

STANDARD BID CONDITIONS

M-11-071H

1. **ACCEPTANCE AND REJECTION:** The Arkansas State Highway and Transportation Department (AHTD) reserves the right to reject any or all bids, to accept bids in whole or in part (unless otherwise indicated by bidder), to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications where efficiency of operation will not be impaired, and to award bids to best serve the interest of the State.
2. **PRICES:** Unless otherwise stated in the Bid Invitation, the following will apply: (1) unit prices shall be bid, (2) prices should be stated in units of quantity specified (feet, each, lbs., etc.), (3) prices must be F.O.B. destination specified in bid, (4) prices must be firm and not subject to escalation, (5) bid must be firm for acceptance for 30 days from bid opening date. In case of errors in extension, unit prices shall govern. Discounts from bid price will not be considered in making awards.
3. **BID BONDS AND PERFORMANCE BONDS:** If required, a **Bid Bond** in the form of a cashier's check, certified check, or surety bond issued by a surety company, in an amount stated in the Bid Invitation, must accompany bid. **Personal and company checks are not acceptable as Bid Bonds.** Failure to submit a Bid Bond as required will cause a bid to be rejected. The Bid Bond will be forfeited as liquidated damages if the successful bidder fails to provide a required Performance Bond within the period stipulated by AHTD or fails to honor their bid. Cashier's checks and certified checks submitted as Bid Bonds will be returned to unsuccessful bidders; surety bonds will be retained. The successful bidder will be required to furnish a **Performance Bond** in an amount stated in the Bid Invitation and in the form of a cashier's check, certified check, or surety bond issued by a surety company, unless otherwise stated in the Bid Invitation, as a guarantee of delivery of goods/services in accordance with the specifications and within the time established in the bid. **Personal and company checks are not acceptable as Performance Bonds.** In some cases, a cashier's check or certified check submitted as a Bid Bond will be held as the Performance Bond of the successful bidder. Cashier's checks or certified checks submitted as Performance Bonds will be refunded shortly after payment has been made to the successful bidder for completion of all terms of the bid; surety bonds will be retained. Surety bonds must be issued by a surety company authorized to do business in Arkansas, and must be signed by a Resident Local Agent licensed by the Arkansas State Insurance Commissioner to represent that surety company. Resident Agent's Power-of-Attorney must accompany the surety bond. Certain bids involving labor will require Performance Bonds in the form of surety bonds only (no checks of any kind allowed). In such cases, the company issuing the surety bond must comply with all stipulations herein and must be named in the U. S. Treasury listing of companies holding Certificates of Authority as acceptable sureties on Federal Bonds and as acceptable reinsuring companies. Any excess between the face amount of the bond and the underwriting limitation of the bonding company shall be protected by reinsurance provided by an acceptable reinsuring company. Annual Bid and Performance Bonds on file with E & P Division must have sufficient unencumbered funds to meet current bonding requirements, or the bid will be rejected, unless the balance is submitted as set forth above, prior to bid opening.
4. **TAXES:** The AHTD is not exempt from Arkansas State Sales and Use Taxes, or local option city/county sales taxes, when applicable, and bidders are responsible to the State Revenue Department for such taxes. These taxes should not be included in bid prices, but where required by law, will be paid by the AHTD as an addition thereto, and should be added to the billing to the AHTD. The AHTD is exempt from Federal Excise Taxes on all commodities except motor fuels; and excise taxes should not be included in bid prices except for motor fuels. Where applicable, tax exemption certificates will be furnished by the AHTD.
5. **"ALL OR NONE" BIDS:** Bidders who wish to bid "All or None" on two or more items shall so stipulate on the face of bid sheet; otherwise, bid may be awarded on an individual item basis.
6. **SPECIFICATIONS:** Complete specifications should be attached for any substitution or alternate offered, or where amplification is necessary. Bidder's name must be placed on all attachments to the bid.
7. **EXCEPTIONS TO SPECIFICATIONS:** Any exceptions to the bid specifications must be stated in the bid. Any exceptions to manufacturer's published literature must be stated in the bid, or it will be assumed that bidder is bidding exactly as stated in the literature.
8. **BRAND NAME REFERENCES:** All brand name references in bid specifications refer to that commodity or its equivalent, unless otherwise stated in Bid Invitation. Bidder should state brand or trade name of item being bid, if such name exists.
9. **FREIGHT:** All freight charges should be included in bid price. Any change in common carrier rates authorized by the Interstate Commerce Commission will be adjusted if such change occurs after the bid opening date. Receipted common carrier bills that reflect ICC authorized rate changes must be furnished.
10. **SAMPLES, LITERATURE, DEMONSTRATIONS:** Samples and technical literature must be provided free of any charge within 14 days of AHTD request, and free demonstrations within 30 days, unless AHTD extends time. Failure to provide as requested within this period may cause bid to be rejected. Samples, literature and demonstrations must be substantially the same as the item(s) being bid, unless otherwise agreed to by AHTD. Samples that are not destroyed will be returned upon request at bidders expense. Samples from successful bidders may be retained for comparison with items actually furnished.
11. **GUARANTY:** Unless otherwise indicated in Bid Invitation, it is understood and agreed that any item offered or shipped on this bid shall be newly manufactured, latest model and design, and in first class condition; and that all containers shall be new, suitable for storage or shipment and in compliance with all applicable laws relating to construction, packaging, labeling and registration.
12. **BACKORDERS OR DELAY IN DELIVERY:** Backorders or failure to deliver within the time required may constitute default. Vendor must give written notice to the AHTD, as soon as possible, of the reason for any delay and the expected delivery date. The AHTD has the right to extend delivery if reasons appear valid. If reason or delivery date is not acceptable, vendor is in default.
13. **DEFAULT:** All commodities furnished will be subject to inspection and acceptance by AHTD after delivery. Default in promised delivery or failure to meet specifications authorizes the AHTD to cancel award or any portion of same, to reasonably purchase commodities or services elsewhere and to charge full increase, if any, in cost and handling to defaulting vendor. Applicable bonds may be forfeited.
14. **ETHICS:** *"It shall be a breach of ethical standards for a person to be retained, or to retain a person, to solicit or secure a State contract upon an agreement of understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the contractor for the purpose of securing business."* (Arkansas Code, Annotated, Section 19-11-708).

**ARKANSAS STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT**

NOTICE OF NONDISCRIMINATION

The Arkansas State Highway and Transportation (Department) complies with the Americans with Disabilities Act of 1990, Section 504 of the Rehabilitation Act of 1973, Title VI of the Civil Rights Act of 1964 and other federal equal opportunity laws and therefore does not discriminate on the basis of race, sex, color, age, national origin, religion or disability, in admission or access to and treatment in Department programs and activities, as well as the Department's hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the Department's nondiscrimination policies may be directed to James B. Moore, Jr., Section Head - EEO/DBE (ADA/504/Title VI Coordinator), P. O. Box 2261, Little Rock, AR 72203, (501) 569-2298, (Voice/TTY 711), or the following email address:

james.moore@arkansashighways.com.

This notice is available from the ADA/504/Title VI Coordinator in large print, on audiotape and in Braille.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 11-64-1064

FOR

SOLAR POWERED PORTABLE TRAFFIC SIGNAL SYSTEM
TRAILER MOUNTED

1. **General:** This specification is intended to cover a trailer mounted, self-contained, full size, battery operated and solar rechargeable traffic signal system to be used for control of motor vehicle traffic in single lane two-way traffic locations. The portable traffic signal system will be used to alert drivers of the presence of work zones or of a hazard ahead, or to temporarily supplement in-place traffic signals under repair.
 - A. One portable traffic signal system, as set forth in this specification, shall consist of two (2) trailer mounted traffic signal units (one lead (master) and one companion (slave) unit). The signal heads shall be standard traffic heads with 12" diameter red, yellow and green LED lamps. The portable traffic signal system shall comply with MUTCD requirements and with applicable NEMA requirements.
 - B. Each of the trailer mounted traffic signal units of the system shall consist of a towable trailer, signal mast and horizontal mast arm (boom), two (2) signal heads (one mounted on the horizontal boom and one mounted on the signal mast), a solar panel array, a battery case with charger, a controller cabinet, a solid state digital traffic signal controller producing signals in accordance with MUTCD requirements, and radio inter-connectivity.
 - (1) A minimum of one remote radio control shall be provided for pilot car operation or remote signal operation.
 - (2) Microwave sensor/s shall be provided for vehicle detection when using the vehicle actuation mode.
2. **Power Supply:** Primary power shall be solar based. Each unit shall be designed to operate through the use of a 12 volt DC battery bank of sufficient capacity to power the unit for a minimum of eighteen (18) days with no solar assist (no sun operation with 100% battery bank charge @ 78° F, 24 hours per day). The battery bank shall be kept charged by means of a 12 volt DC solar generator incorporating one or more photovoltaic solar panels. The solar panel array shall produce sufficient power to enable the system to operate continuously, and be self-sufficient under optimum sun conditions (May through October). Additionally, the battery bank shall contain an auxiliary battery charger allowing batteries to be recharged within 72 hours utilizing existing commercial 120 volt AC electrical service in the event that sunlight is insufficient for the solar panels to keep the batteries charged. The batteries shall be regulated and protected by solid state electronics. A low voltage disconnect shall be incorporated to protect the battery bank from over discharge. Upper end float regulation shall be incorporated to prevent over charging by the solar array or the on-board battery charger. The battery bank shall be equipped with a volt meter, or similar device, to indicate the current state of battery charge. An ammeter or charge indicator shall be provided to monitor both the solar array and AC charge rates. Batteries shall be housed in a lockable, ventilated enclosure. Design of the enclosure shall allow batteries to be easily removed and replaced.
3. **Controller:** The controller shall be a minimum two-phase electronic unit housed in a weatherproof, rust resistant box, with a keyed lock and a light for night operation. Shall have a keypad and LCD display legible in full sunlight. The traffic signal controller shall also:
 - A. Allow user input times, defaults times, status of companion unit, and condition of electrical system.
 - B. Allow user program inputs for maximum and minimum times for yellow, red, and green for both lead (master) and companion (slave) units.
 - C. Allow user to program green recall or green extended time, delay time on vehicle detection, and red or green rest on both lead (master) and companion (slave) units.
 - D. Accept inputs from either a vehicle detector or from a remote radio control unit for manual operation.
 - E. Allow user to select conflict mode of flash red or steady all red in the event a conflict is detected by the conflict monitor.
4. **Programming Modes:** Each Portable Traffic Signal shall accept the following minimum user program modes:
 - A. **Red Time:** Programmable from 1 second to 250 seconds in not more than 1 second increments for each phase.
 - B. **Green Time:** Programmable from 0 seconds to 250 seconds in not more than 1 second increments for each phase.
 - C. **Yellow Time:** Programmable from 3 seconds to 8 seconds in not more than 1 second increments for each phase.
 - D. **Extend Time (for Actuated Operation):** Programmable from 0 seconds to 120 seconds in not more than 1 second intervals for each phase.

- E. User Programmable Modes: Each unit shall have the following modes that are programmable by the user:
- (1) Off: All lights are off.
 - (2) Flash Yellow: The yellow lights on all approaches flash at 60 ± 5 times per minute.
 - (3) Flash Red: The red lights on all approaches flash at 60 ± 5 times per minute.
 - (4) Continuous Red: The red lights on all approaches are displayed continuously.
5. Operating Modes: Each unit shall operate in numerous modes, and all hardware, software, etc. required for operation of the system in the specified modes shall be provided. The following operating modes shall be included as a minimum:
- A. Fixed time mode with user preset times for red, yellow and green.
 - B. Conflict mode selected by user of steady all red or flash red.
 - C. Actuation mode by which vehicles are detected by means of a microwave sensor and controller programmed to accept logic for extended green time and recall green times, based upon vehicle detection.
 - D. Remote control mode in which the system will operate in accordance with information inputs received from a manual radio remote control unit.
6. Manual Programming:
- A. Each unit shall be equipped with a programmable controller that provides a minimum two phase operation, actuated or non-actuated, steady all red mode, all red flash, or all yellow flash.
 - B. Each unit shall provide all red flash or steady all red mode upon loss of communication or detection of a malfunction, such as the display of conflicting movements, display of multiple color indications on one approach, or loss of both red, yellow or green displays on an approach.
7. Manual Switch: Each unit shall have a manual switch which is independent of the programming controls. This switch shall have off, on, flash red, flash yellow and manual control functions.
8. Radio Interconnectivity: Portable traffic signals operated in the fixed time mode may be operated independently, free of radio communication. When more than one trailer mounted traffic signal is deployed, each unit shall be connected by a radio link-up capable of maintaining communication in all types of terrain without direct line of sight. If radio communication is interrupted, conflict mode operation shall be implemented for both companion (slave) and lead (master) units.
9. Program Protection: There shall be no loss of program data when battery is changed or removed. The unit shall not cause or be affected by Radio Frequency Interference (RFI).
10. Conflict Monitor: Each unit shall incorporate a conflict monitor function which will detect the presence of conflicting signal indications and/or the absence of proper voltages. Shall default to a programmed conflict mode if the battery voltage drops below 11.6 volts. It shall also be capable of monitoring proper performance of the controller and also within itself.
11. Self Diagnosis: The operating system shall be equipped with diagnostic capabilities in the event of a system default. The system shall have the capability of identifying the default in a manner that will expedite the return to full operational mode.
12. Signal Head Clearance: The minimum clearance of the horizontal boom mounted traffic signal shall be 17' from the bottom of the signal head to the road surface. The horizontal boom and light shall be capable of 180° swing to allow two (2) trailer mounted portable traffic signal units to be positioned on the same side of the work zone. The second signal head (to be mounted on the vertical signal mast) shall have a minimum clearance of 8' from the bottom of the signal head to the road surface.
- A. A locking device shall be provided to lock the signal head horizontal boom in both the operating and stowed positions.
 - B. The signal head horizontal boom shall be supported when in the stowed position.
13. Deployment: Both set-up and take-down of each trailer mounted traffic signal unit shall require no more than one (1) person. All required actions for set-up and take-down shall be performed from the ground or by stepping onto the trailer to a maximum height of 30" above the ground. Safety features shall be incorporated to prevent accidental "fall" of mast and boom assembly when lowering. Set-up and take-down of the mast and boom assembly shall be accomplished by 12 volt DC electric actuators and/or through battery assisted hydraulics composed of an electric-hydraulic power pack consisting as a minimum of a DC motor, pump and reservoir, along with the necessary actuators and controls.

14. **Trailer:** Each trailer mounted traffic signal unit shall be mounted on a two (2) wheel trailer equipped with spring type or torsion type suspension, as regularly furnished by manufacturer for transporting traffic signals and equipment necessary for operation. Shall have steel disc wheels equipped with pneumatic tires with load carrying capacity to handle unit at highway speeds. Shall have towing extension with jack stand for leveling of unit. Shall be equipped with four (4) leveling jacks (one jack on each corner). Shall have safety chains with hooks and a 2" minimum ball type hitch for attaching to towing vehicle. Shall have combination tail lights, stop lights and turn signals. A trailer wiring connector complete with six pole round trailer connector shall be provided.
 - A. The portable traffic signal system shall be designed to allow one (1) vehicle to legally tow the two (2) trailer units in tandem and the hardware, wiring, etc. required to accomplish this shall be furnished.
 - B. Trailer mounted traffic signal units having a curb weight of 3,000 pounds or more (single unit, uncoupled) shall be equipped with electric brakes acting on all wheels.
15. **Dimensions:**
 - A. **Width:** 8' 3", maximum.
 - B. **Length:** 15', maximum per unit. 30' maximum with tandem connection.
 - C. **Operating Height:** 22', maximum.
 - D. **Transport Height:** 8', maximum.
16. **Environmental Conditions:**
 - A. **Temperature Range:**
 - (1) **Non-Operating:** -30° F. to 185° F.
 - (2) **Operating:** -30° F to 165° F.
 - B. **Vibration:** The unit shall survive all vibration in any axis normally encountered during transportation.
 - C. **Humidity:** The unit shall be capable of operating in any humidity up to 100%.
 - D. **Wind:** The unit shall be capable of operating in wind up to 80 mph.
17. Vehicle traffic control signal heads shall conform to the following specifications:
 - A. Federal Manual on Uniform Traffic Control Devices (MUTCD)
 - B. Vehicle Traffic Control Signal Head Standard (Institute of Transportation Engineers).
 - C. Standard Publication No. TS1 NEMA (National Electrical Manufacturers Association).
18. **Interchangeability:** When multiple units are purchased, all mechanical and electrical components shall be interchangeable with each other.
19. **Weight:** The total weight of each Trailer Mounted Portable Traffic Signal unit, including batteries and solar panels, shall not exceed 5,000 pounds.
20. **Paint:** Each signal head shall be a polycarbonate or aluminum head approved under ITE specification "Vehicle Traffic Control Signal Heads". All exterior metal surfaces of the trailer, power supply housing, supports, etc. shall be cleaned, primed and finished with Arkansas State Highway & Transportation Department Omaha Orange (equivalent to Sherwin-Williams F1E 4143 Kem Transport Synthetic Enamel).
21. **Manuals:** Successful bidder shall furnish Operator's Manual, Parts Book, Troubleshooting Guide and Wiring Diagrams with each portable traffic signal system delivered and one (1) copy each of Operator's Manual, Parts Book, Troubleshooting Guide and Wiring Diagrams to Equipment and Procurement Division, P.O. Box 2261, Little Rock, AR 72203 (11302 W. Baseline Road, Little Rock, AR 72209, if shipping UPS, FedEx, etc.).

The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD ROM, Floppy Disks, etc.) in lieu of printed manuals.
22. **Training:** A qualified representative shall provide a minimum of one (1) day of instruction to AHTD personnel in the operation of units purchased under this specification.
23. **Warranty:** Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
 - A. Warranty shall include all parts, labor and transportation costs to the location of equipment.
 - B. If equipment cannot be repaired on location, warranty shall include cost of transport to the facility where the repair work will be done.

- C. It will be the responsibility of the successful bidder to insure that repairs are completed in a timely manner.
- D. If any warranty literature submitted with the bid conflicts with AHTD warranty requirements, the conflict(s) shall be specifically noted, corrected and included with the bid or the conflict(s) will be considered an exception to warranty specifications and the bid rejected.
- E. Recent prior failure to provide warranty-work, parts, replacement parts or service, in a timely manner, for equipment from the same manufacturer or dealer shall be grounds for the rejection of any submitted bid, or for the denial of any otherwise qualified low bidder, whether such failure is attributable to the manufacturer or the dealer of the equipment. For the purposes of this paragraph "timely manner" means a period of time not exceeding thirty (30) calendar days to provide requested warranty-work, parts, replacement parts, or service. For the purposes of this paragraph "manufacturer" means the original manufacturer of the equipment and its successor or successors, regardless of number, and whether acquired by sale, merger, or otherwise. For the purposes of this paragraph "replacement part" means a part redesigned by a manufacturer to correct a design or engineering defect and which replacement part is capable of providing dependable performance in normal operation conditions for its normal service life without failure. Such bid or bids may be rejected by the Department until such failure or failures have been remedied to the satisfaction of the Department and until such manufacturer or dealer is providing such warranty-work, parts, replacement parts, and service in a timely manner.
24. Current Model: Units furnished under this specification shall be the latest improved model in current production, as offered to commercial trade, built for the U.S. market, and shall be of quality workmanship and material. Machines manufactured for foreign markets will not be accepted. All equipment offered under this specification shall be new. Used, reconditioned, shopworn, demonstrator, prototype or discontinued models are not acceptable. Manufacturers of the units supplied must have been in the business of producing operational units for at least two years and must have recently sold similar units to domestic governmental agencies. The model furnished must have been in production for a minimum of one year, or be the latest version of a previous model. Bidder/s may be required to submit documentation substantiating the aforementioned requirements. A list of user references may also be required.
25. Units shall be assembled, adjusted and made ready for continuous operation at time of delivery.
All parts, accessories and tools necessary for satisfactory operation of the portable traffic signal system shall be furnished whether or not they are specifically mentioned in this specification (including standard equipment as regularly furnished by manufacturer as shown on printed literature and specifications - unless specifically excluded by this specification).
26. Parts Inventory & Service Facilities: The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
27. Demonstration: The Arkansas State Highway & Transportation Department reserves the right to require a demonstration, under actual working conditions, of equipment bid under this specification before award is made. The demonstration would be performed (free of any charge) by the bidder or an authorized representative at a mutually acceptable location. If requested, the bidder should be prepared to demonstrate the equipment within thirty (30) days after notification. Failure of the bidder to perform a satisfactory demonstration within the specified time may be grounds for rejection of the bid.
28. Cooperative Purchasing: Other tax-supported entities* in Arkansas (cities, counties, state agencies, school districts, etc.) may purchase from this Contract on an individual basis under the same specifications and conditions, and at the pricing set forth by each vendor, all at the discretion of each vendor in each case. Prices could be reduced by a vendor for minor alterations in conditions (changing order quantities, deleting options, etc.) as agreed by both parties, but could not be raised above the contract bid price except for any additional freight charges. Vendors would not be required to sell to any such entity under this contract, and those entities would not be obligated to purchase from the contract.
Each entity wishing to purchase from the contract must make contact directly with the appropriate vendor(s). The Highway Department shall remain "out of the loop" for such transactions: all contact, orders, invoices, payments, etc. regarding such transactions must take place exclusively between the tax-supported entity and the vendor. The Department shall be held harmless of any and all liability arising from such transactions.

* Tax-supported entities are defined as those receiving more than half of total funding from appropriated tax funds.