PLEASE DIRECT ANY QUESTIONS REGARDING THIS BID TO: KIMBERLY BRENT

YOU MAY:
EMAIL YOUR BID TO: purchasing@ccsnh.edu
FAX YOUR BID TO: 603-271-2725
MAIL YOUR BID TO: Kimberly Brent, CCSNH, 26 College Dr, Concord NH 03301

BID INVITATION FOR: TRAINING SYSTEMS

Unless specifically amended or deleted by the Community College System of New Hampshire, the following General Terms and Conditions apply to this Bid and any resulting Purchase Order or Contract.

GENERAL CONDITIONS AND INSTRUCTIONS:

NATURE OF, AND ELIGIBILITY TO RESPOND. This bid invitation is submitted and the rules promulgated thereunder, and constitutes a firm and binding offer. A bid may not be withdrawn unless permission is obtained from the Community College System of NH (CCSNH).

Bids may be issued only by the Community College System of NH and are not transferable.

SAMPLES AND DEMONSTRATIONS. When samples are required they must be submitted free of costs and will not be returned.

Items left for demonstration or evaluation purposes shall be delivered and installed free of charge and shall be removed at no cost to the CCSNH. Demonstration units shall not be offered to the CCSNH as new equipment.

Bids. Bids must be received at the Community College System of NH before the date and time specified for the opening. Bids must be submitted on this bid form or exact copies and must be typed or clearly printed in ink. Corrections must be initialed. Bids are to be made less Federal Excise Tax and no charge for handling unless required by law.

Bids will be made available to the public after the time of award. Bid results will be given by mail only if requested in writing and accompanied by a self-addressed, stamped business size envelope.

SPECIFICATIONS. Vendors must submit on items as specified. Proposed changes must be submitted in writing and received at the Community College System of NH at least five (5) working days prior to the bid opening. Vendors shall be notified in writing if any changes to the specifications are made.

AWARD. The award will be made to the responsible Vendor submitting a conforming RFB meeting specifications at the lowest cost unless other criteria are noted in the RFB. Unless otherwise noted, the award may be made by individual items.

If there is a discrepancy between the unit price and the extension, the unit price will prevail.

When identical low bids are received the award will be made in accordance with the Administrative Rules.

Discounts will not be considered in making award but may be offered on the Invoice for earlier payment and will be applicable on the date of completion of delivery or receipt of Invoice, whichever is later. On orders specifying split deliveries, discounts will apply on the basis of each delivery or receipt of Invoice, whichever is later.

PATENT INFRINGEMENT. Any responding vendor who has reason to believe that any other responding vendor will violate a patent should such responding vendor be awarded the contract shall set forth in writing, prior to the date and time of opening, the grounds for his belief and a detailed description of the patent.

ASSIGNMENT PROVISION. The responding vendor hereby agrees to assign all causes of action that it may acquire under the antitrust laws of New Hampshire and the United States as the result of conspiracies, combinations, or contracts in restraint of trade which materially affect the price of goods or services obtained by the state under this contract if so requested by the State of New Hampshire.

FEDERAL FUNDS. The Community College System of NH shall assure the continuation or granting of federal funds or other assistance not otherwise provided for by law by following the Federal Procurement Standards.

CCSNH’S OPTIONS: The Community College System of NH reserves the right to reject or accept all or any part of any bid, to determine what constitutes a conforming bid, to award the bid solely as it deems to be in the best interest of the CCSNH, and to waive irregularities that it considers not material to the bid.

PUBLIC INFORMATION: The responding vendor hereby acknowledges that all information relating to this bid and any resulting order (Including but not limited to fees, contracts, agreements and prices) are subject to these laws of the State of New Hampshire regarding public information.

PERSONAL LIABILITY: The responding vendor agrees that in the preparation of this bid or the execution of any resulting contract or order, representatives of the Community College System of NH shall incur no liability of any kind.

PROOF OF COMPLIANCE. The responding vendor may be required to supply proof of compliance with proposal specifications. When requested, the responding vendor must immediately supply the Community College System of NH with certified test results or certificates of compliance. Where none are available, the CCSNH may require independent laboratory testing. All costs for such testing certified test results or certificate of compliance shall be the responsibility of the responding vendor.

FORM OF CONTRACT. The terms and conditions set forth in any additional Terms and Conditions by the Community College System of NH are part of the bid and will apply to any contract awarded the responding vendor unless specific exceptions are taken and accepted and will prevail over any contrary provisions in Terms and Conditions submitted by the responding vendor.

OFFER. The undersigned hereby offers to sell to the Community College System of NH the commodities or services indicated in the following page(s) of this Bid at the price(s) quoted in complete accordance with all conditions of this Bid.

Company Name: _____________________________________________________________

Address: ____________________________________________________________________

Tel#: (local) ____________________ (Toll free) ________________________________

Fax#: _________________________________________________________________

Authorized Signature: _______________________________________________________

(TYPE OR PRINT NAME)

This document must be signed by a person who is authorized to legally obligate the responding vendor. A signature on this document indicates that all State of NH & Community College System of NH terms and conditions are accepted by the responding vendor and that any and all other terms and conditions submitted by the responding vendor are null and void, even if such terms and conditions have terminology to the contrary. The responding vendor shall also be subject to State of New Hampshire/CCSNH terms and conditions as stated on the reverse of the purchase order.
1. The Community College System of NH (CCSNH), engages the firm or individual ("the Vendor") to perform the services and/or sale of goods, described in the attached CCSNH documents, if any, and the Vendor’s bid or quotation, both of which are incorporated herein by reference.

2. COMPLIANCE BY VENDOR WITH LAWS AND REGULATIONS. In connection with the performance of this agreement, the Vendor shall comply with all statutes, laws, regulations, and orders of federal, state, county or municipal authorities which shall impose any obligation or duty upon the Vendor, including, but not limited to civil rights and equal opportunity laws.

3. TERM. The contract, and all obligations of the parties thereunder, shall become effective on a specified date and shall be completed in their entirety prior to a specified date. Any work undertaken by the Vendor prior to the effective date shall be at his sole risk and, in the event that the contract shall not become effective, the CCSNH shall be under no obligation to reimburse the Vendor for any such work.

4. CONTRACT PRICE. The contract price, a payment schedule and a maximum limitation of price shall be as specified by the bid invitation and the Vendor’s bid. All payments shall be conditioned upon receipt and approval by the CCSNH, of appropriate vouchers and upon satisfactory performance by the Vendor, as determined by the CCSNH. The payment by the CCSNH of the Contract Price shall constitute complete reimbursement to the Vendor for all expenses of any nature incurred by the Vendor in the performance by the Vendor and complete payment for the Services. The CCSNH shall have no other liability to the Vendor.

5. DELIVERY. If the vendor fails to furnish items and/or services in accordance with all requirements, including delivery, the CCSNH may re-purchase similar items from any other source without competitive bidding, and the original vendor may be liable to the CCSNH for any excess costs.

6. INVOICING. All invoices must show Order Number, Unit and Extension Prices and discounts allowed. A separate invoice shall be submitted for each order. Unless otherwise noted on the invitation to bid or purchase order, payment will not be due until thirty (30) days after all services have been completed, or all items have been delivered, inspected and accepted or the invoice has been received at the agency business office, whichever is later.

7. PERSONNEL.

7.1. The Vendor shall disclose in writing the names of all owners (5% or more), directors, officers, employees, agents or subcontractors who are also officials or employees of the State of New Hampshire/CCSNH. Any change in this information shall be reported in writing within fifteen (15) days of their occurrence.

7.2. The person signing this agreement on behalf of the CCSNH, or his or her delegate ("Contracting Officer") shall be the CCSNH’s representative for purposes of this agreement. In the event of any dispute concerning the interpretation of this agreement, the Contracting Officer’s decision shall be final.

8. EVENT OF DEFAULT; REMEDIES.

8.1. Any one or more of the following acts or omissions of the Vendor shall constitute an event of default hereunder ("Events of Default"): 

8.1.1. failure to deliver the goods or services satisfactorily or on schedule; or

8.1.2. failure to submit any report required hereunder; or

8.1.3. failure to perform any of the other covenants and conditions of this agreement.

8.2. Upon the occurrence of any Event of Default, the CCSNH may take any one, or more, or all, of the following actions:

8.2.1. give the Vendor a written notice specifying the Event of Default and requiring it to be remedied within, in the absence of a greater or lesser specification of time, thirty (30) days from the date of the notice; and if the Event of Default is not timely remedied, terminate this agreement, effective two (2) days after giving the Vendor notice of termination; and

8.2.2. give the Vendor a written notice specifying the Event of Default and suspending all payments to be made under this agreement and ordering that the portion of the Contract Price, which would otherwise accrue to the Vendor during the period from the date of such notice until such time as the CCSNH determines that the Vendor has cured the Event of Default, shall never be paid to the Vendor; and

8.2.3. set off against any other obligation the CCSNH may owe to the Vendor any damages the CCSNH suffers by reason of any Event of Default; and

8.2.4. treat the agreement as breached and pursue any of its remedies at law or in equity, or both.

9. WAIVER OF BREACH. No failure by the CCSNH to enforce any provisions hereof after any Event of Default shall be deemed a waiver of its rights with regard to that Event, or any subsequent Event. No express failure of any Event of Default shall be deemed a waiver of any provision hereof. No such failure or waiver shall be deemed a waiver of the right of the State to enforce each and all of the provisions hereof upon any further or other default on the part of the Vendor.

10. VENDOR’S RELATION TO THE CCSNH. In the performance of this agreement the Vendor is in all respects an independent contractor, and is neither an agent nor an employee of the CCSNH. Neither the Vendor nor any of its officers, employees, agents or members shall have authority to bind the CCSNH nor are they entitled to any of the benefits, workmen’s compensation or emoluments provided by the CCSNH to its employees.

11. ASSIGNMENT AND SUBCONTRACTS. The Vendor shall not assign, or otherwise transfer any interest in this agreement without the prior written consent of the CCSNH. No work required by this contract shall be subcontracted without the prior written consent of the CCSNH.

12. INDEMNIFICATION. The contractor shall defend, indemnify and hold harmless the State, its officers and employees, from and against any and all losses suffered by the State, its officers and employees, and any and all claims, liabilities or penalties asserted against the State, its officers and employees, by or on behalf of any person, on account of, based on, or resulting from, arising out of (or which may be claimed to arise out of) the acts or omissions of the Vendor. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved to the State. This covenant shall survive the termination of this agreement.

12.1 PATENT PROTECTION. The seller agrees to indemnify and defend the State of New Hampshire from all claims and losses resulting from alleged and actual patent infringements and further agrees to hold the CCSNH harmless from any liability arising under RSA 382-A:2-312(3). (Uniform Commercial Code).

13. TOXIC SUBSTANCES. In compliance with RSA 277-A known as the Workers Right to Know Act, the vendor shall provide Material Safety Data Sheets with the delivery of any and all products covered by said law.

14. NOTICE. Any notice by a party hereto to the other party shall be deemed to have been duly delivered or given at the time of mailing by certified mail, postage prepaid, in a United States Post Office addressed to the parties at the addresses given below.

15. AMENDMENT. This agreement may be amended, waived or discharged only by an instrument in writing signed by the parties hereto.

16. CONSTRUCTION OF AGREEMENT AND TERMS. This agreement shall be construed in accordance with the laws of the State of New Hampshire, and is binding upon and inures to the benefit of the parties and their respective successors and assigns.

17. ADDITIONAL PROVISIONS. The additional provisions (if any) have been set forth as Exhibit “A” hereto.

18. ENTIRE AGREEMENT. This agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire agreement and understanding between the parties, and supersedes all prior agreements and understandings relating hereto.
BID INVITATION FOR:
TRAINING SYSTEMS

INSTRUCTIONS TO BIDDER:
Read the entire bid invitation prior to filling it out. Complete the pricing information in the “Offer” section (the unit price is the price for the unit of purchase required by this bid invitation {i.e. each, case, box, etc.) and all other required information on your offer. The extension is the unit price multiplied by the quantity required by this bid invitation. Also complete the “Bidder Contact Information” section. Finally, complete the company information on the “General Conditions and Instructions” page of this bid invitation, then sign the bid in the space provided on that page.

BID SUBMITAL:
All bids must be submitted on this form or an exact copy, must be typed or clearly printed in ink and must be received on or before the date and time specified on page 1 of this bid. Interested parties may submit a bid to the Community College System of NH, 26 College Dr, Concord NH 03301 by email to purchasing@ccsnh.edu or if needed, may fax to (603)271-2725. All bids must be clearly marked with bid number, date due and purchasing agent’s name.

The Community College System of NH is not responsible for proposals not received due to equipment failure, mail delays, etc. If you want to ensure your proposal was received please verify by calling Kimberly Brent at (603)230-3540.

GOVERNING TERMS AND CONDITIONS:
A responding bid that has been completed and signed by your representative will constitute your company’s acceptance of all State of New Hampshire/CCSNH terms and conditions and will legally obligate your company to these terms and conditions.

A signed response further signifies that any terms and/or conditions that may be or have been submitted by the bidder are specifically null and void and are not a part of this bid invitation or any awarded purchase order, even if said terms and/or conditions contain language to the contrary.

PUBLIC DISCLOSURE:
Any information contained in the bid that a vendor considers confidential must be clearly designated. Marking of the entire bid or entire section of the bid (e.g. pricing) as confidential will neither be accepted nor honored. Notwithstanding any provision of this bid to the contrary, vendor pricing will be subject to public disclosure upon the effective date of all resulting contracts or purchase orders.

Generally, each bid shall become public information upon the effective date of all resulting contracts or purchase orders; however, to the extent consistent with applicable state and federal law and regulations, as determined by the State, including, but not limited to, RSA Chapter 91-A (Right to Know Law), the State/CCSNH shall endeavor to maintain the confidentiality of portions of the bid that is clearly and properly marked confidential. If a request is made to CCSNH to view portions of a bid that a vendor has properly and clearly marked as confidential, CCSNH will notify vendor of the request and of the date that CCSNH plans to release the records. By submitting a bid, vendors agree that unless the vendor obtains a court order, at its sole expense, enjoining the release of the requested information, CCSNH may release the requested information on the date specified in the CCSNH’s notice without liability to the vendors.

PURPOSE:
The purpose of this bid invitation is to establish contract in the form of a purchase order for supplying Community College System of NH with the item(s) indicated in the “Offer” section of this bid invitation, in accordance with the requirements of this bid invitation and any resulting order. This will be a one-time order with delivery required to the location indicated in the F.O.B. section of this bid invitation.
VENDOR CERTIFICATIONS:
All bidders must be duly registered as a vendor authorized to conduct business in the State of New Hampshire.

- The winning bidder must have a completed alternate W-9 on file with the Community College System of NH. If the winning bidder does not have a completed alternate W-9 on file, they will be required to completely fill the alternate W-9 and return to CCSNH before a purchase order will be issued.

- The vendor who is awarded the contract must comply with the terms of the purchase order and of the TAACCCT grant. Prospective bidders are encouraged to ensure they are able to comply with all applicable regulations. Compliance regulations are indicated further down in the document under the header COMPLIANCE BY BIDDER WITH LAWS AND REGULATIONS.

BID INQUIRIES:
Any questions must be submitted by an individual authorized to commit their organization to the Terms and Conditions of this bid. Submissions must clearly identify the Bid Number, the Vendor’s name and address and the name of the person submitting the question.

SPECIFICATION COMPLIANCE:
The manufacturers and models indicated are representative of the type and quality required. You may bid different makes and models, however, your offer must be materially similar to the ones indicated. The Community College System of NH-Lakes Region Community College shall be the sole determining factor of what is materially similar to the required item(s).

If there are any specifications indicated in this bid invitation, they will be considered the minimum requirements. Bidder's offer must meet or exceed these minimum requirements. The Community College System of New Hampshire-Lakes Region Community College shall be the sole determining factor of what meets or exceeds any specification.

Unless otherwise specified by the Community College System of NH in this bid invitation document, all equipment offered by the bidder must be new; shall not be used, rebuilt, refurbished; shall not have been used as demonstration equipment, and shall not have been placed anywhere for evaluation purposes.

CHANGES:
Any requested changes to this bid invitation by the bidder must be received in writing at the Community College System of NH no later than 4:30 PM on the fifth Community College System of NH business day prior to the date of the bid opening.

ADDENDUM:
In the event it becomes necessary to add or revise any part of this bid prior to the schedules submittal date, CCSNH will post on our website any addenda. Before your submission, always check the site for any addenda or other materials that may have been issued affecting the bid. The website address is www.ccsnh.edu/open-bids

BID PRICES:
Bid prices must be in US dollars and must include delivery and all other costs required by this bid invitation. Bid prices should result in prices that are no higher than those charged to the bidder’s best/preferred customer. Special charges, surcharges, or fuel charges of any kind (by whatever name) may not be added on at any time. Any and all charges must be built into your bid price at the time of the bid.

Bid may not be awarded for up to 60 days, pending approval of budget modification request currently with the US Department of Labor. Bid prices must be held by vendor for 60 days.

WARRANTY REQUIREMENTS:
Successful bidder shall be required to warranty all of the equipment awarded to him for a period of not less than the manufacturer’s standard period of time, from the date the items are received, inspected and accepted by the Community College System of New Hampshire. The warranty shall cover 100% of all parts, shipping, labor, travel, lodging and expenses.
COMPLIANCE BY BIDDER WITH LAWS AND REGULATIONS:
In connection with the performance of the purchase order, the winning bidder shall comply with all statutes, laws, regulations, and orders of federal, state, county or municipal authorities which impose any obligation or duty upon the Contractor, including, but not limited to, civil rights and equal opportunity laws.

In addition, the winning bidder shall comply with all applicable copyright laws.

During the term of any purchase order, the winning bidder shall not discriminate against employees or applicants for employment because of race, color, religion, creed, age, sex, handicap, sexual orientation, or national origin and will take affirmative action to prevent such discrimination.

If the purchase is funded in any part by monies of the United States, the Contractor shall comply with all the provisions of Executive Order No. 11246 of September 24, 1965 entitled “Equal Employment Opportunity”, as amended by Executive Order 11375 of October 13, 1967 and as supplemented in Department of Labor regulations (41C.F.R. Part 60) and with any rules, regulations and guidelines as the State of New Hampshire or the United States shall issue to implement these regulations.

The winning bidder shall allow access by the grantee, the sub-grantee, the Federal agency, the Comptroller General of the United States, or any of the their duly authorized representatives to any books, documents, papers, and records of the bidder which are directly pertinent to that specific contract for the purpose of making audits, examinations, excerpts, and transcripts.

The winning bidder agrees to retain all pertinent records for three years after CCSNH makes final payment and all other pending matters are closed.

BID AWARD:
The award of the bid will be based upon the total net low bid from the listing of the items indicated in the "Offer" section of this bid invitation. If an award is made it will be in total, in the form of a Community College System of NH Purchase Order.

If upon the award of any bid of multiple items (awarded by line item) it is determined that an order for any particular item would be $500.00 or less, and said item would be the only item on a purchase order, the state reserves the right to award that item to a bidder already receiving an award for multiple items.

Bid may not be awarded for up to 60 days, pending approval of budget modification request currently with the US Department of Labor. Bid will not be awarded if the budget modification is denied.

BID RESULTS:
Bid results may be viewed when available, once the award has been made, on our web site only at: www.ccsnh.edu/closed-bids

For Vendors wishing to attend the bid opening: Only the names of the Vendors submitting responses will be made public.

TERMINATION:
The Community College System of NH shall have the right to terminate the purchase contract at any time by giving the successful bidder a thirty (30) day written notice.

F.O.B.:
The F.O.B. shall be destination to the following delivery point:

    Lakes Region Community College
    379 Belmont Rd
    Laconia NH 03249

REQUISITION NO.: R0073405
RETURNED GOODS:
The successful bidder must resolve all order and invoice discrepancies within five business days from notification. Products returned due to quality issues, duplicate shipments, over-shipments, etc. must be picked up by the successful bidder within five business days of notification with no restocking or freight charges, and must be replaced with specified products or the agency will be refunded/credited for the full purchase price. Unauthorized substitutions for any products are not allowed.

Standard stock products ordered in error by the Community College System of NH must be returned for full credit within fifteen days of receipt. Products must be in re-saleable condition (original container, unused) and there will be no restocking fee charged for these products. The using campus will be responsible for any freight charges to return these items to the successful bidder.
OFFER:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

DELIVERED PRICES

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<td>1</td>
<td>EA</td>
<td>CONTROLS TECHNOLOGY SYSTEM WITH BASIC PNEUMATICS:</td>
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**Manufacturer:** Amatrol  
**Model:** 850-P1 or equal

Shall provide training in basic pneumatics and consist of mobile workstation, basic pneumatic system, student curriculum, and instructor’s guide. The minimum specifications for each of these items shall be as follows:

Mobile Workstation:  
This unit shall provide mounting for experiments and storage for items used with the system and includes the following:
- Instrumentation modules and circuit panel modules. The storage area shall be designed to accommodate at least 4 circuit panels with components mounted on them.

The minimum features of this workstation shall include:
- Welded-steel frame construction for durability  
- Heavy duty lockable casters for mobility  
- Slide-in storage racks for both circuit panel and instrumentation modules to allow easy storage  
- Plastic Laminate Top  
- Sliding Drawer for hose storage  
- Dimensions H = 24 in., W = 36 in., L = 72 in.

Basic Pneumatic System:  
This system shall provide basic pneumatic training and include as a minimum: (1) Pneumatic Instrumentation Module and (1) Basic Pneumatic Module.

Each of the following modules shall allow quick setup and easy inventory by providing premounting components on circuit panels; using silk-screened identifications next to each component showing each component's standard symbol, description and part number; and quick connect fittings. To give equipment durability and realistic exposure, all pneumatic components shall be 100 PSI min rated – industrial grade, and the circuit panels shall be of welded stainless steel construction.

Provisions shall also be made to allow each module to be used on mobile workstation or as a satellite station on any standard work surface. These provisions shall include as a minimum: (2) permanent-mounted lift handles for mobility, mounting surface scuff protection, and mounting guides for the instrumentation module. The components for each module shall include as a minimum:
**OFFER:**
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s): 

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<td>Pneumatic Instrumentation Module:</td>
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<td>(3) Pressure Gauges, 0-160 PSIG range, 2 1/2&quot;</td>
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<td>(1)-Manometer, inclined, 7&quot; H 0</td>
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<td>(1)-Colored fluid concentrate</td>
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<td>(1)-Rotameter, 20-200 SCFH range</td>
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<td>(1)-Air Filter</td>
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<td>(1)-Pressure Regulator and Gauge, 0-160 PSIG range</td>
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<td>(1)-Supply Manifold, 4-port with quick connects</td>
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<td>(1)-Quick connect supply connection, Industrial Interchange</td>
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<td>(1)-Supply Shutoff Valve</td>
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<td>Basic Pneumatic Module:</td>
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<td>(1)-Directional Control Valve, 3-position, 5-ported/4-way, spring centered, closed center, transparent</td>
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<td>(1)-Cylinder, double-acting, 1 1/8&quot; bore, 6&quot; stroke, with cam</td>
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<td>(1)-Cylinder, double-acting, 1 1/2&quot; bore, 4&quot; stroke, with cam</td>
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<td>(1)-Cylinder, single-acting, 3/4&quot; Bore, 1&quot; Stroke, spring return, transparent</td>
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<td>(1)-Air Motor, vane-type</td>
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<td>(1)-Motor load device</td>
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<td>(2)-Flow Controls, with integral reverse free-flow check valve</td>
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<td>(13)-Flexible hoses, 1/8” I.D., polyurethane, transparent</td>
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<td>(2)-Limit Switch Mounting Tracks positioned for cylinder cam operation</td>
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<td>(2)-Fitting tees</td>
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Basic Pneumatics Student Curriculum:
The student curriculum shall consist of one (1) set of 4 Learning Activity Packets with 28 skills in basic pneumatic systems. The topics shall include basic pneumatic principles, reading flow and pressure gauges, connection of basic pneumatic circuits, interpretation of schematic diagrams, sizing of cylinders, control of speed, calculation of pneumatic cylinder speed, meter-in circuits, meter-out circuits, Pascal’s Law, Boyle’s Law, and calculation of air volumes. 

The student curriculum supplied shall be designed in a skill-based format that focuses on teaching industry-relevant tasks. The objectives shall be accomplished by organizing the learning material into a series of learning activity packets, which are further subdivided into three or more segments per packet. All learning material needed shall be contained in the packets including text material, laboratory equipment activities, and multimedia directions. No external text sources shall be required. The specific cognitive skills taught by each text passage shall be identified next to the passage. Each lab activity shall be identified by the industrial task taught. All activities shall be highly detailed with step-by-step instructions to facilitate a self-directed learning environment. A combination of step-by-step enabling activities and creative, problem-solving activities shall be provided.
OFFER:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

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<td>CONTROLS TECHNOLOGY SYSTEM WITH BASIC PNEUMATICS CONTINUED:</td>
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<td>Basic Pneumatics Student Curriculum Continued:</td>
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<td>A self-review of five to ten questions shall be provided after each segment. The curriculum must be capable of both self-directed and instructor directed study. All activities must correlate directly to the hardware supplied, with detailed illustrations and diagrams.</td>
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Teacher’s Assessment/ Portfolio Guides:
A teacher’s guide shall be provided. It shall contain student data sheets, data sheet solutions, self-review answers, quizzes, quiz answers, student skill record sheets, and authentic assessment. A quiz shall be provided for each packet. A question shall be provided in each quiz for each cognitive objective taught. All tasks listed in the packet shall be listed on personalized student record sheets. The Instructor’s Package shall include directions for authentic skill assessment.

MAKE: __________________________  MODEL: __________________________  ITEM #: __________________________
Please enclose product literature and specifications of your substitution

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<td>EA</td>
<td>CONTROLS TECHNOLOGY SYSTEM WITH BASIC HYDRAULICS:</td>
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<tr>
<td></td>
<td></td>
<td>Manufacturer: Amatrol</td>
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<td>Model: 850-H1 or equal</td>
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Shall provide training in basic hydraulics and consist of mobile workstation, hydraulic power unit, basic hydraulic system, student curriculum, and instructor’s guide. The minimum specifications for each of these items shall be as follows:

Mobile Workstation
This unit shall provide mounting for experiments and storage for items used with the system and includes the following: hydraulic power unit, instrumentation modules, and circuit panel modules. The storage area shall be designed to accommodate at least 8 circuit panels with components mounted on them.

The minimum features of this workstation shall include:
- Welded-steel frame construction for durability
- Heavy duty lockable casters for mobility
- Slide-in storage racks for both circuit panel and instrumentation modules to allow easy storage
- Drip pan, accommodating three circuit panel modules
  To avoid oil spills
OFFER:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

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The minimum features of this workstation shall include continued:
- Drip pan drain
- Mounting slots for three instrumentation modules
- Hanging hose storage with separate drip pan
- Hydraulic pressure manifold pre-plumbed to power unit, 4-port
- Shutoff Valve
- Hydraulic return manifold pre-plumbed to power unit, 4-port
- Dimensions H = 35 in., W = 24 in., L = 85 in.

Hydraulic Power Unit
This unit shall be completely assembled, plumbed, wired and tested to provide a minimum of 2.5 gpm flow at a maximum pressure to 500 PSI/3450 kPa. The minimum features shall include:
- Pump, fixed gear type
- Electric motor, 1 hp, 115 VAC, 60 Hz, single phase
- Reservoir, 5 gal./19 Liters
- Suction filter, strainer type
- Relief valve, pilot-operated type
- Filler-Breather cap
- Pressure Gauge, 2 in. size, 0-1000 PSI, liquid filled, with safety relief
- Electric motor starter, with start and stop pushbuttons
- Power cord
- Hose line plumbed to pressure manifold with shutoff valve
- Hose line plumbed to return manifold
- Oil level gauge with temperature gauge

Basic Hydraulic System
Shall provide basic hydraulic training and include at a minimum: (1) Hydraulic Instrumentation Module, (1) Basic Hydraulic Valve Module, (1) Hydraulic Actuator Module. The minimum specifications for each are as follows:

Each of the following modules shall allow quick setup and easy inventory by providing premounting components on circuit panels; using silk-screened identifications next to each component showing each component's standard symbol, description and part number; and double-check quick connect fittings. To give equipment durability and realistic exposure, all hydraulic components shall be 1000 PSI min. rated - industrial grade and the circuit panels shall be of welded stainless steel construction.

Provisions shall also be made to allow each module to be used on mobile workstation or as a satellite station on any standard work surface. These provisions shall include as a minimum: (2) permanent-mounted lift handles for mobility, mounting surface scuff protection, and mounting guides for the instrumentation module. The components for each module shall include as a minimum:
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<tr>
<td></td>
<td></td>
<td>Basic Hydraulic Valve Module</td>
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<td>(1)</td>
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<td>(1)-Directional Control Valve, 3-position, lever-operated, closed center</td>
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<td>(1)</td>
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<td>(1)-Needle Valve</td>
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<td>(1)-Pilot-Operated Relief/Sequence Valve</td>
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<td>(1)</td>
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<td>(1)-Pressure Reducing Valve</td>
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<td>(2)</td>
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<td>(2)-Check Valves, one with fitting tees</td>
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<td></td>
<td></td>
<td>13-Hoses with quick-connect fittings</td>
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<tr>
<td>(2)</td>
<td></td>
<td>(2)-Open end male quick-connect fittings</td>
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<td>(1)</td>
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<td>(1)-Return Manifold, 4 port with hose</td>
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<td>(1)-Supply Manifold, 4 port with hose</td>
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<td>(1)-Shutoff valve</td>
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<td>Basic Hydraulic Actuator Module</td>
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<td>(1)-Double Acting Cylinder, 1 1/8&quot; bore x 6&quot; stroke, with cam</td>
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<td>(1)-Double Acting Cylinder, 1 1/2&quot; bore x 4&quot; stroke, with cam</td>
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<td>(1)-Hydraulic Motor, with flywheel</td>
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<td>(2)-Flow controls, needle-valve type with integral reverse free-flow check valve</td>
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<td>(1)-Linear Load Device, providing friction, compression and tension, with high impact resistance transparent guard</td>
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<td>(2)-Limit Switch Mounting Tracks positioned for cylinder cam operation</td>
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<td>Hydraulic Instrumentation Module</td>
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<td>(3)</td>
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<td>(3)-Pressure gauges, 0-1000 PSI range, liquid-filled, with blow-out relief</td>
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<td>(1)</td>
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<td>(1)-Flow meter, 0-5 gpm range</td>
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Student Curriculum
The student curriculum shall consist of (1) set of 5 Learning Activity Packets with 37 skills in basic hydraulic systems. The topics shall include: basic hydraulic principles, Pascal’s law, reading flow and pressure gages, pump operation, power unit start-up and adjustment, connection of basic hydraulic circuits, interpretation of schematic diagrams, sizing of cylinders, control of speed, sequence circuits, pressure reducing circuits, calculation of hydraulic and pneumatic cylinder speed, meter-in circuits, meter-out circuits, and independent speed control circuits.

The student curriculum shall be designed in a skill-based format that focuses on teaching industry-relevant tasks. The objectives shall be accomplished by organizing the learning material into a series of learning activity packets, which are further subdivided into three or more segments per packet. All learning material needed shall be contained in the packets including text material, laboratory equipment activities, and multimedia directions. No external text sources shall be required. The specific cognitive skills taught by each text passage shall be identified next to the passage. Each lab activity shall be identified by the industrial task taught. All activities shall be highly detailed with step-by-step instructions to facilitate a self-directed learning environment. A combination of step-by-step enabling
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MAKE: __________________________
MODEL: __________________________
ITEM #: __________________________

Please enclose product literature and specifications of your substitution

$ __________

1 EA MECHANICAL DRIVES SYSTEM 1:

Manufacturer: Amatrol
Model: 950-ME1-SB or equal

Shall include the following components: mobile workstation, base motor package, motor control unit, shaft panel 1, shaft panel 2, belt drive panel, chain drive panel, gear drive panel, alignment/measurement package, indicator package, multi-drawer storage unit, student curriculum, and instructor’s guide. These components shall meet the following minimum specifications:

Mobile Workstation - To be constructed of welded tubular steel with minimum dimensions of 30-in W x 76.75-in H x 48-in L. This unit shall be supplied with (4) casters, at least two of which are locking. It shall have at least three (3) 2-panel storage slots located below the worksurface for storage of component panels. The worksurface shall be constructed of (2) modular plates which are made of Aluminum Tooling Plate. These tooling plates shall measure 30-in W x 20-in L x .375-in thick. Each plate shall be drilled with a grid pattern of slots and holes for mounting mechanical drive setups that are directly referenced in the curriculum. The workstation shall also be equipped with a dual-sided overhead mounting rack, which permits (4) component panels to be mounted. These panels shall mount on each side of the trainer, permitting easy access for student activities. The workstation shall have a lower mounting shelf for location of the storage drawer unit.

The drawer unit shall be constructed from heavy-duty gauge steel, welded and painted. It shall have 4 sliding drawers mounted on rollers, measuring 26.25-in L x 11.5-in H x 12.25-in W.
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MECHANICAL DRIVES SYSTEM 1 CONTINUED:

Base Motor Package - This package shall include the following items: constant speed electric motor, adjustable motor base, mounting bolt package, prony brake. These components shall meet the following minimum specifications:

Adjustable Motor Base – This unit shall be designed to position the constant speed electric motor in such a way that permits tensioning of a v-belt or chain drive system. This unit shall be designed with heavy-duty steel construction that uses one formed steel base that slides within another formed steel base. This design shall minimize misalignment due to side loading. It shall use a lead screw to position, locking mechanism, and adjustable slots.

Constant Speed Electric Motor – shall be a .33 Hp, constant speed motor, capacitor start, .625- in. diameter inch shaft, 115VAC/60 Hz or 230VAC/50 Hz, 1 phase. It shall have a power cable with plug-in cable to motor control unit.

Prony Brake - A shaft torque measurement and load device. It shall consist of a formed steel gage unit, aluminum brake drum with mounting for 5/8-inch motor shafts, balanced pulley, spring force gage, load adjustment knob, double set screw locking device, coolant spray bottle. Load range shall be 0-3.05 N-m.

Mounting Bolt Package – shall include grade 5 or above bolts, plain washers, lock washers, and nuts of various sizes.

Motor Control Unit – This unit shall provide control of both a variable speed motor and a constant speed motor as well as providing measurement instruments to monitor the performance of the drive system. It shall have a NEMA enclosure measuring minimum dimensions of 16-in x 12-in x 4-in. The enclosure shall be painted and silkscreened with labels of components. The components shall include a manual motor starter, safety switch with lockout/tagout device, speed control unit for variable speed motor, power on indicator, constant speed motor current meter, variable speed motor current meter, fuse and motor read switch. The unit shall have a main power cord, which plugs into a wall outlet and supplies power to all items in the motor control unit. Two plug-in connectors shall be mounted to the side of the unit to enable connection of the motors to the control unit.

The motor starter shall be a single pole type with heater. It shall be rated for 7 amps. The constant-speed motor current meter shall be an AC analog type with 0-10 amp range. The variable-speed motor current meter shall be an AC analog type with a 0-5 amp range. The fuse shall be a slow blow type with a 5 amp rating. The lockout tagout assembly shall consist of safety lockout hasp, (2) locks, and (5) tags.
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MECHANICAL DRIVES SYSTEM 1 CONTINUED:

**Shaft Panel 1** - The panel shall be constructed of heavy duty 11-gauge steel, painted and silk-screened with the outline and label of each component. The minimum dimensions shall be 15-in W x 20-in L. The panel shall have two lift handles for easy handling. The panel shall have mounting devices and retainers to mount the following components for easy visual identification and storage, which shall be included:

1-Shaft, .625-in dia., 12-in long, stainless steel
2-Pillow block bearing, cast iron, .625-in bore, lock collar
3-Pillow block bearing standoff, aluminum
4-Constant speed motor riser, aluminum
1-Soft foot riser
1-Jaw coupling, type L with .625-in bore, with keyway, setscrew

The following additional items shall be supplied and shall be stored in the drawer unit:

20-Stainless steel shim, 2-in, 0.003-in thick
20-Stainless steel shim, 2-in, 0.005-in thick
20-Stainless steel shim, 2-in, 0.010-in thick
20-Stainless steel shim, 2-in, 0.020-in thick
8-Stainless steel shim, 2-in, 0.050-in thick
2-Keystock, .1875-in square, 24-in length

**Shaft Panel 2** - The panel shall be constructed of heavy-duty 11-gauge steel, painted and silk-screened with the outline and label of each component. The minimum dimensions shall be 15-in W x 20-in L. The panel shall have two lift handles for easy handling. The panel shall have mounting devices and retainers to mount the following components for easy visual identification and storage, which shall be included:

1-Flexible jaw coupling half, 0.5-in bore
1-Shaft, .625-in dia., 12-in long, stainless steel
1-Shaft, .625-in dia., 8-in long, stainless steel
1-Shaft, .625-in dia., 6-in long, stainless steel
6-Pillow block bearing, cast iron, .625-in bore, lock collar
12-Pillow block bearing standoff
1-Sleeve coupling, .625-in bore, with keyway, SS
4-Gear Motor Risers

**Belt Drive Panel 1** - The panel shall be constructed of heavy duty 11-gauge steel, painted and silk-screened with the outline and label of each component. The minimum dimensions shall be 15-in W x 20-in L. The panel shall have two lift handles for easy handling. The panel shall have mounting devices and retainers to mount the following components for easy visual identification and storage, which shall be included:
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<td>MECHANICAL DRIVES SYSTEM 1 CONTINUED:</td>
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<td>1-Sheave, FHP, .625-in dia.fixed bore, 2-in P.D., keyway, set screw</td>
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<td>1-Sheave, FHP, .625-in dia.fixed bore, 3-in P.D., keyway, set screw</td>
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<td>1-Sheave, FHP, .625-in dia.fixed bore, 4-in P.D., keyway, set screw</td>
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<td>1-Belt tension checker</td>
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<td>1-Sheave gage</td>
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<td>The following additional items shall be supplied and shall be stored in the drawer unit:</td>
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<td>1-Classic V-belt, A size, 36-in length</td>
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<td>Chain Drive Panel 1 - The panel shall be constructed of heavy duty 11-gauge steel, painted and silk-screened with the outline and label of each component. The minimum dimensions shall be 15-in W x 20-in L. The panel shall have two lift handles for easy handling. The panel shall have mounting devices and retainers to mount the following components for easy visual identification and storage, which shall be included:</td>
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<td>1-Sprocket, .625-in dia. bore, 40 pitch, 30 teeth</td>
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<td>1-Sprocket, .625-in dia.bore, 40 pitch, 20 teeth</td>
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<td>1-Sprocket, .625-in dia.bore, 40 pitch, 15 teeth</td>
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<td>1-Chain Puller, #35-#60 chain</td>
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<td>The following additional items shall be supplied and shall be stored in the drawer unit:</td>
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<td>1-Roller chain, #40, 0.5-in pitch 39.5-in long</td>
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<td>1-Master link, #40 chain</td>
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<td>Gear Drive Panel 1 - The panel shall be constructed of heavy duty 11-gauge steel, painted and silk-screened with the outline and label of each component. The minimum dimensions shall be 15-in W x 20-in L. The panel shall have two lift handles for easy handling. The panel shall have mounting devices and retainers to mount the following components for easy visual identification and storage, which shall be included:</td>
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<td>1-Spur gear, .625-in dia.bore, 12DP, 24 teeth, 14-1/2 degree pressure angle (PA)</td>
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<td>1-Spur gear, .625-in dia. bore, 12DP, 36 teeth, 14-1/2 degree P.A.</td>
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<td>1-Spur gear, .625-in dia. bore, 12DP, 48 teeth, 14-1/2 degree P.A.</td>
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<td>1-Spur gear, .625-in dia. bore, 16DP, 80 teeth, 14-1/2 degree P.A.</td>
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<td>1-Spur gear, .625-in dia. bore, 16DP, 64 teeth, 14-1/2 degree P.A.</td>
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<td>1-Spur gear, .625-in dia. bore, 16DP, 24 teeth, 20 degree P.A.</td>
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<td>1-Spur gear, .625-in dia. bore, 16DP, 60 teeth, 20 degree P.A.</td>
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<td>1-Gear Gage, involute</td>
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**MECHANICAL DRIVES SYSTEM 1 CONTINUED:**

The following additional items will be supplied loose: Spray can, teflon spray and a variable speed motor. The motor shall have the following specifications:

**Variable Speed Motor** - right angle gear drive, 52:1 ratio gear drive, AC/DC universal motor, speed range 0-306 rpm at no load, 1.3 full load amps, 27 in-lbs full load torque, 1/15 Hp. The variable speed motor shall include plug-in power cable, which is compatible with motor control unit. It shall also include mounting plate for attachment to workstation.

**Alignment Package Level 1** - A package of tools and devices shall be supplied that enables the student to perform alignment and measurement of mechanical drives. It shall include (1) Feeler Gage, 3.375-in spirit level, 36-in straight edge, 9-in torpedo level, and combination square. These items shall be stored in the drawer unit.

**Indicator Package Level 1** – This package shall be used to perform precision motor leveling and with added components precision shaft alignment. It shall include: (1) dial indicator with 90 degree tip, (1) set of adjustable mounting brackets and clamps for attachment of dial indicator, magnetic base, and magnetic base mounting plate with quick release attachment. These items shall be stored in the drawer unit.

**Phototachometer** - shall consist of an industrial grade phototachometer: hand-held unit, LCD display, record button, memory button. Speed range 1-10000 rpm

**Student Curriculum** -The student curriculum shall consist of (1) set of 7 Learning Activity Packets with 46 industry tasks. Topics shall include operation, setup and alignment of v-belts, roller chains, pillow block bearings, spur gears, shafts, key fasteners, flexible jaw couplings, and sleeve couplings. Students shall also learn system analysis.

The student curriculum shall be designed in a skill-based format that focuses on teaching industrially-relevant tasks. The objectives shall be accomplished by organizing the learning material into a series of learning activity packets, which are further subdivided into three or more segments per packet. All learning material needed shall be contained in the packets including text material, laboratory equipment activities, and multimedia directions. No external text sources shall be required. The specific cognitive skills taught by each text passage shall be identified next to the passage. Each lab activity shall be identified by the industrial task taught. All activities shall be highly detailed with step-by-step instructions to facilitate a self-directed learning environment. A combination of step-by-step enabling activities and creative, problem-solving activities shall be provided.
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A self-review of five to ten questions shall be provided after each segment. The curriculum must be capable of both self-directed and instructor directed study. All activities must correlate directly to the hardware supplied, with detailed illustrations and diagrams.

Teacher’s Assessment/ Portfolio Guides: A teacher’s guide shall be provided. It shall contain student data sheets, data sheet solutions, self-review answers, quizzes, quiz answers, student skill record sheets, and authentic assessment. A quiz shall be provided for each packet. A question shall be provided in each quiz for each cognitive objective taught. All tasks listed in the packet shall be listed on personalized student record sheets. The Instructor’s Package shall include directions for authentic skill assessment.

MAKE: __________________________
MODEL: ________________________
ITEM #: ________________________

Please enclose product literature and specifications of your substitution

$ ____________

3 EA PORTABLE PLC LEARNING SYSTEM:

Manufacturer: Siemens
Model: S7-1200F

This learning system shall be designed to teach modern PLC systems as they are used in industry today. It shall teach both basic and advanced applications using the Siemens S7-1200 PLC, HMI panel, and networking throughout the curriculum, as well as troubleshooting skills. It shall include a mobile carrying case, workstation mounting panel, Siemens S7-1200 Programmable Controller, five applications, student curriculum, installation guide, and teacher’s guide. The minimum requirements include:

Workstation
(1) Mobile Carrying Case: 29 ½” W x 20 ½” H x 12” D
(1) Workstation Mounting Panel

Circuit Breaker

Master Control Relay Circuit

Siemens S7-1200 Programmable Controller
(14) Digital Inputs (24 VDC, Sink /Source)
(10) Digital Outputs (Solid State – MOSFET)
(2) Analog Inputs (Voltage, Single-ended, 0 to 10V, 10-bit)
(1) Analog Output (-10V to +10V 12-bit or 0 to 20 mA 11-bit)
OFFER:
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<td>PORTABLE PLC LEARNING SYSTEM CONTINUED:</td>
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<td>Siemens Step 7 Basic Software</td>
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<td>Siemens HMI Panel</td>
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<td>• 5.7” TFT with 256 Colors</td>
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<td>• Touch Screen with 6 Tactile Function Keys</td>
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<td>• Ethernet Interface (TCP/IP)</td>
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<td>Siemens Ethernet Switch, 4-port</td>
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<td>24 VDC Power Supply</td>
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<td>12 VDC Power Supply</td>
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<td>I/O Simulator</td>
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<td>(1) Green Normally-Open Pushbutton</td>
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<td>(1) Red Normally-Closed Pushbutton</td>
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<td>(2) Black Normally-Open Pushbuttons</td>
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<td>(4) Two-position Selector Switches</td>
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<td>(6) Red Indicators</td>
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<td>(1) Yellow Indicator</td>
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<td>(1) Green Indicator</td>
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<td>(1) Potentiometer for Analog Input Adjustment</td>
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<td>Applications:</td>
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<td>Thermostatic Temperature Application - the Temperature Control section will feature a discrete temperature sensing switch, fan, and solid-state, relay controlled, heater providing the user with discrete temperature control applications.</td>
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<td>Analog Temperature Application - the Temperature Control section will provide a scaled temperature sensing circuit (0V = 0°C, 10V = 100°C) providing analog temperature feedback. The solid-state, relay controlled heater will support pulse temperature control. The analog input and PWM will provide analog input, output, and PID temperature control.</td>
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<td>Reversing Motor Starter Application - placing the Motor Control section’s selector switch in the Reversing Contactor position will enable the workstation’s Reversing Motor Application. This application will feature a discretely operated, electrically interlocked reversing contactor, a wiper arm equipped DC motor, and three inductive proximity sensors enabling monitoring of wiper position, speed, and direction.</td>
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PORTABLE PLC LEARNING SYSTEM CONTINUED:

**Variable Speed Motor Control Application** - placing the Motor Control section’s selector switch in the Variable Speed Drive position will enable the workstation’s Variable Speed drive application. This application will feature a variable speed drive having three discrete inputs (Enable, Start, and Direction) and an analog speed command to vary motor speed. The section’s three inductive proximity sensors will provide wiper speed, direction and position feedback.

**Stepper Motor Control Application** - this section will provide a stepper motor drive and motor. The stepper motor will drive a pulley and scaled belt and positioning flag, enabling the user to use PLC supported motion control commands in their studies.

**Fault Troubleshooting**
this learning system uses Fault Pro, an electronic fault insertion system that allows a user to insert 35+ faults into the system for troubleshooting and teaches 25 different troubleshooting skills.

**Student Curriculum**
The curriculum shall consist of one (1) set of eighteen (18) printed learning activity packets. The student curriculum shall contain at least 105 industry skills covering basic and advanced applications using the Siemens S7-1200 PLC, HMI panel, and networking. Topics shall include: PLC Operation and Programming, HMI Panel Operation, PLC Motor Control, Counter/Timer Instructions, Event Sequencing, Math and Data Move Instructions, Siemens HMI Panel, HMI Application Editing, Analog Control, Motion Control, Thermostatic Temperature Control, Analog Temperature Control, Reversing Constant-Speed Motor Control, Variable Speed Motor Control, Stepper Motor Control, PLC Troubleshooting, and Analog Input/Output Troubleshooting.

The student curriculum supplied shall be designed in a skill-based format that focuses on teaching industry-relevant tasks. This curriculum shall be designed for use in both self-directed student learning and group instruction formats. The objectives shall be accomplished by organizing the learning material into a series of learning activity packets, which are further subdivided into two or more segments per packet. All learning materials needed shall be contained in the packets including text material, laboratory equipment activities, and any multimedia directions. No external text sources shall be required. The specific cognitive skills taught by each text passage shall be identified next to the passage. Each lab activity shall be identified by the industrial task taught. All activities shall be highly detailed with step-by-step instructions to facilitate a self-directed learning environment. A combination of step-by-step enabling activities and creative, problem-solving activities shall be provided. A self-review of five to ten questions shall be provided after each segment.
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Instructor’s Guide
The instructor’s guide shall contain student data sheets, data sheet solutions, self-review answers, quizzes, quiz answers, student skill record sheets, and assessment directions. The student data sheets shall be designed with data collection blanks to permit students to record data without consuming the learning activity packets. A quiz shall be provided for each packet. A question shall be provided in each quiz for each cognitive objective taught and correlated as such. All tasks listed in the packet shall be listed on personalized student record sheets. Detailed instructions and any supplemental material shall be provided for the teacher to perform live assessment of each student.

MAKE:________________________ MODEL:________________________ ITEM #:_______________________

Please enclose product literature and specifications of your substitution

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1 EA ELECTRICITY LEARNING SYSTEM:

Manufacturer: Amatrol
Model: T7017-A or equal

This unit shall include: one (1) base unit with (1) power supply on/off selector switch, indicator lamp, AC-DC selector switch and indicator lamps, circuit breaker, output terminals for connection to devices, component work surface and instrument console with component storage panel. Voltages available shall be 24 volts and 12 volts, AC and DC, which is controlled by the AC-DC selector switch. These components shall meet the below minimum specifications.

AC/DC Electrical Systems Trainer
One (1) Analog voltmeter shall be built into the instrument console with terminals so that test leads can be connected for making measurements. Range of the scale is from 0-30 volts, AC or DC. The component storage panel shall allow storage and identification of loose components that are included with trainer. The component work surface shall be a flat surface 20”x17” located on top of the worktable and in front of the instrument console where components can be quickly attached and circuits setup. All loose components shall be mounted on mobile plastic panels with all component leads attached to metal spade-lug terminals which have thumbscrew attachment spade-lugs, requiring no tools.
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**ELECTRICITY LEARNING SYSTEM CONTINUED:**

The loose component panels shall use a quick connect mounting/release method which permits the component circuits to be set up on the work surface and storage panel.

The components shall include:

1. Digital multi-meter
2. Knife switch, DPDT
3. Push button switch, SPST
4. Selector switch, SPST
5. Lamp modules, 28V @ .67A
6. Resistor modules, 25 ohm
7. Resistor module, 10 ohm
8. Capacitor modules, 88-106mF
9. Relay module, DPDT, 24 VDC
10. Solenoid module, 24 VDC
11. Buzzer module, 3-20 VDC 3.7kHz
12. Fan module, 24 VDC/.11A
13. Circuit breaker module, 1A/277 VAC
14. Fuse module, 3AFA
15. Rheostat module, 1A/0-25ohm 25Watt
16. Step down transformer module, 20VA
17. Transformer load module 2 separately selectable 220ohm
18. 5Watt loads
19. Compass module
20. Neon circuit tester, 90-300V

**Lead Set:** A patch cord set shall be supplied which includes the following components:

1. Spade-to-spade connections 24-in length
2. Spade to banana 24-in length

**Student Curriculum**

Shall consist of one (1) set of six Learning Activity Packets and one (1) Teacher’s Assessment Guide. The student curriculum shall contain 47 industry tasks in Electrical Systems including: Ohm’s Law calculations, basic components/circuit connections; measurement of circuits, voltage and resistance, sizing and connection of transformers, capacitors and inductors applications and design calculations.

**Teacher’s Assessment/Portfolio Guide**

A teacher’s assessment guide shall be provided. It shall contain student data sheets, data sheet solutions, self-review answers, quizzes, quiz answers, student skill record sheets and authentic assessment. A quiz shall be provided for each packet. A question shall be provided in each quiz for each cognitive objective taught. All tasks listed in the packet shall be listed on personalized student record sheets. The teacher’s assessment guide shall include directions for authentic skill assessment.
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ELECTRICITY LEARNING SYSTEM CONTINUED:

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A teacher’s assessment guide shall be provided. It shall contain student data sheets, data sheet solutions, self-review answers, quizzes, quiz answers, student skill record sheets and authentic assessment. A quiz shall be provided for each packet. A question shall be provided in each quiz for each cognitive objective taught. All tasks listed in the packet shall be listed on personalized student record sheets. The teacher’s assessment guide shall include directions for authentic skill assessment.

MAKE:________________________  MODEL:________________________  ITEM #:________________________

Please enclose product literature and specifications of your substitution

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1 EA ELECTRIC RELAY CONTROL LEARNING SYSTEM:

Manufacturer: Amatrol
Model: 90-EC1-A or equal

Shall include: electrical relay control training console, control components, lead set, power supply, student curriculum and teacher’s assessment guide.

Electrical Relay Control Training Console
The training system shall have an angled console with all components rigidly mounted on the front panel for ease of inventory tracking. The panel is to be 18 gauge painted steel with the name and part number of each component clearly silk-screened. The console size shall be 24” L x 18” H x 6” W.

Control Components
Each component’s terminals shall be wired to plug-in jacks on the front of the panel, which are overlaid with a silk-screened schematic symbol of the component. The pneumatic and electrical components shall be arranged in such a manner to enable automated control circuits to be connected and operated. The components shall include the items listed below.

(3) DPDT relays
(1) Timer relay DPDT
(2) Pushbuttons
(1) Selector switch, 3-position
(2) Double-acting cylinders
(4) Limit switches
(2) Solenoid operator valves, 4-way
(2) Indicator lights
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ELECTRIC RELAY CONTROL LEARNING SYSTEM:

Lead Set
A set of (25) stackable electrical connecting leads shall be supplied to enable circuits to be connected.

Power Supply
A 24VDC 2.4AMP power supply shall be integrated into the base of the Electrical Relay Control Trainer, which provides power to all components on the trainer.

Student Curriculum
Shall include one set of 3 Learning Activity Packets containing at least 31 skills in electrical relay control. The topics shall include: logic elements, ladder diagrams, electro-pneumatic solenoid valves, relay operation, relay application, limit switch operation, limit switch applications, time-delay relays, multiple cylinder control, and machine modes of operation.

The student curriculum shall be designed in a skill-based format that focuses on teaching industry-relevant tasks. The objectives shall be accomplished by organizing the learning material into a series of learning activity packets, which are further subdivided into three or more segments per packet. All learning materials needed shall be contained in the packets including text material, laboratory equipment activities, and multimedia directions. No external text sources shall be required. The specific cognitive skills taught by each text passage shall be identified next to the passage. Each lab activity shall be identified by the industrial task taught. All activities shall be highly detailed with step-by-step instructions to facilitate a self-directed learning environment. A combination of step-by-step enabling activities and creative, problem-solving activities shall be provided. A self-review of five to ten questions shall be provided after each segment. The curriculum must be capable of both self-directed and instructor directed study. All activities must correlate directly to the hardware supplied, with detailed illustrations and diagrams.

Teacher’s Assessment Guide
A teacher’s assessment guide shall be provided. It shall contain student data sheets, data sheet solutions, self-review answers, quizzes, quiz answers, student skill record sheets, and authentic assessment. A quiz shall be provided for each packet. A question shall be provided in each quiz for each cognitive objective taught. All tasks listed in the packet shall be listed on personalized student record sheets. The teacher’s assessment guide shall include directions for authentic skill assessment.

MAKE:____________________ ______________________ITEM #:____________________
MODEL:____________________

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<td>ELECTRONIC SENSORS SYSTEM</td>
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Manufacturer: Amatrol
Model: 85-SN-1 or equal

Shall include: (1) set of electronic sensors and lead/indicator set, (1) set of target materials, (1) positioning and measuring device, (1) power supply, (1) storage module, (1) student curriculum, and (1) instructor’s guide.

**Sensors and Lead/Indicator Set**
All electrical connections shall be plug-in and all sensors shall be mounted on individual bases. These connectors and bases shall be compatible with those used on the pneumatic and hydraulic training systems. The sensors shall be designed with mounting devices that allow them to quickly mount to the target presentation base and mount to the motor control or electro-fluid power panels without use of tools. This mounting position shall be adjustable by sliding the position of the sensor. The components shall include at a minimum:
(1)-Capacitive Proximity Sensor with universal mount
(1)-Hall-Effect Sensor with universal mount
(1)-Inductive Proximity Sensor with universal mount
(1)-Magnetic Reed Sensor with universal mount
(1)-14 V Indicator Lamp (LED with Internal Resistor)
(1)-Lead Set

**Target Set**
Shall include: 2-inch square targets, 0.25 in thick, for use with sensors. These targets shall be made of the following materials:
(1)-Large Steel
(1)-Small Steel
(1)-Plastic, opaque
(1)-Glass
(1)-Ring Magnet, Small
(1)-Ring Magnet, Large
(1)-Aluminum
(1)-Wood

**Power Supply**
Shall be a transformer type, which plugs into an AC wall outlet. To provide 12 VDC, 1A.

**Positioning and Measuring Device**
To provide target presentation to enable testing of sensor operation characteristics. Minimum features shall include:
Universal target mounting
6-in travel of target
2-in lateral travel of target
Sensor holder
Graduated target distance device
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<td>Storage Module</td>
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<td>Shall provide cushioned storage of all components in the system.</td>
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<td>To include a carrying handle</td>
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<td>Student Curriculum</td>
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<td>The student curriculum shall consist of (1) set of 2 Learning Activity Packets with 8 industry skills covering sensor operation, installation, application, and troubleshooting. Sensors covered shall be inductive, capacitive, hall-effect, and magnetic reed.</td>
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<td>The student curriculum shall be designed in a skill-based format that focuses on teaching industry-relevant tasks. The objectives shall be accomplished by organizing the learning material into a series of learning activity packets, which are further subdivided into three or more segments per packet. All learning material needed shall be contained in the packets including text material, laboratory equipment activities, and multimedia directions. No external text sources shall be required. The specific cognitive skills taught by each text passage shall be identified next to the passage. Each lab activity shall be identified by the industrial task taught. All activities shall be highly detailed with step-by-step instructions to facilitate a self-directed learning environment. A combination of step-by-step enabling activities and creative, problem-solving activities shall be provided. A self-review of five to ten questions shall be provided after each segment. The curriculum must be capable of both self-directed and instructor directed study. All activities must correlate directly to the hardware supplied, with detailed illustrations and diagrams.</td>
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Manufacturer: Amatrol
Model: T7018 or equal

This learning system shall be designed to teach operation, adjustment, and troubleshooting of solid state electronic components and systems used to control machines and power machine actuators. It shall include a bench-top workstation, component panels, fault insertion system, digital multimeter, lead set, student curriculum, and teacher’s guide. The minimum requirements include:

Bench-Top Workstation
This workstation shall be have a welded square tube steel frame and heavy gauge sheet steel enclosure. The minimum dimensions shall be 30” (76.2 cm) L x 36” (91.4 cm) H x 38” (96.5 cm) W. The workstation frame and metal components shall be primed and painted. The workstation will include a vertical panel storage section, horizontal student work surface with application panel console, lead set storage rack, and angled instrumentation and power console. The horizontal work surface shall have a plastic laminate surface for placement of student worksheets and curriculum. The application panel console shall be made of heavy duty gauge sheet metal and designed to allow two application panels to plug into the console. No tools shall be required to mount or electrically connect the application panels. The panel console shall provide power and fault insertion capability to the application panels. The vertical storage area shall allow at least 6 application panels, multimeter, and other loose components to be stored in a manner that makes them visible for quick inventoring. The lead storage rack shall be designed so leads can be hung in a convenient location for student access and storage. The workstation shall have a power cord to supply main power from an AC wall outlet, and it shall have a USB port to connect the imbedded fault insertion system to an external PC. The angled instrumentation and power console shall contain the following components, which shall be mounted and wired:

1. Fixed DC Power Supply—+12VDC, 1A @ 60Hz, .9A @ 50 Hz, Over-current protected, UL, CSA, IEC approved
2. Variable DC Power Supply—+10VDC, .3A, Overcurrent protected (Operates from DC supply. No approval required.)
3. AC Power Supply—center tapped, 1.5A, 50/60Hz, Overcurrent protected (resetable fuses), UL, CSA, IEC approved
4. Main on/off power switch, Illuminated
5. Circuit Breaker Switch
6. Pushbutton Switch, NC
7. Pushbutton Switch, NO
8. Selector Switch, 2-position, SPDT
9. LED Indicator, red
10. Voltmeter, digital, LED—200VDC, +-.5%, auto-polarity
11. Current meter, digital, LED—200 mADC, +-.5%, auto-polarity
12. Frequency generator—20 Hz – 150 KHz, sine wave / square wave output
13. AC Phase Shifter Control
14. AC Amplitude Control
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**Application Panels**
The application component panels shall be made of painted and silk-screened sheet steel. They shall include pre-mounted components that can be connected by students to create a variety of solid state electronic circuits and applications. The electronic components shall be mounted to a printed circuit board and connected to plug-in jacks for interconnection to other components by students. They shall also be connected through the circuit board to a multi-pin connector, which connects them to the computer-based fault insertion system upon mounting of the panel. Some components shall be individual, while others shall be pre-connected to other components to form circuit modules. The panels shall include the following:

**Analog Sensor/ Amplifier Panel**
(1) Ultrasonic Sensor—2.5 meter range, analog and C form relay contact output
(1)-Analog Pressure Sensor—0-30 PSIG with gage, 4-20 ma output
(1)-Transistor Amplifier Circuit Module
(1)-Op Amp Circuit Module

**Speed/ Power Control Panel**
(1) DC Motor—brush type servo motor, 24V 6000 RPM, Continuous output power 25 watts at 24V
(1)-Solid State Relay #1 —24VDC in with LED, DC out, Current rating 3 A
(1)-Solid State Relay #2 —24VDC in with LED, DC out, Current rating 3 A
(1)-Control Relay #2 —24VDC coil, 2 C form contacts, Current rating 5 A
(1)-Pulse Width Modulated Amplifier Circuit Module —24VDC input power, 2 – 10 VDC speed command input
(1)-SCR Amplifier Circuit Module —24VAC input power, 2 – 10 VDC speed command input
(1)-TRIAC Amplifier Circuit Module —24VAC input power, 2 – 10 VDC speed command input

**Power Supply/ Semiconductor Panel**
(3) Filter Capacitors, 470mF, 1000mF, and 2200mF
(1)-Filter Inductor, 0.3H
(1)-LED Diode
(1)-Zener Diode
(4)-PN Diodes
(1)-Diode Bridge
(1)-3-Terminal Regulator Circuit Module
(1)-Zener Regulator Circuit Module
(3)-Resistor Loads, 220Ohms, 220 Ohms, and 48 Ohms
(1)-Switching Power Supply—3 – 9 VDC variable output, over-current protected
(1)-Bipolar Junction Transistor Circuit Module
(1)-FET Transistor Circuit Module
(1)-IGBT Transistor Circuit Module
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<td>Temperature Control Panel</td>
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<td>(1)-TRIAC State Relay—24VDC in, 24VAC out</td>
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<td>(1)-Comparator Circuit Module</td>
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<td>(1)-Temperature Transmitter — 2 channel, RTD and thermocouple inputs, 4-20 ma outputs</td>
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<td></td>
<td></td>
<td>(1)- RTD Temperature Sensor — 100 ohm</td>
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<td></td>
<td></td>
<td>(1)-Thermocouple Temperature Sensor — Type J</td>
<td></td>
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<td></td>
<td></td>
<td>(1)-Thermistor Temperature Sensor — 3000 ohms</td>
<td></td>
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<td></td>
<td></td>
<td>(1)-Heater — Cartridge type, 5W at 24VAC</td>
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<td>(1)-Thermal Test Enclosure, contains heater and sensors 20-100 degrees C</td>
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<td>(1)-Wheatstone Bridge Circuit Module — 3000 ohm</td>
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<td>Discrete Sensor Panel</td>
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<td>(1)-Capacitive Proximity Sensor with universal mount N.O. 24V sourcing output</td>
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<td>(1)-Hall-Effect Sensor with universal mount N.O. 24V sourcing output</td>
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<td>(1)-Inductive Proximity Sensor with universal mount N.O. 24V sourcing output</td>
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<td>(1)-Photoelectric Sensor with universal mount N.O. 24V sourcing output</td>
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<td>(1)-Target Set, with wood, steel, aluminum, plastic, mirror, and magnet types</td>
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<td>(1)-Sensor Testing Module with graduated track for movement of target holder</td>
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<td>(1)-Sensor Holding Module, universal</td>
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<td>Digital Multimeter</td>
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<td>The multimeter shall include the following minimum specifications: Multirange on all functions, DC volts ±1 %, AC volts ±1.5 %, DC/AC current resolution 0.1 µA, Resistance resolution 100 m, Diode test feature, Battery test feature, Non-Contact voltage detector 70 To 600V AC, and Overload protection 600 V dc or 600 V rms,.</td>
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<td>Lead Set</td>
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<td></td>
<td>(5)-Mini banana cable 12-in Black</td>
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<td></td>
<td>(5)-Mini banana cable 12-in Red, 5</td>
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<td></td>
<td>(2)-Mini banana cable 24-in Black, 2</td>
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<td></td>
<td></td>
<td>(2)-Mini banana cable 24-in Red</td>
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<td>(3)-Mini banana cable 36-in Black</td>
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<td>(3)-Mini banana cable 36-in Red</td>
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<td></td>
<td>(2)-Standard to mini banana cable Black</td>
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<td></td>
<td></td>
<td>(1)-Standard to mini banana cable Red</td>
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</table>
OFFER:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

<table>
<thead>
<tr>
<th>QTY</th>
<th>UNIT</th>
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<th>DELIVERED PRICES</th>
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<tbody>
<tr>
<td></td>
<td>EA</td>
<td>POWER AND CONTROL ELECTRONICS LEARNING SYSTEM CONTINUED:</td>
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</tbody>
</table>

**Fault Insertion System**
The system shall include a number of faults, which recreate actual component and system failures. The circuits shall also include realistic troubleshooting test points so that students can perform systems-level troubleshooting without disassembling components. A minimum of 30 faults shall be provided to assure that students will be presented with realistic range of troubleshooting experiences. The faults shall be inserted electrically using a computer-based fault insertion system, which includes PC-based software for control and tracking. The communications between the PC and the computer-based fault insertion system shall be via USB.

**Student Curriculum**
The curriculum shall consist of one (1) set of (10) printed learning activity packets. The student curriculum shall contain at least 61 industry skills covering solid state electronic concepts, components, circuits, applications, and troubleshooting. Topics shall include: linear power supplies, switching power supplies, filtration and regulation, oscilloscope use, diodes, solid state relays, electronic proximity sensors, analog temperature sensors and transmitters, transistor amplifiers, Op amps, analog pressure transducers, analog ultrasonic transducers, FETs, IGBTs, SCRs, TRIACs, variable speed motor control, closed loop control, and temperature control.

The student curriculum supplied shall be designed in a skill-based format that focuses on teaching industry-relevant tasks. This curriculum shall be designed for use in both self-directed student learning and group instruction formats. The objectives shall be accomplished by organizing the learning material into a series of learning activity packets, which are further subdivided into two or more segments per packet. All learning materials needed shall be contained in the packets including text material, laboratory equipment activities, and any multimedia directions. No external text sources shall be required. The specific cognitive skills taught by each text passage shall be identified next to the passage. Each lab activity shall be identified by the industrial task taught. All activities shall be highly detailed with step-by-step instructions to facilitate a self-directed learning environment. A combination of step-by-step enabling activities and creative, problem-solving activities shall be provided. A self-review of five to ten questions shall be provided after each segment.
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<tr>
<td></td>
<td></td>
<td>Instructor’s Guide</td>
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<td>The instructor’s guide shall contain student data sheets, data sheet solutions, self-review answers, quizzes, quiz answers, student skill record sheets, and assessment directions. The student data sheets shall be designed with data collection blanks to permit students to record data without consuming the learning activity packets. A quiz shall be provided for each packet. A question shall be provided in each quiz for each cognitive objective taught and correlated as such. All tasks listed in the packet shall be listed on personalized student record sheets. Detailed instructions and any supplemental material shall be provided for the teacher to perform live assessment of each student.</td>
</tr>
</tbody>
</table>

MAKE: __________________________
MODEL: __________________________
ITEM #: __________________________

Please enclose product literature and specifications of your substitution

$__________

1 EA OSCILLOSCOPE:
Manufacturer: Amatrol
Model: 17539 or equal
- Bench type oscilloscope
- 6” monochrome display
- 20 MHz bandwidth
- Built in function generator
- Two (2) probes
- Real time sampling rate
- Edge, pulse and video triggering
- Rising and falling edge triggering
- Two (2) channels
- 8-bit A/D converter
- USB port

MAKE: __________________________
MODEL: __________________________
ITEM #: __________________________

Please enclose product literature and specifications of your substitution

$__________
OFFER:
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<tr>
<td>7</td>
<td>EA</td>
<td>MOBILE TECHNOLOGY WORKSTATION:</td>
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<td></td>
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<td>Manufacturer: Amatrol</td>
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<td>Model: 82-610 or equal</td>
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<td> Welded tube steel construction</td>
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<td></td>
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<td> Plastic white laminate top/work surface</td>
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<td></td>
<td> Casters: Four (4) heavy duty casters (2 locking type)</td>
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<td></td>
<td></td>
<td> Minimum Dimensions: 30”H x 30”W x 72”L</td>
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<td> Capable of supporting industrial lab equipment</td>
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</table>

MAKE:________________________    MODEL:________________________    ITEM #:_______________________

Please enclose product literature and specifications of your substitution

$_____________  $_____________

1  EA  ROBOT SIMULATION SOFTWARE LEARNING SYSTEM:

Manufacturer: Amatrol
Model: 88-RSS-1-A-25 or equal

A 25 seat license PC-based software package that provides a 3-D simulation of articulated arm robot offline on computer. This software will be compatible with the programming code of the robots supplied with the system. Software shall be Windows-based and use a 3-D solid model with collision detection ability. Capable of transferring simulation programs to run actual robot. Points taught in simulated environment may be transferred to actual robot. A virtual graphic teach pendant will be provided to simulate all pendant based functions such jogging, teaching, programming and I/O manipulation. Able to open and display 4 different views of simulated robot at the same time as well as Cartesian coordinate information and program sequence. Program execution may be viewed in an interpreter window and halted with user set breakpoints. Single command line program execution also shall be available. The software shall be able to perform simulated teaching, toggling of digital inputs and display of digital output status. A function shall be included which enables the user to create workcell objects using a library of standard parts shapes. A library of standard workcell objects such as tables, CNC devices, feeders, etc. shall be included. Digital inputs and outputs may be attached to graphic workcell objects to allow the robot to control workcell operation.
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<tbody>
<tr>
<td>1</td>
<td>EA</td>
<td>ROBOT SIMULATION SOFTWARE LEARNING SYSTEM</td>
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CONTINUED:

Student Curriculum

The student curriculum supplied shall be designed in a skill-based format that focuses on teaching industry-relevant tasks. This curriculum shall be designed for use in a self-directed student learning environment, which promotes a sense of rapid accomplishment and student motivation. The objectives shall be accomplished by organizing the learning material into a series of learning activity packets, which are further subdivided into three or more segments per packet. All learning materials needed shall be contained in the packets including text material, laboratory equipment activities, and multimedia directions. No external text sources shall be required. The specific cognitive skills taught by each text passage shall be identified next to the passage. Each lab activity shall be identified by the industrial task taught. All activities shall be highly detailed with step-by-step instructions to facilitate a self-directed learning environment. A combination of step-by-step enabling activities and creative, problem-solving activities shall be provided. A self-review of five to ten questions shall be provided after each segment.

The student curriculum shall consist of one (1) set of 8 Learning Activity Packets with 70 skills in robot operation and programming. The curriculum shall teach: power up and shutdown, manual operation, homing, end effector operation, teaching points, basic programming, end-effector and speed commands, material handling, off-line and on-line programming, I/O interfacing, CNC machine loading, robot workcell envelope, robot application development, basic conveyor operation, conditional commands, flexible manufacturing cells, subroutine commands, servo conveyor operation, Cartesian coordinate programming, go / no-go inspection, robot operator interface, parts measurement, operator input interface, relational and arithmetic operators, loop commands, production counting, object creation, functional objects, and discrete I/O objects. The curriculum must be capable of completely self-directed and instructor directed study. All subject content as well as hands-on activities shall be included in the student curriculum. All activities must correlate directly to the hardware supplied, with detailed illustrations and diagrams.

Teacher’s Assessment Guide

The teacher’s package shall contain student data sheets, data sheet solutions, self-review answers, quizzes, quiz answers, student skill record sheets, and assessment directions. The student data sheets shall be designed with data collection blanks to permit students to record data without consuming the learning activity packets. A quiz shall be provided for each packet. A question shall be provided in each quiz for each cognitive objective taught and correlated as such. All tasks listed in the packet shall be listed on personalized student record sheets.
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<tr>
<td>1</td>
<td>EA</td>
<td>ROBOT SIMULATION SOFTWARE LEARNING SYSTEM CONTINUED:</td>
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Teacher’s Assessment Guide Continued:
The Instructor’s Package shall include methods for both cognitive objective assessment and authentic skill assessment, with all skill assessment criteria explained in detail. Detailed instructions and any supplemental material shall be provided for the teacher to perform live assessment of each student.

MAKE: __________________________  MODEL: __________________________  ITEM #: __________________________
Please enclose product literature and specifications of your substitution

$ __________

1  EA  WEB-BASED ASSESSMENT:

Manufacturer: Amatrol  
Model: 206-WA1 or equal

Assessments are accessed through a web-portal. These assessments will be provided in a series associated with a set of pre-determined technologies. The use of specific assessments will be set up by a designated administrator.

The assessment questions shall be prescriptive for use in identifying gaps in knowledge for purposes of developing an individualized training program. The assessment questions shall be directly tied to learning objectives to ensure that the individual assessed needs only to spend time on the specific areas where training can improve performance. Students shall be able to navigate through questions either answering or flagging the question for answering at a later time while the student remains logged into the assessment. The student will not be able to log off and return to the assessment to complete a specific assessment.

All assessments shall be supplied via the internet. The minimum PC requirements to access these shall be a 1 GHz processor, 512 MB RAM, Windows XP, Sound and Video cards, Broadband Internet Access of 384 kps. Requires purchase of 206-TEST Assessment Set-up and Administration to use assessments.

MAKE: __________________________  MODEL: __________________________  ITEM #: __________________________
Please enclose product literature and specifications of your substitution

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<tr>
<td>1</td>
<td>EA</td>
<td>ON-SITE INSTALLATION, PLACEMENT OF EQUIPMENT &amp;</td>
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<td>$__________</td>
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<tr>
<td>1</td>
<td>EA</td>
<td>TRAINING FOR FACULTY: On-Site, One Day by Factory Representatives</td>
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</tbody>
</table>

PLEASE PROVIDE YOUR COMPANY DUNS NUMBER: __________________________

DISCOUNT: If there is an educational discount, please apply

Any and all charges must be built into your bid price at the time of the bid. Bid is FOB Destination.

BID TOTAL: $__________

The above listed manufacturers and/or product numbers are representative of the type and quality required. You may bid a different manufacturer and product number, providing that your offer is materially similar to the one indicated. The Community College System of NH-Lakes Region Community College shall be the sole determining factor of what is materially similar to the required item(s).

Bid may not be awarded for up to 60 days, pending approval of budget modification request currently with the US Department of Labor:
1) Bid prices must be held by vendor for 60 days.
2) Bid may not be awarded for up to 60 days, but will be awarded as soon as modification is approved.
3) Bid will not be awarded if the budget modification is denied.

BIDDER CONTACT INFORMATION:
The following information is for this office to be able to contact a person knowledgeable of your bid response, and who can answer questions regarding it:

_________________________________________  ______  ____________________________
Contact Person                           Local Telephone Number  Toll Free Telephone Number

_________________________________________  ___________________________________  ____________________________
Fax Number                                E-mail Address              Company Website

DELIVERY TIME:
Delivery is to be accomplished no later than 8 weeks from purchase date or manufacturer’s minimum lead time, whichever is less. However delivery will be accepted sooner.

PLEASE LIST ESTIMATED DELIVERY DATE AFTER RECEIVING ORDER: ____________________________

BID RESULTS:
Bid results may be viewed on our web site at: http://www.ccsnh.edu/closed-bids

Bid results will be mailed to you if you include a self-addressed envelope with the correct amount of postage on it. Bid results will not be given by telephone.
ATTACHMENTS:
The following attachments are an integral part of this bid invitation:

There are no attachments

Note: To be considered, bid must be signed on front cover sheet in the space provided.