



# CONTRACT DATA SHEET

Monroe County Division of Purchasing  
200 County Office Building, Rochester NY 14614

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**TITLE:** Traffic Signal Controller

**CONTRACT #:** 0509-07

**CONTRACT DATES:** 6/14/07-5/31/11

**BUYER:** Sharon A. Berndt  
**PHONE:** 585/753-1110  
**FAX:** 585/753-1104

**VENDOR(S):** ASKCA Inc.  
410 W. First Ave.  
Parkesburg, PA 19365  
  
ph: 610-857-2530  
fax: 610-857-3293

## TERMS AND CONDITIONS

- BID ITEM:** TRAFFIC SIGNAL CONTROLLER
- FOR:** DEPARTMENT OF TRANSPORTATION
- DEPARTMENT CONTACT:** Ray Elliott, (585) 753-7769
- DUPLICATE COPIES:** PLEASE SUBMIT YOUR BID IN DUPLICATE; THE ORIGINAL AND ONE (1) COPY.
- BID INFORMATION:** At the time of bid, the bidder shall supply detailed specifications covering the item(s) contained herein and shall clearly indicate any areas in which item or items offered do not fully comply with the specifications contained herein.
- SUBMITTAL OF FORMAL PROPOSAL:** Bid proposal must be legible and submitted in the original form, bearing an original signature. **COPIES AND FACSIMILES ARE NOT ACCEPTABLE.**
- All bidders must submit proof that they have obtained the required **Worker's Compensation** and **disability benefits** coverage or proof that they are exempt.
- SPECIFICATION ALTERATIONS:** Specifications will be construed to be complete and be considered the entire description of the goods or services upon which Monroe County is now seeking bids. **Only formal written addenda can materially alter this set of specifications.** No verbal statement made by a Monroe County employee or anyone else is binding nor shall such statement be considered an official part of this public bid proposal.
- QUANTITIES:** The quantities listed on are the estimated annual requirements and should not be construed to represent either maximum or minimum quantities to be ordered during the contract term. **Estimates are based upon actual annual usage for 2006 by County departments only.**
- BRAND REFERENCE:** References to a manufacturer's product by brand name or number are done solely to establish the minimum quality and performance characteristics required. Bidders may submit bids on alternates, but must attach two (2) copies of manufacturer specifications for any alternate at the time of the bid. Further, the bidder must demonstrate that the alternate proposed has a sufficient operating track record to show the equipment will perform per the specified brand. The acceptance of a bidder's alternate rests solely with Monroe County.
- QUALIFIED BIDDER:** Each bidder must be prepared to present satisfactory proof of his capacity and ability to perform this contract. Such proof may include, but is not limited to, an inspection of the bidder's facilities and equipment, financial statements, references and performance of similar contracts. **The Purchasing Manager reserves the right to reject any bid where the bidder cannot satisfy the County as to his ability to perform.** Monroe County reserves the right to reject any and all bids if the Monroe County Purchasing Manager deems said action to be in the best interests of Monroe County.

**METHOD OF  
AWARD:**

Monroe County intends to award the bid to the lowest responsive and responsible bidder, based on the **TOTAL**. **Bidder must bid on all items in order to be considered.** The County reserves the right to reject any and all bids if the Purchasing Manager deems said action to be in the best interest of the County.

**CONTRACT TERM:**

Contract will start with the date of the contract award and run through **May 31, 2008**, with the option to renew the contract up to four (4) additional twelve (12) month periods with the mutual consent of both parties.

**PRICE CHANGES:**

Price changes may be proposed by either party no later than forty-five (45) days prior to contract extension, based upon manufacturer price changes which must be supported with documentation. Should price changes not be acceptable to both parties, the contract will not be extended. Prices may change only at the time of extension.

**MINIMUM ORDER:**

No minimum order is specified for this contract. Agencies must be able to order as needed. **Political subdivisions and others authorized by law may participate in this contract.**

**DELIVERY:**

All deliveries to be F.O.B. Monroe County to agency as specified by a Purchase Order. Delivery costs must be built into the unit prices bid. Deliveries must be made within **two (2) weeks** after receipt of purchase order number. The County reserves the right to terminate the contract in the event the specified delivery time is not met.

**PURCHASE ORDER  
ISSUANCE:**

Delivery of services may be directed by the receipt of a Purchase Order only. **Items that are not part of this bid will not be paid for by Monroe County.** As to all purchase orders issued by Monroe County, exceptions may only be authorized, in writing, by the Purchasing Manager or his authorized agent prior to delivery.

**BILLING  
PROCEDURE:**

All invoices for items sold any authorized agency as a result of this contract must be billed in the following manner: Purchase Order #, Quantity, Description of Item Purchased, BP#, Item #, Extension and Total. **ALL INVOICES MUST BE MARKED WITH THE PURCHASE ORDER NUMBER. INVOICES WITHOUT THIS INFORMATION WILL NOT BE PROCESSED FOR PAYMENT.**

**WARRANTY/  
GUARANTEE:**

All warranties by manufacturer shall apply. Bidder shall, as part of its proposal, furnish its warranty/guarantee for all goods/services to be furnished hereunder. As a minimum, Bidder shall warrant all goods for a period of one (1) year from date of acceptance. Bidder shall be obligated to repair or replace all defects in material or workmanship, which are discovered or exist during said period. All labor, parts and transportation shall be at Bidder's expense.

**UNCONTEMPLATED  
PURCHASES:**

Monroe County reserves the right to request separate bids for such quantities of items on this contract that may be best procured via separate public bid offering and to otherwise act in furthering its own best interests.

**SUBCONTRACT:**

The Contractor shall not subcontract any work without first obtaining the written consent of the Monroe County Purchasing Manager.

**RELATED ITEMS:**

The County reserves the right to add miscellaneous related items to this contract during the contract term upon agreement by both parties as to the price. Approval must be given in writing by the Purchasing Manager or his Designee.

**REPORT OF  
PURCHASE:**

The Contractor must, upon request, provide the County Purchasing Manager with detailed information showing how much of each item was delivered, to any and all agencies under this contract. This includes deliveries to not only the County but any other municipality or agency which orders from this contract.

**OTHER AGENCIES:**

The Contractor(s) **must** honor the prices, terms and conditions of this contract with political subdivisions or districts located in whole or in part within Monroe County. In addition, the contractor **may**, but is not required to, extend the prices, terms and conditions of this contract to any political subdivision or district located in New York State. Usage of this contract by any of these other political subdivisions or districts will have to be coordinated between that subdivision or district and the contractor. Orders placed against this contract between any subdivision or district will be contracts solely between the Contractor(s) and those entities. Monroe County will not be responsible for, nor will it have any liability or other obligation for, such contract between the Contractor(s) and any third party.

**INDEMNIFICATION:**

The Contractor agrees to defend, indemnify and save harmless the County, its officers, agents, servants and employees from and against any and all liability, damages, costs or expenses, causes of action, suits, judgments, losses and claims of every name not described, including attorneys' fees and disbursements, brought against the County which may arise, be sustained, or occasioned directly or indirectly by any person, firm or corporation arising out of or resulting from the performance of the services by the Contractor, arising from any act, omission or negligence of the Contractor, its agents and employees, or arising from any breach or default by the Contractor under this Agreement. Nothing herein is intended to relieve the County from its own negligence or misfeasance or to assume any such liability for the County by the Contractor.

**DESCRIPTION**

The bidder shall furnish a completely functional NEMA TS 2 Type 2 traffic controller which will comply with all Standards as stated in “NEMA STANDARDS PUBLICATIONS NO. TS 2-2003 (or latest revision)” for a NEMA TS 2 Type 2 controller (which will contain the MSA, B and C connectors in common use with NEMA TS 1 equipment). Additionally the Traffic controllers provided must fully comply with the “County of Monroe Equipment Specifications for Electronic Equipment” attached.

To insure downward compatibility with existing cabinets and systems, the controller will also contain the following Non-NEMA specified connectors:

- 1) One circular 63 pin MSD connector (AMP 206455-2) with the following pin out:

<b><u>Pin #</u></b>	<b><u>Function</u></b>
1	Preemptor #5 Active
2	System command offset bit 3 output
3	Split Demand
4	System command coordinated sync input
5	Cross Street Sync
6	System Command Cycle bit 3 Input
7	Pin Removed
8	NIC special Function 2
9	System Command Split Bit 2 Input/External address bit 4
10	System command offset bit 2 Input/External address bit 1
11	NIC special function 4/spare output 2
12	System command offset bit 1 Input/external address bit 0
13	Expanded Detector #8
14	Time Reset
15	Preemptor Flash Control
16	System Command Split Bit 1 Input/External address bit 3
17	Expanded Detector #1
18	Expanded Detector #4
19	Test Input E
20	Test Input C
21	System command Split bit 1 output
22	Preemptor #3 Active
23	Preemptor #1 Active
24	NIC special Function 3/Spare output 1
25	System Command Cycle bit 1 Input
26	Coordination Free
27	Coordination Status
28	NIC Special Function 1
29	System Command Cycle bit 3 output
30	Expanded Detector # 5
31	Expanded Detector # 3
32	Preemptor #2 Active
33	System command offset bit 1 output
34	Preemptor #4 Active
35	System Command Cycle bit 2 Input
36	System command offset bit 3 Input/external address bit 2
37	Test input D
38	Dual Coordination
39	Expanded Detector #6
40	Expanded Detector #7
41	Spare output 4
42	System command offset bit 2 output
43	System Command Cycle bit 1 output
44	System Command Cycle bit 2 output
45	Spare Output 5
46	System command Split bit 2 output
47	Expanded Detector # 2
48	Preemptor # 6 Active

49	Preemptor Call # 2
50	Preemptor Call #3/ buss preemptor #1
51	Spare Output 6
52	Spare Output 7
53	System Command Sync Out
54	Spare output 8
55	Preemptor Call #4/ buss preemptor #2
56	Preemptor Call #5/ buss preemptor #3
57	Preemptor Call # 1
58	CMU Stop Time (Conflict Flash)
59	Preemptor CMU Interlock
60	Automatic Flash
61	Preemptor Call #6/ buss preemptor #4
62	Not Defined
63	Not Defined

2) A 25 pin Male standard D Type, Two (2) Channel Telemetry Connector with the following pin out:

<b><u>Pin#</u></b>	<b><u>Function</u></b>
1	System Detector C2
2	System Detector A2
3	System Detector A1
4	System Detector C1
5	System Detector B1
6	TLM Spare 2
7	System Detector D1
8	System Detector D2
9	TLM Special Function 1
10	TLM Special Function 3
11	Pin Removed
12	Transmit 1
13	Transmit 2
14	TLM Spare 1
15	External Address Enable
16	Door Open (maintenance required)
17	Alarm 1
18	Local Flash
19	System Detector B2
20	Conflict Flash
21	Alarm 2
22	TLM Special Function 2
23	TLM Special Function 4
24	Receive 1
25	Receive 2

**MATERIALS**

**FUNCTIONAL REQUIREMENTS**

SOFTWARE REQUIREMENTS - This controller will contain software that will provide all the functionality required to operate in full compliance to the latest NEMA TS-2 Specifications. This software must also be compatible with NTCIP “National Transportation Communications for ITS Protocol Level 1-B.

The software must additionally be compatible with our current Transcore Series 2000 and Econolite Aries Systems” (although we understand that some minimal upgrades or adjustments to our current system software may be required to allow this). The software will also include the capability of discriminating between high and low priority preemption inputs from our 3M Opticom detectors. The software will be able to process the low priority input giving it a lower “Transit Signal Priority” allowing it to give extra time to the phase being preempted in a manner that will not disrupt the normal coordination of the intersection.

The software must additionally be able to automatically adjust for daylight savings time changes, using the dates specified for daylight savings time at the time of purchase.

**SOFTWARE UPGRADES** - The bidder will be responsible for ensuring the County of Monroe is notified of all applicable software upgrades and upon request, provide a copy of the updated software in a data file format. Controller firmware must be stored in Flash Ram or some other type of data storage medium within the Controller that does not require the removal of and reprogramming of E-proms in an external programmer to upgrade controller firmware. All PC based software utilities required to perform Firmware upgrades will be provided in a format that is compatible with Windows 2000, or XP compatible PCs. Licensing to install the required software on up to ten Monroe County owned PCs will also be provided. The County of Monroe respects the controller manufacturer's right to safeguard their software and hardware development investment and agrees not to share the software or other provided materials with any other company or agency without prior written consent from the Controller Manufacturer.

**KEYPAD ENTRY** - Visual or Audio feedback will be given that data entered through the Keypad was accepted by the controller and entered into controller memory.

**MONROE COUNTY SYSTEMS COMPATIBILITY TESTS** - Within ten (10) working days of notification by Monroe County of Low bidder status, the bidder shall furnish Monroe County with a controller to inspect and test for compliance with the terms of this specification. This inspection will be performed by the County of Monroe Traffic Signal Electronics Foreman and his staff. The bidder is allowed and encouraged to be present during this inspection. Equipment software modifications if required to obtain compatibility will be allowed, but the testing must be completed to the satisfaction of the County of Monroe within 45 days of notification of low bidder status.

Other items to be supplied:

Test results of each controller's individual tests, as well as verification that all controllers are in compliance with all environmental requirements as specified in the most recent NEMA specification for Traffic Control Equipment.

### **2 YEAR EXTENDED WARRANTY**

The entire controller assembly shall have a warranty for two (2) years (commencing the day shipment is received at Monroe County's Facility) against defects in manufacturing and materials. This warranty will include the premature failure of electronic or mechanical components not caused by lightning, motor vehicle accidents, improper installation or improper operation or other catastrophic causes.

### **MANUALS AND DOCUMENTATION**

One set of the most current manuals and documentation will be provided with each controller. The manuals will contain complete installation and programming instructions, as well as all information required to maintain the units. This will include (but not be limited to) all Schematics, parts layouts and parts lists required to perform non-warranty related repairs to the controllers provided.

### **BASIS OF PAYMENT**

Payment for each controller will be made for the measured quantity at the contract price for each. The unit price shall be full compensation for furnishing, transporting, labor, tools, materials, equipment and incidentals necessary.

**ITEM I01.999020**  
**SPECIAL REQUIREMENTS**  
**SECTION 6- COUNTY OF MONROE SPECIFICATIONS-ELECTRONIC EQUIPMENT**

**6.0 INTRODUCTION**

The equipment specifications included in Section 6 are intended to supplement those provided in the New York State Standard Specifications for Construction and Materials. Should conflicts exist, then the provisions of these specifications shall take precedence. Should the detailed specifications herein conflict with the general specification (paragraph 6.1) then the provisions of the detailed specifications shall take precedence. All work completed under this project is to be in full conformance with the current NEMA Standard Specifications unless amended by these specifications.

All equipment supplied under this project shall require provision of manufacturer's certification that the product conforms to these specifications or is of equivalent quality as approved by Monroe County, in addition to the other acceptance requirements described herein.

**6.0.1 GUARANTEE**

A minimum guarantee of one (1) year, except where modified in individual equipment specifications (i.e. Controllers and monitors which have a multi-year period specified) starting from date of delivery and acceptance of equipment after a review of test documents and testing at Traffic Engineering. Agency inventory and use records shall be accepted for determination involving contractor's liability within specified guarantee period.

**6.0.2 REPAIR UNDER GUARANTEE**

A printed circuit board may be factory repaired not more than three (3) times during the guarantee period. A fourth failure shall result in replacement of the printed wiring board with a new one whose guarantee period shall be equivalent to the remainder of the guarantee period of the original board. Turn-around time on repairs should not exceed more than 30 Days from the time the unit is received from the County of Monroe, by the unit manufacturer or his appointed repair facility.

Any printed circuit board whose lands, pads or through-hole plating becomes damaged during factory repair shall be replaced with a new board. The guarantee period on the new board shall be equivalent to the remainder of the guarantee of the original board.

Factory repairs shall be described and reported in detail.

Agency performance records of equipment shall be accepted for determinations involving questions concerning but not limited to the number of factory repairs rendered to a given unit.

**6.0.3 MANUALS**

Each unit item supplied shall be accompanied by one (1) set of manuals of operation and maintenance, until a total of ten (20) sets of manuals are received. Each shall contain the following:

Operation and Maintenance Manual(s)

- a) General Description
- b) General Specification
- c) General Characteristics
- d) Installation
- e) Adjustments
- f) Theory of operation

- (1) Functional description (include block diagram)
- (2) Detailed circuit description
- g) Maintenance
  - (1) Preventive Maintenance
  - (2) Field Trouble Analysis
  - (3) Bench Trouble Analysis and diagnostics
  - (4) Troubleshooting Analysis Chart
  - (5) Voltage measurements and waveforms
  - (6) Alignment or adjustment procedures
- h) Parts list (to include circuit and board designations, component manufacturer and manufacturer's part numbers and the manufacturer and part number of any known authorized substitutions for the original part).
- i) Electrical Interconnection Drawing
- j) Complete schematic drawings and circuit board layout drawings (showing locations and identification of each component). Drawings should be legible and clear.
- k) Manual Updates: copies of updates and revisions to the relevant manuals shall be provided as they become available.

## 6.1 GENERAL EQUIPMENT SPECIFICATIONS

All electronic equipment provided for field installation shall comply with NEMA environmental standards as set forth in "NEMA Standards Publication No. TS 2-1992 (or latest revision) for Traffic Controller Assemblies, Section 2". The following defines the general requirements that shall apply to all equipment unless the requirement is specifically deleted or amended in the section defining the specific requirements for a particular type of equipment. In cases where design tests are specified herein, if the tests were performed prior to submission of the bid to Monroe County documentation shall be provided indicating that such tests have been satisfactorily completed. In this case additional factory acceptance tests may or may not be required at the discretion of the County of Monroe.

### 6.1.1 DEFINITION OF SPECIAL TERMS

**Procuring Agency:** The term "procuring agency" is used in this Specification to mean the maintaining agency or its authorized representative.

**Contractor:** The term "Contractor" is used to mean the party that is responsible for furnishing the various items of equipment.

### 6.1.2 PARTS AND MATERIALS

In the selection of parts and materials, fulfillment of the requirements of this specification shall be of prime consideration. The equipment design shall utilize the latest available techniques, minimum number of different parts, sub-assemblies, circuits, cards and/or modules, to maximize equipment reliability.

#### 6.1.2.1 ELECTRONIC COMPONENTS

Top quality high-reliability industrial components shall be used.

No component shall be of such design, fabrication, nomenclature or other identification as to preclude the purchase of said components from any wholesale electronics distributor or from the component manufacturer. When integrated circuits are provided of such special design that they preclude the purchase of identical components from any wholesale electronics distributor or component manufacturer, the equipment manufacturer will agree to provide these parts as requisitioned by the procuring agency in

the quantities specified, for a period of 5 years from time of purchase. All circuits shall be designed for reliability and maximum performance. Components shall be arranged so they are easily accessible for testing and maintenance. All components, such as resistors, capacitors, diodes, transistors and integrated circuits, shall be individually replaceable and should be clearly marked with manufacturer's part numbers or appropriate color codes for easy identification. Standard markings shall be used to identify component polarity, pin numbering, transistor emitter/collector identified, etc.

The electronic circuitry shall be designed to ensure a reserve in the adjustment range from normal adjustment settings of all variable components. The range of adjustment shall be of sufficient magnitude to compensate for changes which may occur due to changes in part values during the normal or specified life of the device. The range of adjustment shall also be capable of compensating for variations resulting from replacement with parts within the specified tolerances.

#### 6.1.2.1 PRINTED CIRCUIT BOARDS

The printed circuit board assembly shall be coated with a protective coating to combat mildew, moisture and fungus. Holes which carry electrical connections from one side of the board to the other shall be completely plated through. Operating circuit components mounted on circuit boards shall be identified by characters which shall be legible and permanently printed on the circuit boards or a clear legible drawing showing component layout and identification must be provided. The identifying characters shall be referenced to their respective components in the schematic diagram and in the parts list.

#### 6.1.2.2 MECHANICAL COMPONENTS

##### 6.1.2.2.1 MATERIAL

All parts shall be made of corrosion-resistant material, such as plastic, stainless steel, aluminum or brass or shall be treated with a corrosion-resistant substance such as cadmium plating or galvanizing. All materials used in construction shall be resistant to fungus growth and moisture deterioration. Dissimilar metals apt to corrode through electrolysis under the environmental operating conditions specified shall be separated by an inert material.

#### 6.1.3 ELECTRICAL CHARACTERISTICS

##### 6.1.3.1 DESIGN LIFE

All components in their normal circuit application shall be designed to operate continuously for at least 15 years unless otherwise specified in the Specific Requirements section for each equipment.

##### 6.1.3.1.2 WIRE SIZE

All wiring shall be of such size to satisfy good engineering practices and meet the requirements of the National Electric Code.

##### 6.1.3.1.11 FAIL SAFE

The equipment shall be designed such that the failure of one unit does not cause the failure of any other.

##### 6.1.3.2.2 KEYING

Modules of unlike function shall be mechanically keyed to prevent insertion into the wrong socket or connector.

### 6.1.3.2.3 IDENTIFICATION

All modules and assemblies shall be clearly identified with name, model number, serial number and any other pertinent information required to facilitate equipment maintenance.

### 6.1.3.2.4 MAINTENANCE PROVISIONS

All equipment shall be designed for ease of maintenance. All component parts shall be readily accessible for inspection and maintenance. The only tools required for maintenance by personnel shall be simple hand held tools. Equipment shall be designed for easy field maintenance (isolation of malfunctions to particular unit or assemblies) by personnel working under difficult conditions.

Test points shall be provided for checking essential voltages and waveforms, for injecting signals. The equipment shall be designed so that it can be easily installed and maintained. Accessibility and serviceability features which will lead to simplified maintenance shall be a prime consideration.

### 6.1.5 QUALITY ASSURANCE PROVISIONS

In cases where “Design Approval Tests” (section 6.1.5.3) are specified herein, documentation shall be provided with the bid proposal that such tests have been satisfactorily completed. Additionally, “Factory Acceptance Tests” (section 6.1.5.1) may be required at the discretion of the County of Monroe. The contractor shall be responsible for arranging that the equipment covered by this specification shall be subjected to “Factory Acceptance Tests” as required by the County of Monroe, at the equipment manufacturer’s facility. The County of Monroe reserves the right to have its representatives tour the manufacturing facility and witness all factory acceptance tests. The results of each test shall be compared with the requirements specified herein. Failure to conform to requirements for any test shall be counted as a defect and the equipment shall be subject to rejection by the County of Monroe. Rejected equipment may be offered again for retest provided all non-compliances have been corrected and retested by the contractor. Final inspection and acceptance of equipment shall be made after delivery at destination specified unless otherwise stated. Additional testing may be required in the individual specifications for each type of component. Individual tests as specified in section 6.1.5.2 shall be run at the manufacturer’s facility on every component shipped.

#### 6.1.5.1 FACTORY ACCEPTANCE TESTS

The contractor shall be responsible for the implementation of any factory acceptance tests required by Monroe County at the manufacturer’s facility. The County of Monroe shall be advised a minimum of ten (10) calendar days before the start of tests. The County of Monroe reserves the right to witness all factory acceptance tests and to tour the manufacturing facility. The contractor shall furnish test reports, as required, showing quantitative results for all tests. The reports shall be signed by an authorized representative of the equipment manufacturer. Factory acceptance tests may consist of any or all of the specified design approval tests (see section 6.1.5.3) at the discretion of the County of Monroe.

##### 6.1.5.1.1 TEST PROCEDURES

The procedures and data forms used for conducting factory acceptance tests shall be provided by the contractor and submitted to the procuring agency for approval. The test procedures shall have approval by the procuring agency prior to submission of equipment for tests. The test procedures shall include the sequence of conducting the tests.

### 6.1.5.1.2 CONSEQUENCES OF FACTORY ACCEPTANCE TEST FAILURE

If a unit fails to pass its factory acceptance test the unit shall be corrected or another unit substituted in its place and the test entirely repeated. If a unit has been modified as a result of an acceptance test failure a report shall be prepared and delivered to the County of Monroe prior to shipment of the unit. The report shall describe the nature of the failure and the corrective action taken. If the unit fails the acceptance test twice the unit shall be rejected.

### 6.1.5.2 INDIVIDUAL TESTS

Unless otherwise specified, each equipment item shipped shall be subjected to the individual test. The individual tests specified here are minimum requirements and a manufacturer should not lower his normal testing standards to meet this minimum. A test report detailing the status of individual tests performed shall accompany each item of equipment when received at our facility. As a minimum, each equipment item accepted shall have passed the following:

- a. Examination of Product (6.1.5.2.1)
- b. Operational Test (6.1.5.2.2)
- c. Any other individual test called for in the individual specification for a type of Equipment.

#### 6.1.5.2.1 EXAMINATION OF PRODUCT

Each equipment unit shall be examined carefully to verify that the materials, design, construction, markings and workmanship comply with the requirements of this Specification.

#### 6.1.5.2.2 OPERATIONAL TEST

Each equipment unit shall be operated long enough to permit equipment temperature stabilization and to check and record an adequate number of performance characteristics to assure compliance with the requirements of the individual equipment specifications. All modes of operation and equipment functions should be verified to be working properly. Procedures for operational tests and the forms used for recording tests results shall be submitted to the County of Monroe for approval prior to shipping the first unit under this bid.

### 6.1.5.3 DESIGN APPROVAL TESTS

Unless otherwise specified in the individual equipment specification, design approval tests shall be conducted by the manufacturer on one or more sample equipments of the given type to determine if the design of the equipment meets the requirements of the appropriate NEMA Specification. The tests shall be conducted in accordance with the approved procedure of paragraph 6.1.5.3.1. The contractor shall furnish test reports, showing quantitative results of all tests required. The reports shall be signed by an appropriate officer of the manufacturing firm. The data obtained in conducting these tests shall be submitted by the contractor to the procuring agency with the bid proposal.

#### 6.1.5.3.1 DESIGN APPROVAL TEST PROCEDURES

Design approval tests, when required for street equipment, shall be conducted under the environmental (power, voltage, temperature, humidity, vibration, shock) test profiles as specified in NEMA Standard TS2-1992 (or latest revision) for each individual type of equipment.

**UNIT PRICE SHEET**

Traffic Controller NEMA TS2      \$3,568.00/ea.

**MONROE COUNTY PURCHASING**  
**Vendor Performance Survey**

**Contract Title:**

**Contract Number:**

**Vendor:**

Please rank the vendor performing the contract specified on a scale from "1" to "10" with "1" being poor, "5" average and "10" excellent. Please include any additional comments or suggestions in the space provided below. Monroe County Purchasing appreciates your input.

	Poor				Average					Excellent
	1	2	3	4	5	6	7	8	9	10
Item(s) supplied met specifications										
Product provided value (taking into account price, quality, etc.)										
Timeliness of delivery										
Completeness and accuracy of order										
Ability to contact representatives of vendor when needed? (If unavailable was call back prompt?)										
Invoices received promptly and accurately										
Recommendations received from the vendor (i.e. product information, cost saving strategies, ideas for better use of resources, etc.)										

Survey Completed by:

Name:

Title:

Agency:

Telephone: \_\_\_\_\_ Fax:

E-mail:

***Please submit this survey to Monroe County Purchasing.***