

STATE OF OHIO  
DEPARTMENT OF ADMINISTRATIVE SERVICES  
GENERAL SERVICES DIVISION  
OFFICE OF PROCUREMENT SERVICES  
4200 SURFACE ROAD, COLUMBUS, OH 43228-1395

MANDATORY USE CONTRACT FOR: Arc Flash Hazards Analysis

CONTRACT No.: OT901915

EFFECTIVE DATES: 10/03/14 to 09/30/19

The Department of Administrative Services has accepted bids submitted in response to Invitation to Bid No. OT901915 that opened on 08/27/14. The evaluation of the bid response(s) has been completed. The bidder(s) listed herein have been determined to be the lowest responsive and responsible bidder(s) and have been awarded a contract for the items(s) listed. The respective bid response, including the [Terms and Conditions for Bidding, Standard Contract Terms and Conditions, and Supplemental Contract Terms and Conditions](#) (Revised 10/2013), special contract terms & conditions, any bid addenda, specifications, pricing schedules and any attachments incorporated by reference and accepted by DAS become a part of this Requirements Contract.

This Requirements Contract is effective beginning and ending on the dates noted above unless, prior to the expiration date, the Contract is renewed, terminated or cancelled in accordance with the Contract Terms and Conditions.

This Requirements Contract is available to , as applicable.

Agencies are eligible to make purchases of the listed supplies and/or services in any amount and at any time as determined by the agency. The State makes no representation or guarantee that agencies will purchase the volume of supplies and/or services as advertised in the Invitation to Bid.

SPECIAL NOTE: State agencies may make purchases under this Requirements Contract up to \$2500.00 using the state of Ohio payment card. Any purchase that exceeds \$2500.00 will be made using the official state of Ohio purchase order (ADM-0523). Any non-state agency, institution of higher education or Cooperative Purchasing member will use forms applicable to their respective agency.

Questions regarding this and/or the Requirements Contract may be directed to:

Gail Harper-Perry, CPPB  
gail.harper-perry@das.ohio.gov

This Requirements Contract and any Amendments thereto are available from the DAS Web site at the following address:

<http://www.ohio.gov/procure>

Signed: \_\_\_\_\_  
Robert Blair, Director Date

**SPECIAL CONTRACT TERMS AND CONDITIONS**

**AMENDMENTS TO CONTRACT TERMS AND CONDITIONS:** The following Amendments to the Contract Terms and Conditions do hereby become a part hereof. In the event that an amendment conflicts with the Contract Terms and Conditions, the Amendment will prevail.

**DELIVERY AND ACCEPTANCE:** Services will be performed as set forth in the Contract and in accordance with paragraphs S-8, S-9, and S-10 of the SUPPLEMENTAL CONTRACT TERMS AND CONDITIONS. The location of performance will be noted on the purchase order issued by the participating agency. Payment for services rendered will occur upon the inspection and written confirmation by the ordering agency that the services provided conform to the requirements set forth in the Contract. Unless otherwise provided in the Contract, payment shall be conclusive except as regards to latent defects, fraud, or such gross mistakes as amount to fraud.

**BID CONFERENCE:** A Bid conference will be held on 08/05/14 at Ohio DAS General Services Center 4200 Surface Road, Columbus OH 43228 to discuss the requirements of the Bid. The conference will commence promptly at 1:30 PM – 3:00PM, barring an unforeseen circumstance that results in a delay of the conference. The state will not be responsible to a Bidder for their failure to obtain information discussed during the Bid conference due to their arriving after the conference has convened.

**MANDATORY SITE VISITS:** Mandatory site visit(s) are required to survey the facility(ies) to become familiar with the Bid. The site visit will commence promptly, barring an unforeseen circumstance that results in a delay of the site visit. Attendance will be taken. The State will not be responsible to a Bidder for their failure to obtain information discussed during the site visit due to their arriving after the site visit has convened. Bidders who fail to attend the Mandatory Site Visits will be deemed not responsive. Site Visit scheduled dates and times are listed below.

Please contact the facility(ies)/institution(s) you wish to visit during regular business hours to make arrangements for authorization to enter the facility.

<b>CONTACT:</b>	<b>LOCATION:</b>	<b>DATE:</b>	<b>TIME:</b>
Contact: Brian Hammen Phone: 614-644-9854	Vern Riffe Center Tower for Government & the Arts 77 S. High St Columbus, OH 43215	08/01/14	10:30 AM-12:30PM
Contact: Eric Hanna 614-995-1477	The Ohio Department of Health Complex  35 Chestnut Street &  246 N. High Street Columbus, OH 43215	07/29/14  08/01/14	8:00 AM – 10:00 AM
Contact: Noel Rozelle 614-387-0300	The Ohio Department of Education Building 25 S. Front St. Columbus, OH 43215	07/29/14 08/01/14	10:30 AM – 12:30 PM
Contact: Ken Cope 614-752-0441	Ohio DAS General Services Center 4200 Surface Rd. Columbus, OH 43228	07/29/14 08/01/14	1:00 PM – 3:00 PM
Contact: Patrick Kelleher Phone: 419-245-3080	Michael V DiSalle Government Center 640 Jackson St. Toledo, OH 43604	07/30/14	10:00 AM-12:00PM

**CONTRACT AWARD:** The contract will be awarded to the lowest responsive and responsible bidder for each of the two cities. Failure to bid all items may result in the bidder being deemed not responsive.

**EVALUATION:** Bids will be evaluated in accordance with Article I-17 of the “Instructions to Bidders”. In addition, the state will:

First, add up Project Costs on page 7 for each building and sum by city to get Total Item Costs. Second calculate the Optional Costs by adding hourly rates for each of the four Hourly Rates listed; calculate the cost for Parts by applying the Markup to \$100.00; add Updating Documentation costs per Hourly Rate. These six totals will be added to the total item cost for each facility listed to arrive at the lowest responsive and responsible Bidder. Failure to Bid any of the hourly rates, Parts Markup, Item Cost may result in the Bid being deemed as non-responsive and no further consideration for award given. One award will be given per city.

**SPECIAL CONTRACT TERMS AND CONDITIONS**

**USAGE REPORTS:** Every six months the Contractor must submit a report indicating sales generated by this contract. The report shall list usage by facility, by line item, showing the quantities/dollars generated by this contract. The report shall be forwarded to the Office of Procurement Services, 4200 Surface Road, Columbus, OH 43228-1395, Attn: Procurement Services/DAS080.

**FIXED-PRICE WITH ECONOMIC ADJUSTMENT:** The contract prices(s) will remain firm for the first twelve (12) months duration of the contract. Thereafter, the Contractor may submit a request to increase their price(s) to be effective sixty (60) calendar days after acceptance by DAS. No price adjustment will be permitted prior to the effective date of the increase received by the Contractor from his suppliers, or on purchase orders that are already being processed, or on purchase orders that have been filled and are awaiting shipment. If the Contractor receives orders requiring quarterly delivery, the increase will apply to all deliveries made after the effective date of the price increase.

The price increase must be supported by a general price increase in the cost of the finished supplies, due to increases in the cost of raw materials, labor, freight, Workers' Compensation and/or Unemployment Insurance, etc. Detailed documentation, to include a comparison list of the contract items and proposed price increases, must be submitted to support the requested increase. Supportive documentation should include, but is not limited to: copies of the old and the current price lists or similar documents which indicate the original base cost of the product to the Contractor and the corresponding increase, and/or copies of correspondence sent by the Contractor's supplier on the supplier's letterhead, which contain the above price information and explains the source of the increase in such areas as raw materials, freight, fuel or labor, etc.

Should there be a decrease in the cost of the finished product due to a general decline in the market or some other factor, the Contractor is responsible to notify DAS immediately. The price decrease adjustment will be incorporated into the contract and will be effective on all purchase orders issued after the effective date of the decrease. If the price decrease is a temporary decrease, such should be noted on the invoice. In the event that the temporary decrease is revoked, the contract pricing will be returned to the pricing in effect prior to the temporary decrease. For quarterly deliveries, any decrease will be applied to deliveries made after the effective date of the decrease. Failure to comply with this provision will be considered as a default and will be subject to Provision I.C. "Termination/Suspension" and Provision II. of the "Contract Remedies:" of the "Standard Contract Terms and Conditions".

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## SPECIFICATIONS

### I. SCOPE:

This Contract is for Arc Flash Hazard Analysis study. The goal of the analysis is to protect workers. The Analysis will be used to determine what type of protective clothing Contractors must wear in order to work with the equipment (e.g. personal protection, pants, hood, gloves, etc. An Arc Flash Hazard Analysis must be conducted every five (5) years. As per article 130.5 Hazard Analysis of the National Fire Protection Agency (NFPA) 70E, an Arc Flash Hazard Analysis shall determine the arc flash boundary, the incident energy at the working distance and, the personal protective equipment that personnel within arc flash boundary shall use.

The Arc Flash Hazard Analysis shall be updated when a major modification or renovation takes place. It shall be reviewed periodically, not to exceed 5 years, to account for changes in the electrical distribution system that could affect the results of the Arc Flash Hazard Analysis.

### II. REGULATIONS:

The Arc Flash Hazard Analysis shall be completed in accordance with the following codes and standards:

- A. The Contractor must be compliant OSHA 29-CFR 1910.333, 1910.335 (a) (1) (i), 1910.132 (d)(1) and 1910.335 (b) (1).
- B. The Contractor must be compliant NFPA 70E 130.5, 130.7 (c) (16)
- C. The Contractor must be compliant NEC110.16, 110.22
- D. The Contractor must be compliant IEEE 1584
- E. The Contractor must be compliant ANSI Z535.4

### III. ACRONYMS:

- A. ANSI - American National Standards Institute
- B. IEEE - Institute of Electrical Engineers
- C. NFPA - National Fire Protection Agency
- D. OSHA – Occupational Safety and Health Administration
- E. PPE – Personal Protective Equipment

### IV. WORK HOURS:

The Contractor shall coordinate with the on-site DAS Facility Manager prior to work. Arc Flash tasks shall be completed during normal business hours (8:00AM- 5:00PM). Investigative research in panel which requires power to be turned off shall be completed after hours (5:00PM-7:00AM). Any work requiring equipment shut down or directly servicing a tenant space shall be completed after hours (5:00PM-7:00AM) unless previously authorized by the on-site DAS Facility Manager.

### V. CONTRACTOR EXPERIENCE:

- A. Licensed Professional Electrical Engineer on staff
- B. SKM Power Analysis Software
- C. Ten (10) years' experience in performing Arc Flash Hazard Analysis

### VI. REQUIREMENTS:

- A. The Contractor must analyze the equipment which includes all the electrical equipment that would create a Hazardous Arc Flash (arc blast). The evaluation shall include the collection of pertinent electrical data, a detailed Arc Flash Hazards Analysis, a report detailing findings, correction action plan and, the placement of arc flash labels on every electrical component analyzed. Also, any equipment having the capability of creating hazardous arc flash, capable of delivering at least "incident energy" of 1.2 cal.cm<sup>2</sup> to the skin at 18 inches or greater per IEEE 1584.

Note: The Contractor must provide an updated one-line electrical drawings based on analysis. The drawings shall include one hard copy, one .dxf file format and one .pdf electronic copy.

- B. The Contractor shall not include the following equipment in the Arc Flash Hazard Analysis, but the equipment shall receive a generic arc flash sticker based on voltage:
  - 1. Fed at 240 volts / 3phase from a single transformer smaller than 125 kVA;
  - 2. Fed at 120 volts / 1phase and 277volts / 1phase.

Note: The Contractor must provide one-line electrical drawings which are required for all electrical equipment not included in the analysis due to no known flash hazard.

## SPECIFICATIONS

- C. The Contractor shall collect data by a competent person(s) as defined by OSHA and NFPA 70E in appropriate PPE. The data collected shall include transformer nameplates, conductor sizes/number per phase /lengths, motors larger than 50 hp, circuit breaker catalog numbers and settings, fuse catalog numbers and onsite generator nameplates.
- D. The Contractor shall provide their own ladders, lifts, etc. for all overhead work.
- E. The Contractor shall produce power system one-line diagrams from analysis of data collected. The diagrams shall include hard copies and PDF versions.
- F. The data collected, along with the one line diagrams are to be analyzed by a licensed professional engineer knowledgeable in the use of electrical engineering software and arc flash hazard. The analysis shall meet IEEE 1584 and NFPA 70E standards. The software program utilized shall be, Easy Power, PTW or equivalent and is used to determine :
  - 1. Short Circuit Study
  - 2. Device interrupt rating and evaluation study
  - 3. Protective devices coordination study
  - 4. Arc Flash Hazard Analysis
  - 5. Recommend solutions to problems and identify opportunities
  - 6. Provide written analysis report
- G. The Contractor shall meet with DAS Facility Managers from each location to present, review and answer questions on the analysis report and one-line diagrams, along with recommendations and estimated cost to make improvements.
- H. The Contractor shall place arc flash warning labels on all evaluated equipment as per NEC 110.16 and NFPA 70E 130.5 (C) the labels shall have the following:
  - 1. Name / number of the equipment
  - 2. Name of the feed equipment
  - 3. Incident energy
  - 4. Arc flash boundary
  - 5. Arc flash hazard category
  - 6. Available short circuit current
  - 7. Nominal system voltage
  - 8. Shock hazard boundaries
  - 9. Glove class for shock hazard
  - 10. Date of analysis
  - 11. Orange color for H/R category 0-4 per ANSI Z535.4
  - 12. Red color for H/R above category 4 per ANSI Z535.4
- I. The Contractor shall provide updates to electrical codes and standards up to 5 years after the completion of the analysis.
- J. The Contractor must provide an updated one-line electrical drawings based on analysis. The drawings shall include one hard copy, one .dxf file format and one .pdf electronic copy.
- K. The Contractor must provide one-line electrical drawings which are required for all electrical equipment not included in the analysis due to no known flash hazard.
- L. The Contractor must provide one hard copy and one electronic copy of the arc flash report containing the following:
  - 1. Arc flash & electrical hazard analysis
  - 2. Short circuit analysis
  - 3. Coordination analysis
  - 4. Recommendations and corrective action report
- M. The Contractor must provide arc flash labels.
- N. The Contractor must label application.
- O. The Contractor must comply with OSHA standards.
- P. The Contractor must provide updates on arc flash & electrical safety code changes.
- Q. The Contractor must update the Arc Flash Study via .dxf or pdf. file upon notification of electrical system changes by the agency.
- R. The Contractor must provide all reports, electronic copies, files per facility and not to be combined into one.

**PRICE SCHEDULE**

Price shall reflect 1 full project cycle. Project cycle is 1x per 5 years.

For Example: 1 Arc Flash Analysis; 1 full set of one line diagrams; full set of arc flash labels; application of labels; recommendations; updates as needed.

	The Ohio Department of Health Complex 246 N High Street Columbus OH 43215	The Ohio Department of Health Complex 35 E Chestnut Street Columbus OH 43215	Vern Riffe Center Tower for Government & the Arts 77 S. High St Columbus OH 43215	The Ohio Department of Education Building 25 S Front St. Columbus OH 43215	Ohio DAS General Services Center 4200 Surface Road, Columbus OH 43228	Michael V DiSalle Government Center 640 Jackson St. Toledo, OH 43604
	OAKS Item # 26364	OAKS Item # 26365	OAKS Item # 26366	OAKS Item # 26367	OAKS Item # 26368	OAKS Item # 26369
Updated one line electrical drawings based on arc flash analysis. (reference section: VI-A)	\$13,700	\$10,400	\$ 46,700	\$7,800	\$16,700	\$2,800
One line electrical drawings (reference section: VI-B)	\$2,000	\$1,000	\$ 7,600	\$2,000	\$ 2,000	\$1,400
*One hard copy and one pdf electronic copy of the arc flash analysis report. (reference section: VI-L) (materials)	\$2,800	\$2,100	\$ 9,200	\$1,600	\$ 2,900	\$2,800
Arc Flash Labels (reference section: VI-H)	\$1,100	\$900	\$ 3,700	\$700	\$ 1,200	\$1,400
Label application (labor)	\$ 136 /hr.	\$ 136 /hr.	\$ 136 /hr.	\$ 136 /hr.	\$ 136 /hr.	\$ 105 /hr.
Arc Flash Analysis evaluation and study in accordance with NFPA 70E & IEEE 1584. (reference section: VI-F)	\$8,700	\$6,600	\$29,100	\$4,800	\$9,000	\$20,000
Updates on arc flash & electrical safety code changes (labor)	\$ 130 /hr.	\$ 130 /hr.	\$ 130 /hr.	\$ 130 /hr.	\$ 130 /hr.	\$ 105 /hr.

Prices are per building. Please include a price for each item for a building. Failure to submit prices for each item within a building will result in being non-responsive. No additional charges will be allowed under this contract, excluding those listed under Optional Repair, and only at the prior approval of DAS. There will be one award covering all buildings in Columbus, OH and one award for Toledo, OH. The Contractor has the option to Bid one or both cities.

**PRICE SCHEDULE**

If the need arises for repair of any of the components and DAS approves the Contractor to complete these repairs, the Contractor shall bill Time and Materials at the following costs:

**CONTRACTOR FOR COLUMBUS OH: AVO TRAINING INSTITUTE**

**COLUMBUS OH OPTIONAL REPAIR COSTS:**

OAKS Item #	Item	Hourly Rates
26370	Labor Hourly Rate Regular Business Hours, (M-F 8:00 am-5:00 pm)	\$ 70.60 /hour
26371	Labor Hourly Rate Non Business Hours:( Evenings M-F 5:00 pm- 7:00am) & Weekends	\$ 96.60 /hour
26372	State Holiday Hourly Rate:	\$ 122.60 /hour
26373	Emergency Hourly Rate:	\$ 96.60 /hour
26374	Parts: Parts shall be at List Price plus the markup % stated. Contractor must include invoice for any parts.	12 %Markup

**COLUMBUS OH UPDATING DOCUMENTATION COSTS:**

OAKS Item #	Item	Hourly Rates
26375	Track updates to electrical system, updates on arc flash and electrical code changes. Hourly charge to update the documentation with information provided by the facility as needed.	\$ 140 / hour

**CONTRACTOR FOR TOLEDO OH: POWER PLUS ENGINEERING**

**TOLEDO OH OPTIONAL REPAIR COSTS:**

OAKS Item #	Item	Hourly Rates
26376	Labor Hourly Rate Regular Business Hours, (M-F 8:00 am-5:00 pm)	\$ 105 /hour
26377	Labor Hourly Rate Non Business Hours:( Evenings M-F 5:00 pm- 7:00am) & Weekends	\$ 136.50 /hour
26378	State Holiday Hourly Rate:	\$ 170.00 /hour
26379	Emergency Hourly Rate:	\$ 170.00 /hour
26380	Parts: Parts shall be at List Price plus the markup % stated. Contractor must include invoice for any parts.	10 %Markup

**TOLEDO OH UPDATING DOCUMENTATION COSTS:**

OAKS Item #	Item	Hourly Rates
26381	Track updates to electrical system, updates on arc flash and electrical code changes. Hourly charge to update the documentation with information provided by the facility as needed.	\$105.00 / hour

**CONTRACTOR INDEX**

CONTRACTOR, TERMS, AND SHIPMENT:

BID CONTRACT NO.: OT901915-1 (09/30/19)

TOLEDO OHIO TERRITORY

0000223337  
Power Plus Engineering, Inc.  
46575 Magellan Drive  
Novi, MI 48377

TERMS: Net 30 Days

DELIVERY: As Specified

CONTRACTOR'S CONTACT: Michael L. Mancuso

Toll free:

FAX:

E-mail address: [mmancuso@epowerplus.com](mailto:mmancuso@epowerplus.com)

Telephone: (248) 344-0200  
(800) 765-3120  
(248) 305-9105

Preferred Method of Ordering: Email [mmancuso@epowerplus.com](mailto:mmancuso@epowerplus.com)

CONTRACTOR, TERMS, AND SHIPMENT:

BID CONTRACT NO.: OT901915-2 (09/30/19)

COLUMBUS OHIO TERRITORY

0000223649  
AVO Training Institute, Inc.  
4271 Bronze Way  
Dallas, TX 75237

TERMS: Net 30 Days

DELIVERY: As Specified

CONTRACTOR'S CONTACT: R. Dee Jones

TOLL FREE:

FAX:

E-mail address: [dee.jones@avoedivision.com](mailto:dee.jones@avoedivision.com)

Telephone: (214) 331-7347  
(877) 594-3156  
(214) 331-7363

Preferred Method of Ordering: Email [dee.jones@avoedivision.com](mailto:dee.jones@avoedivision.com)