed.

1.2 LIVE BID OPENING

See instructions below to view the bid opening online.

Zoom Meeting Link:

<https://arkansasgov.zoom.us/j/95645734086?pwd=QTR6ODhMcEFBd1VLMmc4aUVySIBOZz09>

Meeting ID: 956 4573 4086

Meeting Password: 247726

Dial-In Information: 877 853 5257 US Toll-free
888 475 4499 US Toll-free

1.3 DEFINITION OF TERMS

Unless otherwise defined herein, all terms defined in Arkansas Procurement Law and used herein have the same definitions herein as specified therein.

“Prospective Contractor” means a responsible bidder who submits a responsive bid in response to this solicitation.

The terms “Invitation For Bid”, “IFB,” “Bid Solicitation,” and “Solicitation” are used synonymously in this document.

“Responsive bid” means a bid submitted in response to this solicitation that conforms in all material respects to this IFB.

“Bid Submission Requirement” means a task a Prospective Contractor **must** complete when submitting a bid response. These requirements will be distinguished by using the term “**must**” or “**must**” in the requirement.

“Requirement” means a specification that a Contractor’s commodity **must** and/or service **must** meet or exceed in the performance of its contractual duties under any contract awarded as a result of this IFB. These specifications will be distinguished by using the terms “**must**” or “**must**” in the requirement.

“State” means the State of Arkansas. When the term “State” is used herein to reference any obligation of the State under a contract that results from this solicitation, that obligation is limited to the State Department using such a contract.

“Pre-energize” means inspection before power is applied to the new UPS. This is a quality-control checkpoint to be performed by the equipment supplier to give any corrective instruction necessary to the installing Contractor.

1.4 PROSPECTIVE CONTRACTOR QUALIFICATIONS

- A. The Prospective Contractor **shall** be a manufacturer with a minimum of forty years’ experience in the design, manufacture, and testing of solid-state UPS systems.
- B. The Prospective Contractor **shall** have ISO 9001 certification for engineering/R&D, manufacturing facilities and service organization.
- C. At the time of bid submission, the Prospective Contractor **shall** have a fully staffed and operational call center for technical and emergency support. The call center **must** have English speaking staff available to answer support calls 24-hours per day, 7-days per week, 365-days per year.
- D. The Prospective Contractor **shall** directly employ a nationwide field service department staffed by factory-trained field service engineers dedicated to startup, maintenance, and repair of UPS equipment as requested by the State.
 1. The field office support **must** have an organization of local offices which **must** be managed from a central location.
 - a. As a Bid Submission Requirement, the Prospective Contractor **must** include a map of the United States showing the location of all field service offices. Third-party maintenance will not be accepted.
 2. Prospective Contractor **shall** have service technicians available within 30-miles of the ADH facility located at 4815 W. Markham Street, Little Rock, AR 72205.

1.5 GENERAL REQUIREMENTS

- A. Upon request from ADH, the Contractor **shall** deploy field engineers in key population areas to provide on-site emergency response within 24-hours.
- B. The Contractor **shall** provide spare parts support. Parts and supplies **must** be located in the field in quantities sufficient to provide a minimum of 80% of the State’s emergency needs and sufficiently stocked in regional logistics centers to provide a 95% first time fix rate and maximize system availability.
- C. The Contractor **shall** provide a product enhancement program. The Contractor **shall** make available feature upgrade service offerings to the State as they are developed. These upgrades **must** be available as optional field-installable kits.
- D. The Contractor **shall** provide a complete range of preventative and corrective maintenance contracts which **must** maintain the States UPS equipment to the latest factory revisions.
 1. As a Bid Submission Requirement, the Prospective Contractor **shall** provide its standard maintenance contract templates with bid response.
 2. Contractor **shall** have service technicians available within 30-miles of the ADH facilities at 4815 W. Markham St, Little Rock, AR 72205.

1.6 GENERAL PROJECT OVERVIEW

- A. The State seeks a three-phase continuous duty, on-line, double conversion, solid-state Uninterruptible Power System which **must** operate in conjunction with the building's existing electrical system to provide power conditioning, back-up, and distribution for critical electrical loads.
- B. The UPS **must** have all the features and capabilities described in this IFB.
- C. The Contractor **shall** provide complete testing, commissioning, startup, and cutover of the facility to the new UPS as part of the equipment package including but not limited to field drawings as required, shop drawings for review, controls, interlocks, temporary power, and as-built markup drawings.
- D. The UPS **must** be fully tested and operational upon completion of the work.

1.7 UPS SYSTEM DESCRIPTION

- A. The UPS **must** consist of the following main components:
 - 1. One (1) Integrated System Bypass Module (ISBM)
 - a. The ISBM **must** include a Static Bypass and associated Control and Monitor Panel
 - 2. One (1) or more internal Uninterruptible Power Module(s) (UPM's)
 - a. Each UPM **must** include a Rectifier, Inverter, and Battery Charger
 - 3. Battery strings in matching Battery Cabinets
 - 4. Matching accessory cabinets for maintenance bypass
 - 5. Non-matching wall mounted maintenance bypass cabinet
 - 6. A self-contained 275Kva temporary UPS pod in a weatherproof, secure container to be used during the construction period.
 - a. The UPS pod **must** be from the same manufacturer as the proposed permanent UPS
 - b. The UPS pod **must** contain all necessary UPS, transfer, distribution, HVAC, and battery equipment needed to provide 10-minutes of runtime to the existing building critical load.

1.8 UPM MODES OF OPERATION

- A. Each UPM **must** operate as an on-line, fully automatic system in the following modes:
 - 1. Standard
 - a. Utilizing commercial AC power, the critical load **must** be continuously supplied by the Inverter.
 - b. The Inverter **must** power the load while regulating both voltage and frequency.
 - c. The Rectifier **must** derive power from the commercial AC source and **must** supply DC power to the Inverter. Simultaneously, the Battery Charger **must** charge the battery.
 - 2. Battery or Flywheel

- a. Upon failure of the commercial AC power, the critical load **must** continue to be supplied by the Inverter, which **must** obtain power from the batteries without any operator intervention.
 - b. There **must not** be an interruption to the critical load upon failure or restoration of the commercial AC source.
3. Recharge
 - a. Upon restoration of the AC source, the Charger **must** recharge the batteries and simultaneously, the Rectifier **must** provide power to the Inverter.
 - b. This function **must** be automatic and **must not** cause an interruption to the critical load.
4. Bypass
 - a. If the UPM needs to be taken out of the Online mode for overload, load fault, or internal failures, the static bypass switch **must** automatically transfer the critical load to the commercial AC power.
 - b. Return from Bypass mode to Normal mode of operation **must** be automatic.
 - c. No-break transfer to and from Bypass mode **must** be capable of being initiated manually from the front panel.
5. Energy Saver Feature
 - a. The UPS **must** continuously monitor the voltage and frequency of the bypass source.
 - b. When the source parameters are within acceptable limits, the UPS **must** utilize a minimal/optimal combination of its internal subsystems to ensure acceptable power is always delivered to the critical load, at a system efficiency of 99% or greater, over the range of 10% to 100% load.
 - c. The Energy Saver System **must** have the capability to be enabled by the user and **must** be adjustable.
 - d. The Energy Saver Feature **must** incorporate a "High Alert Mode" to automatically (without user intervention) provide maximum power conditioning for all instances when the bypass source variation levels exceed preset, adjustable limits.
 - e. When the Energy Saver System is utilized, the UPS **must** attenuate ANSI C62.41-type line transients to within IEC and ITIC limits.
 - f. The Energy Saver System **must** distinguish between upstream (utility) faults and downstream (load) faults and react appropriately to protect and support the critical load, without interruption.
6. Variable Module Management System Feature
 - a. The modular UPS **must** have the ability to scale its capacity and/or redundancy by automatically shifting load to fewer 275KVA power modules (aka. UPM's).

- b. The UPS **must** provide an optional Variable Module Management System (VMMS), which **must** control the UPS to selectively place unnecessary UPM's in the "ready-state" based on the sensed output load level in order to drive the load higher on the remaining UPM's. Therefore, with multiple UPM's, a UPS **must** achieve 2-3% higher efficiencies than conventional operation when loaded less than 50% of system rating.

1.9 TECHNICAL MANUALS AND DOCUMENTATION

- A. The UPS equipment and accessories **must** be supplied with all associated documentation and manuals including but not limited to those listed below. Manuals and documentation so supplied **must** provide the detail and clarity necessary to enable the State's technicians and representatives to install and operate the UPS equipment and accessories.
 - 1. Two (2) copies of an Installation and Operation Manual that **must** include the detailed information listed below for all major items.
 - a. UPS description
 - b. UPS site planning and unpacking
 - c. UPS installation
 - d. Optional accessory installation
 - e. UPS theory of operation
 - f. Operating procedures
 - g. System events
 - h. UPS maintenance
 - i. Performance and technical specifications
 - j. Wiring requirements and recommendations
 - k. Physical features and requirements
 - l. Cabinet dimensions

1.10 ENVIRONMENTAL REQUIREMENTS

- A. The UPS **must** withstand any combination of the following external environmental conditions without operational degradation.
 - 1. Operating Temperature: +5 degrees C to + 40 degrees C (41 degrees F to 104 degrees F) excluding batteries.
 - 2. Storage Temperature: - 25 degrees C to + 60 degrees C (-13 degrees F to 140 degrees F). Prolonged storage above + 40 degrees C (104 degrees F) will cause rapid battery self-discharge.
 - 3. Relative Humidity (operating and storage): 5 to 95% maximum non-condensing.
 - 4. To maintain a non-condensing environment, the UPS **must** maintain at least a 1.8°F (1.0°C) difference between the dry bulb temperature and the wet bulb temperature at all times.
 - 5. The UPS **must** be limited to a maximum rate of temperature change of 3°F over 5-minutes (36°F/hour), based on the ASHRAE standard 90.1-2013.
 - 6. Elevation
 - a. Operational: 1000 meters above sea level at 40 C maximum without de-rating. Above that level, altitude de-rating as per EN62040-3
 - b. Transportation: Capable of air transport, and tested to ASTM D4169

1.11 SAFETY

- A. The UPS **must** be certified by a US recognized NRTL (National Recognized Test Laboratory) in accordance with UL 1778.
- B. The UPS **must** be certified by a Canadian Recognized Test Laboratory in accordance with CSA C22.2 No.107.3-05.
- C. The UPS **must** be in compliance with IEC 62040-1.
- D. The UPS cabinets **must** be NEMA 1 and IP20 rated.

1.12 UPS STANDARD FEATURES

- A. The UPS **must** consist of the following standard components and features:
 - 1. One (1) or more UPM's. Each UPM **must** consist of the following:
 - a. A Rectifier/Charger which **must** convert incoming AC power to regulated DC output for supplying the inverter and for charging the battery.
 - i. The rectifier/charger **must** be a high-frequency PWM design, using Insulated Gate Bipolar Transistors (IGBTs).
 - ii. The modular design of the UPS **must** permit safe and fast removal and replacement of the rectifier/charger module.
 - iii. Mean time to repair (MTTR) for the module **must** be no more than 30-minutes in order to return UPS to normal mode.
 - iv. The rectifier **must** be capable of drawing power from the utility with a power factor of 0.99 under nominal conditions.
 - v. The rectifier **must** feature protection circuitry that prevents the IGBTs from sourcing current in excess of their published ratings.
 - vi. The rectifier **must** be capable of operating from a high impedance grounded transformer (single module systems only).
 - b. An Inverter, each of which **must** feature an IGBT Pulse-Width-Modulation (PWM) design with high speed switching. The inverter **must** also have the following features:
 - i. The inverter **must** be capable of providing the specified quality output power while operating from any DC source voltage (rectifier or battery) within the specified DC operating range
 - ii. The modular design of the UPS **must** permit safe and fast removal and replacement of the inverter module.
 - iii. Mean Time To Repair (MTTR) for the module **must** be no more than 30-minutes in order to return UPS to normal mode.
 - iv. The inverter **must** feature protection circuitry that prevents the IGBTs from sourcing current in excess of their published ratings.
- B. The UPS **must** contain an ISBM Section with Static Bypass which **must** serve as an alternative source of power for the critical load when an abnormal condition prevents operation in normal mode. The bypass **must** consist of a fully rated, continuous duty, naturally commutated static switch for high-speed transfers. The bypass **must** feature the following transfer and operational characteristics:

1. Transfers to bypass **must** be automatically initiated for the following conditions:
 - a. Output overload period expired.
 - b. Critical bus voltage out of limits.
 - c. Internal over temperature period expired.
 - d. Total battery discharge.
 - e. UPS failure.
 2. Uninterrupted automatic re-transfer **must** take place whenever the inverter is capable of assuming the critical load.
 3. Uninterrupted automatic re-transfers **must** be inhibited for the following conditions:
 - a. When transfer to bypass is activated manually or remotely.
 - b. In the event of multiple transfers/re-transfer operations the control circuitry **must** limit “cycling” to three (3) operations in any ten-minute period. The fourth transfer **must** lock the critical load on the bypass source.
 - c. UPS failure.
 4. Uninterrupted manual transfers **must** be initiated from the control panel.
 5. Uninterrupted manual transfers to bypass and from bypass, **must** be possible with the inverter logic.
 6. During manual transfers to bypass mode, the inverter **must** verify proper bypass operations before transferring the critical load to the bypass.
 7. All transfers to bypass **must** be inhibited for the following conditions:
 - a. Bypass voltage out of limits (+/- 10% of nominal)
 - b. Bypass frequency out of limits (+/- 3 Hz, adjustable, factory set)
 - c. Bypass out of synchronization
 - d. Bypass phase rotation / installation error
 8. Static transfer time: No break, complete in less than 4 milliseconds (ms).
 9. The bypass **must** be manually energized using the control panel or remotely through a building alarm input.
- C. The UPS **must** contain components with monitor and control capabilities as well as the following features and capabilities:
1. Control panel with status indicators
 2. Alarm and metering display

3. Building alarm monitoring
 4. Communication ports
- D. The UPS **must** contain a battery management system having the following features:
1. The battery management system **must** provide battery time remaining while operating in normal mode and battery mode. Battery time available information **must** be displayed real-time, even under changing load conditions. Upon commissioning, battery runtime information **must** be available.
 2. The battery management system **must** automatically test the battery string(s) to ensure that the battery is capable of providing greater than 80% of its rated capacity.
 - a. Testing the batteries **must** not jeopardize the operation of the critical load.
 - b. Upon detection of the battery string(s) not capable of providing 80%, the UPS will sound an alarm that the battery needs attention/replacement.
 - c. The battery test **must** be able to detect the following:
 - i. Open battery string
 - ii. Shorted battery string
 - iii. Battery capacity (runtime) less than 80% of “new” battery capacity
 3. The UPS **must** communicate battery test and monitoring data to the UPS manufacturer’s remote monitoring site. Battery life remaining, capacity, and number of on-battery events **must** be provided in a monthly report.
- E. The UPS module **must** contain mechanical compression wiring terminals that **must** be adequately sized to accommodate 90°C wiring, for securing user wiring to the following locations:
1. Rectifier/charger input connections (3-wire plus ground)
 2. Bypass input connections (3-wire plus ground for 3-wire plus ground output configuration (480Vac), or 4-wire plus ground for 4-wire plus ground output configuration)
 3. DC link connections for battery cabinets (positive and negative) Separate batteries per UPM, or common batteries across all UPMs can be connected.
 4. AC output connections (3 or 4 wires plus ground).
- F. The UPS System **must** have configurations for capacity and redundancy which **must** be constructed such that multiple internal UPM’s can be combined for redundancy or capacity. Internal UPM’s **must** be capable of being paralleled to increase system power levels or to provide redundant power.
- G. ISBM rated at 550 kVA with internal 2 UPMs
1. The UPS **must** have intelligence to automatically recognize the need for capacity and/or redundancy.

2. The UPS **must** utilize autonomous internal UPM's that do not rely on any control interconnections for synchronized operation.
 - a. The internal UPM's **must** operate in a peer-to-peer manner to provide automatic load sharing, synchronization, and selective tripping capabilities. "Master-slave" configurations are not acceptable.
3. The UPS **must** utilize a communications network to provide system information and status, such as operating mode and meter data.
 - a. The communications network **must** provide individual internal UPM information as well as total UPS information and **must** be available from the UPS front panel display.
 - i. The loss of the communications system information network **must not** cause the UPS to transfer to bypass or drop the critical load.
4. UPS's with more than one internal UPM **must** have the option to be inherently redundant when the load is less than 50% of the UPS rated capacity. Under load conditions less than 50% of rated UPS capacity, at least one internal UPM **must** be redundant.
5. Concurrent maintenance: Any redundant internal UPM **must** be concurrently isolated and limited maintenance performed (by the Contractor's factory-trained service engineers) while the other internal UPM continues to provide protected power to the load.
6. 9395 Variable Module Management System (VMMS) Option
 - a. The 9395 Variable Module Management System feature **must** have the following three (3) configurable modes of operation. All modes **must** be selectable from the front panel.
 - i. Double Conversion Mode: the unit **must** operate by supplying power through each of the power converters (providing equal load-share between all available UPM's).
 - ii. Variable Module Management Mode: (VMMS): the unit **must** operate as a traditional double conversion UPS. However, the unit **must** place identified UPM(s) in "ready state" based on the following number of UPM's required equations:
 - iii. High Alert Mode: all ready-state UPM's **must** be active for one-hour (user adjustable). At the completion of the hour, the UPS defaults back to VMMS mode. If the high alert command is received again during the one-hour, the one-hour timer **must** be restarted.
 - b. VMMS in Parallel Systems Variable Module Management Mode **must** support both distributed bypass and centralized bypass (SBM) parallel configurations. SBM configurations **must** support up to 8 parallel units (4 UPM's per UPS lineup). VMMS Operation UPM Transfers from VMMS "ready" Mode to Double Conversion Mode. Any of the following situations **must** result in all ready state UPM's transferring from VMMS to double conversion mode:
 - i. A utility outage that results in the unit going to battery.
 - ii. Greater than a +/- 3 % (adjustable) voltage variation on the output.

- iii. Any UPM exceeds current limit.
- iv. A UPS or UPM load >80% (user adjustable)
- v. Battery test initiated.
- vi. Battery charging required.
- vii. Any UPM being serviced.

1.13 UPS SYSTEM OPTIONS AND ACCESSORIES

A. The UPS **must** consist of the following options and accessories:

1. Field Upgrades

- a. The Contractor **must** offer the ability to upgrade the capacity or redundancy of the UPS in the field.
- b. The Contractor **must** offer integrated UPM's that can be added in the field, to increase the capacity or redundancy of the UPS.
- c. UPS design **must** allow at least one integrated UPM to be added in the field.

2. SNMP Network Adapter and UPS Power Monitoring Software

- a. SNMP adapters **must** provide a communications interface between the UPS module and SNMP-compatible network management systems.
 - i. This capability **must** allow the unit to be monitored remotely over an Ethernet network using a standard web browser.
- b. UPS Power Monitoring Software **must** continuously monitor critical power elements associated with the UPS using the communications port on each module and a customer furnished PC.
 - i. The system **must** automatically alarm if any problems arise and notify local or remote personnel of the alarm condition via email, page, or text message.

3. Battery Cabinet(s) which **must** feature valve regulated, high-rate discharge, lead-acid batteries which **must** provide energy to the support the critical load during a momentary loss of input power to the rectifier.

- a. Batteries **must** be flame retardant in accordance with UL 94V2 requirements.
- b. Battery cabinet(s) **must** be the same depth and height as the UPS module.
- c. Battery cabinet(s) **must** feature a mechanical enclosure of like appearance to the UPS module and **must** feature casters.
- d. Battery cabinet(s) **must** require front access only for installation, service, and maintenance.
- e. Battery cabinet(s) **must** provide top and bottom cable entry.
- f. Battery cabinet(s) **must** have factory provided power wiring internal to each.

- g. Battery cabinet(s) **must** feature up to 10 battery trays which **must** be individually disconnected from the battery cabinet power wiring with quick disconnect devices.
 - i. Each battery tray **must** be firmly secured to the battery cabinet frame with fasteners.
 - ii. Each battery tray **must** be removable from the front of the battery cabinet.
- h. Battery cabinet(s) **must** provide at least 10-minutes of run time at the rated load of 500Kw.
- i. Battery cabinet(s) **must** feature a DC rated circuit breaker.
 - i. The circuit breaker within the battery cabinet **must** only provide protection to the battery string within that battery cabinet. For battery configurations involving multiple battery cabinets, a battery string in one battery cabinet may be isolated from the DC link via its circuit breaker without removing other battery strings from the DC link and the UPS module.
- j. The circuit breaker in each battery cabinet **must** feature an A/B auxiliary switch. The UPS module **must** be capable of monitoring and alarming an open battery cabinet circuit breaker condition.
- k. The circuit breaker in each battery cabinet **must** feature a 48VDC shunt trip (ST) device.
 - i. The ST device **must** operate to trip the battery breaker(s) for an optional load off command, emergency power off command, or battery disable command.
- l. The batteries **must** be configured with one or more ¼" spade type connector(s) for attaching sense leads to each jar to facilitate the future addition of a battery monitoring system.
- m. The batteries **must** have a life expectancy of 200 complete full load discharge cycles when operated and maintained within specifications.

1.14 UNINTERRUPTIBLE POWER SUPPLY RATINGS AND OPERATING CHARACTERISTICS

A. UPS Continuous Ratings

- 1. The UPS **must** be rated at UPS Rating (550kVA).
 - a. UPS Rating (max) is the maximum output possible from the UPS (for a load power factor range of 0.9 lagging to 0.9 leading).
 - b. The UPS **must not** require de-rating when supporting a leading power factor load of 0.9 or greater.
 - c. The UPS may be ordered with the optional rating (where available) and later upgraded to its corresponding full UPS Rating (max).

B. Rectifier/charger Input

- 1. Nominal three phase input voltage: 480:
 - a. 3-wire plus ground input
 - b. Separate inputs for each UPM are optional

2. Operating input voltage range: + 10%, - 30% of average nominal input voltage without battery discharge, at loads less than 85%.
3. Operating input frequency range **must** be 45 to 65Hz.
4. Input power factor 0.99 lagging.
5. Normal Input Current Limit
 - a. The UPS **must** have the following programmable input current limit settings while operating in normal mode:
 - i. Rectifier input current limit **must** be adjustable from 100 to 115% of full-load input current.
 - ii. Battery charger current limit **must** be adjustable from 0 to 120 amps DC per UPM. With decreased load, maximum charge current per UPM is 120A. Charge capability drops to zero with input line at minus 15% of nominal voltage at full load.
6. On-generator Input Current Limit
 - a. The UPS **must** have the following programmable input current limit settings while operating in normal mode on generator:
 - i. Rectifier input current limit **must** be adjustable from 100% to 115% of full-load input current.
 - ii. Battery charger current limit **must** be adjustable from 0 to 120 amps DC per UPM. With decreased load, maximum charge current per UPM is 120A. Charge capability drops to zero with input line at minus 15% of nominal voltage at full load
7. Input current total harmonic distortion (THD) **must** be less than 5.0%.
8. Power walk-in: Ramp-up to full utility load adjustable from 3 seconds to 60 seconds. Initial inrush is 6x rated input current, 10x with input transformer.
9. Optional input circuit breaker may be chosen with 65 or 100 kAIC rating.

C. Bypass Input

1. Synchronizing bypass voltage range **must** be +/- 10% of average nominal input voltage.
2. Synchronizing bypass frequency range **must be** centered on the nominal frequency.
3. Bypass and rectifier inputs **must** be supplied from out of phase sources if required.
4. Input surge withstand capability: The UPS **must** be in compliance with IEEE 587 (ANSI C62.41), category A & B (6kV).

D. Rectifier/Charger Output:

1. Nominal DC voltage **must** be 480VDC.
2. Steady state voltage regulation **must** be +/- 1%.

3. Voltage ripple **must** be less than 0.5% (peak-to-peak).
4. Capacity: The rectifier/charger **must** support a fully loaded inverter and recharge the battery to 90% of its full capacity within 10 times the discharge when input current limit is set at maximum.
5. Low line operation: The rectifier/charger **must** be capable of sharing the DC load with the battery when the input voltage falls below the specified operation input voltage range, the on-battery indicator **must** enunciate operation in this mode.
6. DC sensing: Redundant DC voltage sensing methods **must** be incorporated for providing battery over-voltage protection.
7. Battery charger characteristics: The UPS battery charging system **must** have the following characteristics:
 - a. The charger **must** be capable of being configured for several charge modes including:
 - i. A charging mode that increases battery life by allowing the battery to rest, reducing positive plate corrosion
 - ii. A charging mode floating the battery at a set level, **must** be adjusted via software, used for flooded cell applications
 - Nominal Float Voltage: 2.27 V per cell.
 - Equalizing Voltage: 2.31 V maximum per cell (adjustable).
 - Automatic (time based) or manual (user initiated) equalization available
 - b. UPM **must** automatically adjust battery shutdown based upon loading and battery capacity.
 - i. The UPM **must** automatically adjust the final discharge voltage between 1.67 and 1.75 Volts per cell based on the existing load and the rate and length of discharge.
 - ii. The absolute minimum operational voltage is 1.56 V per cell (adjustable).
8. The UPM **must** automatically disconnect the battery system via contactor in case of full battery discharge followed by prolonged utility AC voltage failure.
 - a. The time window before battery disconnection occurs **must** be programmable for both time and voltage.

E. UPS Output in Standard Double Conversion Mode

1. 480V, 3-phase, 3-wire or 4-wire plus ground. Output wiring configuration is based upon input wiring configuration for systems without internal transformers.
2. Steady-state voltage regulation (in inverter) **must** be within +/- 1% average from nominal output voltage.
3. Transient voltage response **must** be compliant with Class 1 limits defined in IEC 62040-3 for 20% to 100% load step. See image below.

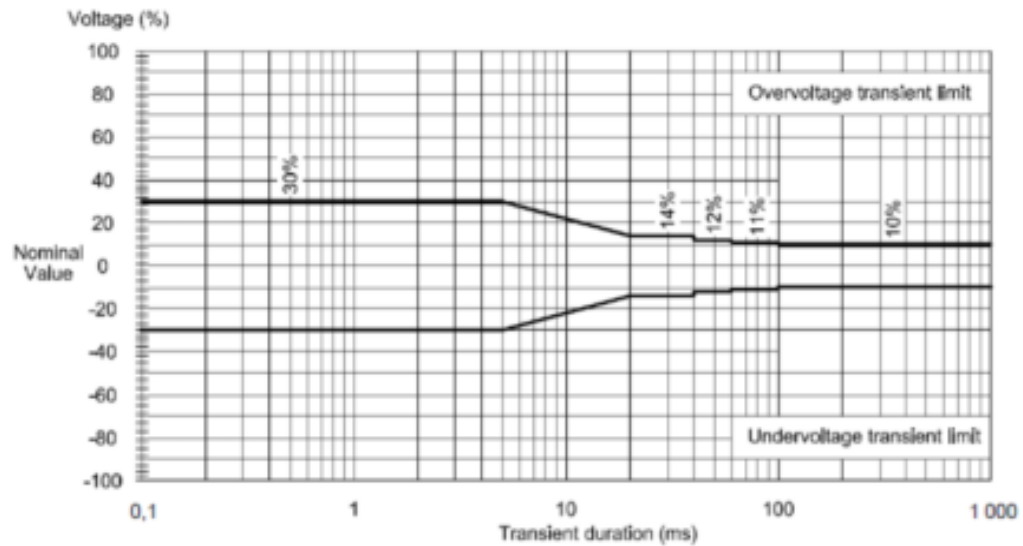


Figure 2 – Curve 1 – Dynamic output performance classification 1

4. Linear load harmonic distortion capability: Output voltage THD of less than 2% for 100% linear load.
5. Non-linear load harmonic distortion capability: Output voltage THD of less than 5% for 100% non-linear load when tested using the non-linear load described in IEC 62040-3.
6. Manual output voltage adjustment **must** be +/- 3% from nominal.
7. Line synchronization range **must** be +/- 3Hz, adjustable to +/- 5Hz.
8. Frequency regulation **must** be +/- 0.1Hz free running.
9. Frequency slew rate **must** be adjustable up to 0.7 Hz/second maximum.
10. Phase angle control:
 - a. Balanced linear load **must** be +/- 1 degree from nominal 120 degrees
 - b. Unbalanced linear loads **must** less than +/- 3 degrees from average phase voltage for 100% load unbalance.
11. Phase voltage control:
 - a. Balanced linear loads **must** be +/- 1% from average phase voltage
 - b. Unbalanced linear loads **must** be less than +/- 5% for 100% load unbalanced
12. Overload current capability (with nominal line and fully charged battery): The unit **must** operate with up to 110% of resistive/inductive load for 10-minutes, up to 125% for 30 seconds, and up to 150% for 10 seconds.

13. Fault clearing current capability: 1000% RMS for 20ms. 600% for 50ms. With bypass intervention. Inverter alone (no bypass), **must** produce 660A RMS per UPM for 10 cycles.
14. Static transfer time: No break, completed in less than 4ms.
15. Acoustical noise: Noise generated by the UPS under normal operation **must not** exceed 75dbA at one meter from any operator surface, measured at 25 degrees C (77 degrees F) and full load, per ISO7779 standard.
16. EMC Suppression: The UPS **must** meet IEC 62040-2, Category 3.
17. Electrostatic Discharge (ESD): The UPS **must** meet EN61000-4-2 level 3.
18. Efficiency: The UPS efficiency **must** be up to 95%. If UPS requires input filters for controlling input THD, manufacturer **must** state efficiency of UPS with input filters connected.

F. UPS Output with Energy Saver System

1. The Energy Saver System acts to optimize the internal components of the UPS power train to maximize system efficiency when the bypass source is within the following (adjustable) limits: Voltage: +/-10%, and Frequency: +/-3Hz.
2. 480V, 3-phase, 3-wire or 4-wire plus ground. Output wiring configuration is based upon input wiring configuration for systems without internal transformers.
3. Steady-state voltage regulation (in inverter) **must** be within +/- 10% from nominal output voltage.
4. Line synchronization range **must** be +/- 3Hz, adjustable to +/- 5Hz.
5. Frequency regulation **must** be +/-3Hz when bypass source is within limits in (1) above.
6. Overload current capability (with bypass source within the limits of (1) above) 1000% for 20msec, 600% for 50 ms
7. Static transfer time: for input outage: No break, completed in less than 2ms.
8. Acoustical noise: Noise generated by the UPS under normal operation **must not** exceed 75dbA at one meter from any operator surface, measured at 25 degrees C (77 degrees F) and full load.
9. EMC Suppression: The UPS **must** meet IEC 62040-2, Category C3.
10. Electrostatic discharge (ESD): The UPS **must** meet EN61000-4-2 level 3.
11. Efficiency: The UPS efficiency **must** be up to 99%. over the range of 10 to 100% load. If UPS requires input filters for controlling input THD, manufacturer **must** state efficiency of UPS with input filters connected.

G. UPS in Distributed Bypass Parallel Configurations

1. UPS modules **must** be capable of being paralleled to increase system power levels or to provide redundant power.

2. A total of five (5) UPS modules **must** be capable of parallel operation, either for capacity or redundant systems. It **must** be possible to parallel up to five (5) UPS modules where each UPS lineup contains a discrete static switch, and without a central static switch/bypass cabinet.
3. A simple “tie cabinet” with module output breakers (MOB) **must** have dual sets of form C auxiliary contacts to provide breaker status to the UPS modules.
4. The parallel system **must** have intelligence to automatically recognize the need for capacity and/or redundancy. Parallel systems **must** utilize autonomous UPS power modules that do not rely on any control interconnections for synchronized operation.
5. The individual modules **must** operate in a peer-to-peer manner to provide automatic load sharing, synchronization, and selective tripping capabilities. “Master-slave” configurations are not acceptable.
6. The parallel system **must** utilize a communications network to provide system information and status, such as operating mode and meter data. This network **must** provide individual module information as well as total system information, and individual module information **must** be available from any module’s front panel display. The loss of this system information network **must not** cause the parallel units to transfer to bypass or drop the critical load.

1.15 MECHANICAL DESIGN

A. Ventilation

1. The UPS **must** be designed for forced-air cooling. Air inlets **must** be on the front of the unit. Air outlets **must** be on the top. Eighteen inches of clearance over the UPS outlets **must** be required for proper air circulation.

B. No back or side clearance or access **must** be required for the system. The back and side enclosure covers **must** be capable of being located directly adjacent to a wall.

C. Cable entry

1. Standard cable entry for the UPS cabinet **must** be through either the enclosure bottom or top. A dedicated wireway **must** be provided within the UPS cabinet for routing user input and output wiring.

D. Front access

1. All serviceable subassemblies **must** be modular and **must** be capable of being replaced from the front of the UPS (front access only required). Side or rear access for installation, service, repair or maintenance of the UPS **must not** be required.

E. Service Area Requirements

2. The UPS **must** require no more than forty-two (42) inches of front service access room and **must not** require side or rear access for service or installation.

F. Shipping Shock and Vibration: Per ASTM D4169

G. Seismic Standards

1. UPS modules **must** be designed to meet California Building Code 2010, International Building Code 2009, and OSHPD seismic requirements, when Eaton seismic bracing kits are installed.

H. Dimensions

1. All modules that comprise the UPS **must** be 34.3 in. (871mm) depth and 73.3 in. (1872mm) height.
2. Width will vary as necessary to fit the parts and options and to facilitate ease of installation.
3. Width of 275 kVA frame sections **must** be 21.3 in. (540 mm) in width.
4. Field installable 275 kVA UPM **must** be 30 in. (762 mm) in width.
5. The UPS modules and system cabinet, including battery cabinet(s), **must** fit in the same footprint as the existing equipment it is replacing. See the dimensions listed above in H. 1-4

1.16 CONTROLS AND INDICATORS

A. Microprocessor Controlled Circuitry

1. The UPS controls **must** have the following design and operating characteristics:
 - a. Fully automatic operation of the UPS **must** be provided through the use of microprocessor controlled Digital Signal Processing (DSP).
 - i. DSP **must** eliminate variances from component tolerance or drift and provide consistent operational responses.
 - b. All operating and protection parameters **must** be firmware controlled, thus eliminating a need for manual adjustments.
 - i. The logic **must** include system test capability to facilitate maintenance and troubleshooting.
 - ii. Printed circuit board replacement **must** be possible without requiring calibration.
 - c. Start-up and transfers **must** be automatic functions.

B. Digital Front Panel Display

1. The UPS control panel **must** be a digital front panel display that features a 7" Color Touchscreen LCD.
2. The LCD **must** display UPS status, metering, battery status, alarm/event queue, and active alarms.
3. The front panel display **must** show a system mimic diagram with an outlined power path, current operating mode, and event logs, as well as statistics and load profiling.

C. Control Panel Information

1. The UPS control panel **must** provide the following menus and functions from the front panel touchscreen LCD.

- a. HOME: **Must** display the power map of the UPS with colors indicating the power flow (online or bypass mode). **Must** also display data pertaining to system load and efficiency.
- b. METERS: **Must** display performance meters for the system or critical load. When selected, the front display **must** show individual screens of input parameters, output parameters, or bypass parameters including voltage, current, and frequency in a graphical format. In addition, the battery display **must** show remaining runtime. In a parallel system, meters for the local UPS and the other UPS in the system can be viewed.
- c. CONTROLS: **Must** allow selection of operating mode, normal, bypass, charger on/off, and Power Module on/off. Individual UPMs **must** also be controlled through this screen. The EAA controls screen **must** be used to enable and disable installed Energy Advantage Architecture options
- d. POWER MAPS: **Must** show the power flow for the system via the UPS Power Map and show UPM detail through the UPS Module Map (for the local UPS). In a parallel system, the System Overview displays the entire parallel system with the ability to access any UPS information in the system.
- e. LOGS: **Must** display the list of Active System Events and a historical log of system events. Historical logs **must** include a detailed time stamped list of over 300 events. Events **must** include detailed information including the description, source, type, and solution.
 - i. Battery log **must** include Time on Battery, Load on Battery, End Voltage, and Source (UPM). The battery log **must** also include the Average Time and Total Time on Battery for each UPM.
- f. STATISTICS: This screen **must** summarize the time on various modes for the current month, prior month, and since the last reset, including Online, Online ESS, Online VMMS, On Bypass, and On Battery. A graphical comparison **must** show the consumption in Double Conversion Mode and ESS, along with estimated savings.
- g. SETTINGS: **Must** allow configuration of the unit including meters format, ESS, and VMMS configuration, backlight adjustments, display contrast, date and time information, serial communication port configuration, and display of firmware revision numbers.
- h. STATUS BAR: A status across the top of the screen **must** display unit name, date/time, active alarms, system voltage and frequency, and battery levels. Two interactive buttons on the Status Bar **must** allow for language changes and passcode input.

D. Control Panel Indicators

1. The UPS display panel **must** include the following monitoring functions via indicator LED's:
 - a. ONLINE: **Must** indicate the commercial AC utility or generator source is supplying power to the rectifier and the inverter is supporting the critical load.
 - b. BYPASS: **Must** indicate the UPS has transferred the load to the bypass circuit.
 - c. BATTERY: **Must** indicate battery is supplying power to the inverter, which is supporting the load. A text message **must** indicate if the battery charge is low or if the battery is installed but disconnected.

- d. ALARM: **Must** indicate the UPS detects an alarm condition and **must** outlined in detail in the operator's manual.

E. Interface Panel

1. The UPS **must** be equipped with an interface panel, located behind a protective cover, which provides the following signals and communication features in a Class 2 environment:
 - a. Alarm contact: A dry contact for annunciating a summary alarm **must** be provided. This contact **must** be Form "C" capable of supplying both N/O and N/C contacts. Contact ratings **must** be 5A max at a voltage not to exceed 28VDC or 277VAC.
 - b. RS232 (EIA / TIA-232) Communications Interface: Circuitry for one RS232 (EIA / TIA-232) communication port for connection to automated service department diagnostic tools **must** be provided. This port **must** be used with simple ("dumb") terminals to gain remote access to all unit operation information.
 - c. Building Alarm Inputs: The unit **must** have four configurable, galvanic isolated (SELV) "building alarm" inputs provided for monitoring the status of external dry contacts. Building alarms **must** have the capability for set up through the UPS configuration mode function on the RS232 (EIA / TIA-232) port.
 - d. External EPO contacts: **Must** be provided to connect an external remote emergency power off switch to shut down the UPS and de-energize the critical load.
 - e. Battery control contacts: Contacts **must** be provided to connect the battery shunt trip and auxiliary signals from a battery breaker or battery disconnect switch.
 - f. External bypass indicator connection: A connection point **must** be provided to acknowledge that an external maintenance bypass has been closed around the UPS, placing the critical load on utility power.
 - g. The following display languages **must** be supported: English, French, Spanish, Simplified Chinese, Traditional Chinese, German, Italian, Korean, Russian, and Portuguese

1.17 COMMUNICATIONS

- A. The UPS **must** be equipped with field configurable communications bays that will accommodate four (4) communication devices.
- B. Remote Monitoring
 1. Optional WEB/SNMP communication capabilities will be available for all systems.
 2. The UPS **must** be able to be monitored remotely via communications devices. Contractor **must** provide optional communications devices capable of communicating via various industry standard protocols such as RS232 and ModBus. Monitoring of UPS status **must** also be performed through isolated dry contact Form C relays.
 3. Remote monitoring of the UPS **must** also be possible through status indicators elsewhere in the same facility through a device that replicates these indicators.

4. The UPS communication capability **must** be able to integrate into any industry standard Building Management System (BMS) and/or Network Management System (NMS). The UPS **must** also be able to be monitored via any standard Internet browser.
5. All hardware interfaces **must** be "Hot-swappable" (UPS maintains power to critical applications while changing interfaces).

C. Shutdown

1. UPS **must** have a mechanism that provides graceful, orderly, unattended, sequential shutdown of one or multiple computers powered by one UPS.
 - a. This shutdown **must** be performed via in-network or out-of-network means. The order of shutdown **must** be user-defined, allowing the maximization of runtime on battery for more critical systems.
2. Shutdown of AS/400 computers **must** be possible through open-collector relay contacts or isolated, dry contact, Form-C relays.
3. The UPS **must** be capable of interfacing with an operating system's built-in shutdown routine (e.g. Windows) which **must** be done through a cable connection to the optional serial port on the UPS.

D. Notification

1. UPS **must** have a mechanism to send alerts to key personnel via email or SNMP traps. An alarm notification **must** also be sent by a network message.
2. Dial-out to a computer for alarm notification **must** be performed. The user may respond by dialing-in to retrieve alarm history and a summary of current meter status.
3. Management: A remote battery test **must** be performed via an Ethernet network. The UPS **must** be tested through invocation of a single command.

1.18 UPS PROTECTION

- A. Rectifier/Charger and Bypass protection **must** be provided through fusing.
- B. Battery protection **must** be provided by thermal-magnetic molded-case circuit breakers in each battery cabinet (if standard battery pack is provided) or external protective device for an external battery.
- C. Electronic current limiting circuitry and fuses in the Inverter circuit **must** provide output protection.
- D. To comply with agency safety requirements, the UPS **must not** rely upon any disconnect devices outside of the UPS to isolate the battery cabinet from the UPS.

1.19 EXECUTION SPECIFICATIONS

- A. The UPS equipment **must** fit exactly within the footprint of the existing UPS equipment and **must** meet all specified Requirements within this IFB. The existing equipment is an Active Power flywheel type rotary UPS system.
- B. The UPS equipment **must** be on-site no later than 6-weeks from the date of purchase.

- C. The UPS **must** include two (2) complete sets of operation manuals to ADH upon delivery of the UPS.
- D. The UPS supplier **must** include as-built drawings of the installation in reproducible pdf format for record.

1.20 COMMISSIONING

- A. Factory start-up service **must** be provided 24-hours per day, 7-days a week and **must** be provided at no extra charge.
 - 1. Factory start-up service **must** include one (1) visit to perform all procedures and tests specified within UPS installation and operation manual.
 - 2. Contractor **shall** also provide the following services:
 - a. Pre-energize visit to inspect installation and provide guidance to installers.
 - b. On-site load test of the temporary UPS Pod prior to connection to the building load.
 - c. On-site test of the final UPS installation prior to connection to the building load.
 - d. Post-start-up visit for alarm notification configuration, operator training, generator testing, and any other issues found.
- B. The Contractor's Field Service personnel **shall** perform the following procedures and tests during the UPS startup:
 - 1. Visual Inspection
 - a. Visually inspect all equipment for signs of damage or foreign materials.
 - b. Observe the type of ventilation, the cleanliness of the room, the use of proper signs, and any other safety related factors.
 - 2. Mechanical Inspection
 - a. Check all the power connections for tightness.
 - b. Check all the control wiring terminations and plugs for tightness or proper seating.
 - 3. Electrical Pre-check
 - a. Check the DC bus for a possible short circuit.
 - b. Check input and Bypass power for proper voltages and phase rotation.
 - c. Check all lamp test functions.
 - 4. Initial UPS Startup
 - a. Verify that all the alarms are in a "go" condition.
 - b. Energize the UPS module and verify the proper DC, walkup, and AC phase on.
 - c. Check the DC link holding voltage, AC output voltages, and output waveforms.
 - d. Check the final DC link voltage and Inverter AC output. Adjust if required.
 - e. Check for the proper synchronization.
 - f. Check for the voltage difference between the Inverter output and the Bypass source.
 - g. Load testing

- i. The UPS equipment **must** be load tested at the ADH location. Testing **must** only be initiated using an external load bank. This testing is not intended to be performed while the UPS is servicing the critical load
- C. Before leaving the site, the field service engineer **must** familiarize ADH with the operation of the UPS equipment. The UPS equipment **must** be available for demonstration of the modes of operation.

1.21 WARRANTY

- A. All components of the UPS **must** be covered by a standard one-year limited factory warranty and service protection package.
 - 1. One-year limited factory warranty **must** include replacement coverage for the UPS parts for a period of 18-months from shipment or 12-months from start-up, whichever occurs sooner.
 - 2. One-year service protection package **must** include 24-hours per day, 7-days per week on-site repair/replacement labor for UPS parts and batteries; 24-hours per day, 7-days per week technical support coverage; and 24-hours per day, 7-days per week remote monitoring service (with monthly reports for UPS and battery performance).
- B. Standard response time **must** be 8-hours from receipt of call. Contractor **shall** also have available, 24-hours per day, 7-days per week on-site service support with guaranteed maximum response time of 2-hours from the ADH facilities at 4815 W. Markham Street, Little Rock, AR 72205.
- C. The Contractor **shall** make available additional preventive maintenance visits as an option for both UPS and battery components.
- D. Contractor **shall** also include an optional start-up service consisting of 24-hours per day, 7-days per week start-up service of UPS and batteries. On-site user training, site audit, installation and commissioning of monitoring service, and validation of one-year limited factory warranty will be performed during the start-up.
- E. Contractor **shall** offer an optional service plan to provide 24-hours per day, 7-days per week on-site coverage (preventive and corrective) for UPS and batteries, guaranteed response time, remote monitoring, web access to service site history, annual site audit, UPS and battery preventive maintenance visit, and discounts on upgrade and modification kits.
- F. Contractor **shall** provide an optional battery service plan to provide parts-and-labor coverage for partial and full battery strings, either with preventive maintenance or replacement coverage.

1.22 DELIVERY: FOB DESTINATION, SHIPPING AND FREIGHT INCLUDED

- A. Contractor **shall** notify James Joiner at 501-680-4693 of shipment date and the tentative delivery date of the UPS equipment.
- B. Contractor **shall** deliver the UPS equipment to the following address:

Arkansas Department of Health
Public Health Lab Receiving Dock
4815 W. Markham Street
Little Rock, AR

SECTION 2 – GENERAL INSTRUCTIONS AND INFORMATION

- **Do not** provide responses to items in this section unless specifically and expressly required.

2.1 ISSUING AGENCY

OSP, as the issuing office, is the sole point of contact regarding the IFB throughout this solicitation process.

2.2 TYPE OF CONTRACT

- A. As a result of this IFB, OSP intends to award a contract to a single Contractor.
- B. The anticipated starting date for any resulting contract is October 5, 2020, except that the actual contract start date may be adjusted unilaterally by the State for up to three calendar months. By submitting a signed bid in response to the IFB, the Prospective Contractor represents and warrants that it will honor its bid as being held open as irrevocable for this period.

2.3 CONTRACTOR SELECTION

- A. Award will be made to the lowest-bidding, responsible Prospective Contractor who meets the qualifications and specifications as outlined in this IFB.

2.4 RESPONSE DOCUMENTS

- A. *Bid Response Packet*
1. The following are Bid Submission Requirements and **must** be submitted in the original *Bid Response Packet*.
 - a. Original signed *Bid Signature Page*. (See *Bid Response Packet*.)
 - i. A signed *Bid Signature Page* included in the *Bid Response Packet*. The signature **must** be that of a person authorized to contractually bind the Prospective Contractor.
 - ii. *Bid Response Packet*, which **must** be in the English language.
 - b. One (1) original hardcopy of the *Official Solicitation Price Sheet*. Pricing **must** be proposed in U.S. dollars and cents.
 - c. A map of the United States showing the location of all field service offices.
 - d. Standard maintenance contract templates.
 2. The following items should be submitted in the original *Bid Response Packet*, preferably on a flash drive and in PDF format.
 - a. One (1) copy of the *Official Solicitation Price Sheet*.
 - b. *EO 98-04 Disclosure Form*.
 - c. Copy of Prospective Contractor's *Equal Opportunity Policy*.
 - d. *Proposed Subcontractors Form*.
 3. **DO NOT** include any other documents or ancillary information, such as a cover letter or promotional/marketing information.

2.5 PRICING

- A. Prospective Contractors **must** include all pricing on the *Official Solicitation Price Sheet* only. If any cost is not identified by the successful Contractor but is subsequently incurred in order to achieve successful operation, the Contractor **must** bear this additional cost. The *Official Solicitation Price Sheet* is provided as a separate electronic file posted with this *Bid Solicitation*.
- B. Table A: In the blue shaded cell on the *Official Solicitation Price Sheet*, Prospective Contractor **shall** enter the price of the UPS equipment.
- C. Table B: In the blue shaded cells on the *Official Solicitation Price Sheet*, Prospective Contractor **shall** enter the price for each option.
 - 1. Pricing entered in Table B are required but will not be used in determining low-cost.
- D. To allow time to review bids, prices **must** be valid for 90-days following the bid opening.
- E. DO NOT submit any ancillary information not related to actual pricing on or with the Solicitation Price Sheet.

2.6 ACCEPTANCE OF REQUIREMENTS

- A. Unless a Prospective Contractor expressly and conspicuously identifies any exception or exceptions to any of the Requirements in the Specifications Section of this IFB by listing them on the *Exceptions Form* (See Bid Response Packet), Prospective Contractor understands its submission of a bid to represent that its bid meets all such Requirements.
- B. A Prospective Contractor's bid may be rejected if the Prospective Contractor takes exception to any Requirements in the Specifications Section(s) of this IFB.

2.7 ADDITIONAL TERMS AND CONDITIONS

- A. Any special terms and conditions included in this solicitation **must** override the Solicitation Terms and Conditions located on the OSP website here:
<https://www.transform.ar.gov/procurement/agencies/forms-and-reporting/>.
- B. Unless a Prospective Contractor expressly and conspicuously identifies any exception or exceptions to any of the terms in the Standard Commodities Contract Template, Prospective Contractor agrees and will adhere to all terms if selected as the successful Contractor. Items identified as non-negotiable may only be modified if the legal requirement is satisfied and approved by the State. The Standard Contract can be viewed on the OSP website here:
<https://www.transform.ar.gov/procurement/agencies/forms-and-reporting/>.

2.8 REFERENCES

- A. UL 1778 (Underwriters Laboratories) – Standard for Uninterruptible Power Supply Equipment. Product safety requirements for the United States.
- B. CSA C22.2 No 107.1(Canadian Standards Association) – Commercial and Industrial Power Supplies. Product safety requirements for Canada.
- C. NEMA PE-1 – (National Electrical Manufacturers Association) – Uninterruptible Power Systems standard.
- D. IEC 62040-1-1 (International Electrotechnical Commission) – Uninterruptible power systems (UPS) – Part 1-1: General and safety requirements for UPS used in operator access areas.

- E. IEC 62040-1-2 (International Electrotechnical Commission) – Uninterruptible power systems (UPS) – Part 1-2: General and safety requirements for UPS used in restricted access locations.
- F. IEC 62040-3 (International Electrotechnical Commission) – Uninterruptible power systems (UPS) – Part 3: Method of specifying the performance and test requirements.
- G. IEEE 587 (ANSI C62.41) Category A & B (International Electrical and Electronics Engineers) – Recommended practices on surge voltages in low voltage power circuits.
- H. CISPR 22: FCC Rules and Regulations 47, Part 15, Class A (Federal Communications Commission) – Radio Frequency Devices (prior to Feb 16, 2006).