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March 4, 2013

**Addendum #2 To
Request for Proposal
For Computer Services Center 1600A Switchboard: Project 193-228859**

Dated February 20, 2013

Points of Clarifications during the Pre-proposal Meeting February 26, 2013:

The Addendum must be acknowledged on your lump sum bid.

Questions were received regarding the project, the answers are contained below.

IMPORTANT – PLEASE NOTE: Effective December 1, 2007, bid notices will be sent only to those Vendors registered to receive them via our Bid Opportunities Listserve service. To register, to http://www.forms.purchasing.wayne.edu/Adv_bid/Adv_bid.html, and click on the “Join our Listserve” link at the top of the page. Instructions are at the top of the page, and the Construction Listserv service is under “Construction Bid Opportunities”.

NOTE: You must have attended a prebid conference in order to be eligible to bid on a particular project. Receipt of minutes or addenda without being at a prebid conference does not qualify your company to bid.

A copy of this Addendum will be posted to the Purchasing web site at http://www.forms.purchasing.wayne.edu/Adv_bid/Adv_bid.html.

As a reminder, the bid due date is March 6, 2013, at 2:00 pm. If you have any further questions, please do not hesitate to email them to me at bb2709@wayne.edu and copy ac0578@wayne.edu.

Thank you,

**Paula Reyes,
Strategic Sourcing Manager**



Mechanical
Electrical
Energy Management
Communication Technologies
Commissioning

ADDENDUM

Project Name: Wayne State University
C&IT 1600A Switchboard
WSU Project No. 193228859

PBA Project Number: 2012.0388.00

Addendum Number: 2

Date: March 1, 2013

Each Bidder's proposal shall include the work described herein.

Unless otherwise indicated, the work described herein shall comply with, and be equal in all respects to, the original Specifications and the Drawings accompanying same. Include incidental work required to properly complete the work, whether stated herein or not.

Specifications Issued: Section 260519

Drawings Issued: None

- | Item No. | Description |
|----------|---|
| 1. | Refer to Specification Section 260519 "Conductors and Cables" (Issued)

A. Added Specification. |
| 2. | Refer to Specification Section 260573 "Overcurrent Device Coordination Study/Arc Flash Hazard Analysis" (Issued)

A. Added Specification. |
| 3. | Bidders Questions and Responses are as follows:

1.) Can Where can I find the Specifications and/or Information for the type of Conductor or Cable to be used on this project? Refer to Addendum 2.

2.) As indicate on section 26 2413-4 other manufacturers are acceptable for the new 1600-amp switchboard such General Electric Co , Siemens Industries Inc. to substitute Square D equipment as indicate on drawing E5.1? Yes. Basis of design is Square D. |

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PETER BASSO ASSOCIATES, INC.

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- 3.) At some point in time can substation B be complete de-energize to remove conduit and feeders? Also reconnect new conduit and feeders? ***Yes. The intent is to switch over to the generators temporarily while work is being done to the substation.***
- 4.) Can ATS #1 be complete de-energize to remove conduit and feeders and reconnect conduit and feeder to new 1600- amp switchboard? Either at night or weekends doing off peak hours. ***No. ATS-1 provides power to the Data Center servers and cannot be shut down.***
- 5.) Can the grounding cable be run over head and down the wall to connect to the bonding ring? ***No. However it is acceptable to provide this as a voluntary alternate.***
- 6.) The conduits for ATS #1 and ATS #2 identify on an as build drawing? ***No.*** Both conduit runs are new. ***Conduits for ATS#1 were installed in 2000 and ATS#2 in 2012.***
- 7.) What is the update prevailing wage scale for electrician classification? ***Posted with the minutes.***
- 8.) What is the available height clearance from the house keeper pad to the lows conduit run where the new 1600-amp switchboard to be place? ***We do not have this information available.***

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes building wires and cables and associated connectors, splices, and terminations for wiring systems rated 600 V and less.
- B. Related Sections include the following:
 - 1. Division 26 Section "Electrical Identification" for conductor and cable color-coding.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Qualification Data: For testing agency.
- C. Field Quality-Control Test Reports: From a qualified testing and inspecting agency engaged by Contractor.

1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Testing agency as defined by OSHA in 29 CFR 1910.7 or a member company of the InterNational Electrical Testing Association and that is acceptable to authorities having jurisdiction.
 - 1. Testing Agency's Field Supervisor: Person currently certified by the InterNational Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.

- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- B. Manufacturers, Copper:
 - 1. Triangle.
 - 2. Rome.
 - 3. Cablec.
 - 4. Southwire.
- C. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- D. Refer to Part 3 "Conductor and Insulation Applications" Article for insulation type, cable construction, and ratings.
- E. Conductor Material: Copper complying with NEMA WC 70; stranded conductor.
- F. Conductor Insulation Types: Type THHN-THWN, complying with NEMA WC 70.

2.2 CONNECTORS AND SPLICES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. 3M Company; Electrical Products Division.
 - 2. T & B.
 - 3. Burndy.
 - 4. ILSCO.
- B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

PART 3 - EXECUTION

3.1 CONDUCTOR AND INSULATION APPLICATIONS

- A. Exposed Feeders: Type THHN-THWN, single conductors in raceway.

3.2 INSTALLATION

- A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.

- B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- D. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- E. Support cables according to Division 26 Section "Hangers and Supports for Electrical Systems."
- F. Seal around cables penetrating fire-rated elements according to Division 7 Section "Through-Penetration Firestop Systems."
- G. Each feeder shall be of the same conductor and insulation material (phase, neutral, and parallel).
- H. Identify and color-code conductors and cables according to Division 26 Section "Electrical Identification."
- I. All wiring shall be installed in conduit or approved raceway. All raceways shall be provided with a ground conductor unless noted otherwise on the Contract Documents.
- J. Use conductor not smaller than 12 AWG for power and lighting circuits. Unless indicated otherwise, all circuits shall be 2#12, 1#12G, $\frac{3}{4}$ "C.
- K. Use conductor not smaller than 14 AWG for control circuits, provided by Electrical Contractor.
- L. Use suitable cable fittings and connectors.
- M. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- N. Clean conductor surfaces before installing lugs and connectors.
- O. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
- P. Use piercing connector with insulating covers for conductor splices and taps, 8 AWG and larger.
- Q. Use Sta-Kon connectors to terminate stranded conductors #10 AWG and smaller to screw terminals.
- R. Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.
- S. Provide a separate neutral conductor for each circuit.
- T. Electrical Contractor shall be responsible for derating of conductors as required by N.E.C.
- U. AC/MC cable shall not be used.
- V. Between support, hangers and termination no more than 3" deflection from the bottom of the cable to a horizontal line between the support/hanger or termination.

3.3 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

- B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

3.4 FIELD QUALITY CONTROL

- A. Testing: Perform the following field quality control tests in accordance with Division 26 section "Electrical Testing"
 - 1. Description: Test all feeders rated 100 A and above.
 - 2. Visual and Mechanical Inspection
 - a. Inspect cables for physical damage and proper connection in accordance with the one line diagram.
 - b. Test cable mechanical connections with an infrared survey.
 - c. Check cable color-coding against project Specifications and N.E.C. requirements.
 - 3. Electrical Tests
 - a. Perform insulation resistance test on each conductor with respect to ground and adjacent conductors. Applied potential to be 1000 volts dc for 1 minute.
 - b. Perform continuity test to insure proper cable connection.
 - 4. Test Values
 - a. Minimum insulation resistance values shall be not less than fifty mega-ohms.
- B. Test Reports: Prepare a written report to record the following:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

END OF SECTION 26 0519

SECTION 26 0573 – OVERCURRENT DEVICE COORDINATION STUDY/ARC FLASH HAZARD ANALYSIS

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.2 SCOPE

- A. The contractor shall furnish short-circuit and protective device coordination studies as prepared by the electrical equipment manufacturer.
- B. The contractor shall furnish an Arc Flash Hazard Analysis Study per the requirements set forth in NFPA 70E -Standard for Electrical Safety in the Workplace. The arc flash hazard analysis shall be performed according to the IEEE 1584 equations that are presented in NFPA70E-2004, Annex D prepared by the electrical equipment manufacturer.
- C. The scope of the studies shall include all new distribution equipment supplied by the equipment manufacturer under this contract as well as all directly affected existing distribution equipment at the customer facility.

1.3 REFERENCES

- A. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
 - 1. IEEE 141 – Recommended Practice for Electric Power Distribution and Coordination of Industrial and Commercial Power Systems
 - 2. IEEE 242 – Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems
 - 3. IEEE 399 – Recommended Practice for Industrial and Commercial Power System Analysis
 - 4. IEEE 241 – Recommended Practice for Electric Power Systems in Commercial Buildings

5. IEEE 1015 – Recommended Practice for Applying Low-Voltage Circuit Breakers Used in Industrial and Commercial Power Systems.
6. IEEE 1584 -Guide for Performing Arc-Flash Hazard Calculations

B. American National Standards Institute (ANSI):

1. ANSI C57.12.00 – Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers
2. ANSI C37.13 – Standard for Low Voltage AC Power Circuit Breakers Used in Enclosures
3. ANSI C37.010 – Standard Application Guide for AC High Voltage Circuit Breakers Rated on a Symmetrical Current Basis
4. ANSI C 37.41 – Standard Design Tests for High Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches and Accessories.

C. The National Fire Protection Association (NFPA)

1. NFPA 70 -National Electrical Code, latest edition
2. NFPA 70E – Standard for Electrical Safety in the Workplace

1.4 SUBMITTALS FOR REVIEW/APPROVAL

- A. The short-circuit and protective device coordination studies shall be submitted to the design engineer prior to receiving final approval of the distribution equipment shop drawings and/or prior to release of equipment drawings for manufacturing. If formal completion of the studies may cause delay in equipment manufacturing, approval from the engineer may be obtained for preliminary submittal of sufficient study data to ensure that the selection of device and characteristics will be satisfactory.

1.5 SUBMITTALS FOR CONSTRUCTION

- A. The results of the short-circuit, protective device coordination and arc flash hazard analysis studies shall be summarized in a final report. Five (5) bound copies of the complete final report shall be submitted. Additional copies of the short-circuit input and output data, where required, shall be provided on CD in PDF format.
- B. The report shall include the following sections:
1. Executive Summary.
 2. Descriptions, purpose, basis and scope of the study.
 3. Tabulations of circuit breaker, fuse and other protective device ratings versus calculated short circuit duties.
 4. Protective device time versus current coordination curves, tabulations of relay and circuit breaker trip unit settings, fuse selection.
 5. Fault current calculations including a definition of terms and guide for interpretation of the computer printout.
 6. Details of the incident energy and flash protection boundary calculations.
 7. Recommendations for system improvements, where needed.
 8. One-line diagram.
- C. Arc flash labels shall be provided in hard copy and a copy of the computer analysis software viewer program is required to provide arc flash labels in electronic format.

1.6 QUALIFICATIONS

- A. The short-circuit, protective device coordination and arc flash hazard analysis studies shall be conducted under the supervision and approval of a Registered Professional Electrical Engineer skilled in performing and interpreting the power system studies.
- B. The Registered Professional Electrical Engineer shall be a full-time employee of the equipment manufacturer.
- C. The Registered Professional Electrical Engineer shall have a minimum of five (5) years of experience in performing power system studies.
- D. The equipment manufacturer shall demonstrate experience with Arc Flash Hazard Analysis by submitting names of at least ten actual arc flash hazard analysis it has performed in the past year.

1.7 COMPUTER SOFTWARE PROGRAMS

- A. Computer Software Programs: Subject to compliance with requirements, provide products by one of the following:
 - 1. EDSA Micro Corporation.
 - 2. SKM Systems Analysis, Inc.
 - 3. ESA Inc.
 - 4. CGI CYME.
 - 5. Operation Technology, Inc.

PART 2 - PRODUCTS

2.1 STUDIES

- A. Contractor to furnish short-circuit and protective device coordination studies as prepared by equipment manufacturer.
- B. The contractor shall furnish an Arc Flash Hazard Analysis Study per NFPA 70E -Standard for Electrical Safety in the Workplace, reference Article 130.3 and Annex D prepared by the equipment manufacturer.

2.2 DATA COLLECTION

- A. Contractor shall furnish all data as required by the power system studies. The Engineer performing the short-circuit, protective device coordination and arc flash hazard analysis studies shall furnish the Contractor with a listing of required data immediately after award of the contract. The Contractor shall expedite collection of the data to assure completion of the studies as required for final approval of the distribution equipment shop drawings and/or prior to the release of the equipment for manufacturing.
- B. Source combination may include present and future motors and generators.
- C. Load data utilized may include existing and proposed loads obtained from Contract Documents provided by Owner.
- D. If applicable, include fault contribution of existing motors in the study. The Contractor shall obtain required existing equipment data to satisfy the study requirements.

2.3 SHORT-CIRCUIT AND PROTECTIVE DEVICE EVALUATION STUDY

- A. Use actual conductor impedances if known. If unknown, use typical conductor impedances based on IEEE Standard 141-1993.
- B. Transformer design impedances shall be used when test impedances are not available.
- C. Provide the following:
 - 1. Calculation methods and assumptions
 - 2. Selected base per unit quantities
 - 3. One-line diagram of the system being evaluated
 - 4. Source impedance data, including electric utility system and motor fault contribution characteristics
 - 5. Tabulations of calculated quantities
 - 6. Results, conclusions, and recommendations.
- D. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault at each:
 - 1. Electric utility's supply termination point
 - 2. Incoming switchgear
 - 3. Unit substation primary and secondary terminals
 - 4. Low voltage switchgear
 - 5. Motor control centers
 - 6. Standby generators and automatic transfer switches
 - 7. Branch circuit panelboards
 - 8. Other significant locations throughout the system.
- E. For grounded systems, provide a bolted line-to-ground fault current study for areas as defined for the three-phase bolted fault short-circuit study.
- F. Protective Device Evaluation:
 - 1. Evaluate equipment and protective devices and compare to short circuit ratings
 - 2. Adequacy of switchgear, motor control centers, and panelboard bus bars to withstand short-circuit stresses
 - 3. Notify design engineer in writing, of existing, circuit protective devices improperly rated for the calculated available fault current.

2.4 PROTECTIVE DEVICE COORDINATION STUDY

- A. Proposed protective device coordination time-current curves (TCC) shall be displayed on log-log scale graphs.
- B. Include on each TCC graph, a complete title and one-line diagram with legend identifying the specific portion of the system covered.
- C. Terminate device characteristic curves at a point reflecting maximum symmetrical or asymmetrical fault current to which the device is exposed.
- D. Identify the device associated with each curve by manufacturer type, function, and, if applicable, tap, time delay, and instantaneous settings recommended.
- E. Plot the following characteristics on the TCC graphs, where applicable:
 - 1. Electric utility's overcurrent protective device
 - 2. Medium voltage equipment overcurrent relays

3. Medium and low voltage fuses including manufacturer's minimum melt, total clearing, tolerance, and damage bands
 4. Low voltage equipment circuit breaker trip devices, including manufacturer's tolerance bands
 5. Transformer full-load current, magnetizing inrush current, and ANSI through-fault protection curves
 6. Conductor damage curves
 7. Ground fault protective devices, as applicable
 8. Pertinent motor starting characteristics and motor damage points, where applicable
 9. Pertinent generator short-circuit decrement curve and generator damage point
 10. The largest feeder circuit breaker in each motor control center and applicable panelboard.
- F. Provide adequate time margins between device characteristics such that selective operation is provided, while providing proper protection.

2.5 ARC FLASH HAZARD ANALYSIS

- A. The arc flash hazard analysis shall be performed according to the IEEE 1584 equations that are presented in NFPA70E-2004, Annex D.
- B. The flash protection boundary and the incident energy shall be calculated at all significant locations in the electrical distribution system (switchboards, switchgear, motor-control centers, panelboards, busway and splitters) where work could be performed on energized parts.
- C. The Arc-Flash Hazard Analysis shall include all significant locations in 240 volt and 208 volt systems fed from transformers equal to or greater than 125 kVA where work could be performed on energized parts.
- D. Safe working distances shall be based upon the calculated arc flash boundary considering an incident energy of 1.2 cal/cm².
- E. When appropriate, the short circuit calculations and the clearing times of the phase overcurrent devices will be retrieved from the short-circuit and coordination study model. Ground overcurrent relays should not be taken into consideration when determining the clearing time when performing incident energy calculations
- F. The short-circuit calculations and the corresponding incident energy calculations for multiple system scenarios must be compared and the greatest incident energy must be uniquely reported for each equipment location. Calculations must be performed to represent the maximum and minimum contributions of fault current magnitude for all normal and emergency operating conditions. The minimum calculation will assume that the utility contribution is at a minimum and will assume a minimum motor contribution (all motors off). Conversely, the maximum calculation will assume a maximum contribution from the utility and will assume the maximum amount of motors to be operating. Calculations shall take into consideration the parallel operation of synchronous generators with the electric utility, where applicable.
- G. The incident energy calculations must consider the accumulation of energy over time when performing arc flash calculations on buses with multiple sources. Iterative calculations must take into account the changing current contributions, as the sources are interrupted or decremented with time. Fault contribution from motors and generators should be decremented as follows:
 1. Fault contribution from induction motors should not be considered beyond 3-5 cycles.
 2. Fault contribution from synchronous motors and generators should be decayed to match the actual decrement of each as closely as possible (e.g. contributions from permanent magnet generators will typically decay from 10 per unit to 3 per unit after 10 cycles).
- H. For each equipment location with a separately enclosed main device (where there is adequate separation between the line side terminals of the main protective device and the work location), calculations for incident energy and flash protection boundary shall include both the line and load side of the main breaker.
- I. When performing incident energy calculations on the line side of a main breaker (as required per above), the line side and load side contributions must be included in the fault calculation.

- J. Mis-coordination should be checked amongst all devices within the branch containing the immediate protective device upstream of the calculation location and the calculation should utilize the fastest device to compute the incident energy for the corresponding location.
- K. Arc Flash calculations shall be based on actual overcurrent protective device clearing time. Maximum clearing time will be capped at 2 seconds based on IEEE 1584-2002 section B.1.2. Where it is not physically possible to move outside of the flash protection boundary in less than 2 seconds during an arc flash event, a maximum clearing time based on the specific location shall be utilized.

2.6 REPORT SECTIONS

- A. Input data shall include, but not be limited to the following:
 - 1. Feeder input data including feeder type (cable or bus), size, length, number per phase, conduit type (magnetic or non-magnetic) and conductor material (copper or aluminum).
 - 2. Transformer input data, including winding connections, secondary neutral-ground connection, primary and secondary voltage ratings, kVA rating, impedance, % taps and phase shift.
 - 3. Generation contribution data, (synchronous generators and Utility), including short-circuit reactance (X"d), rated MVA, rated voltage, three-phase and single line-ground contribution (for Utility sources) and X/R ratio.
 - 4. Motor contribution data (induction motors and synchronous motors), including short-circuit reactance, rated horsepower or kVA, rated voltage, and X/R ratio.
- B. Short-Circuit Output Data shall include, but not be limited to the following reports:
 - 1. Low Voltage Fault Report shall include a section for three-phase and unbalanced fault calculations and shall show the following information for each applicable location:
 - a. Voltage
 - b. Calculated fault current magnitude and angle
 - c. Fault point X/R ratio
 - d. Equivalent impedance
 - 2. Momentary Duty Report shall include a section for three-phase and unbalanced fault calculations and shall show the following information for each applicable location:
 - a. Voltage
 - b. Calculated symmetrical fault current magnitude and angle
 - c. Fault point X/R ratio
 - d. Calculated asymmetrical fault currents
 - 1) Based on fault point X/R ratio
 - 2) Based on calculated symmetrical value multiplied by 1.6
 - 3) Based on calculated symmetrical value multiplied by 2.7
 - e. Equivalent impedance
 - 3. Interrupting Duty Report shall include a section for three-phase and unbalanced fault calculations and shall show the following information for each applicable location:
 - a. Voltage
 - b. Calculated symmetrical fault current magnitude and angle
 - c. Fault point X/R ratio
 - d. No AC Decrement (NACD) Ratio
 - e. Equivalent impedance
 - f. Multiplying factors for 2, 3, 5 and 8 cycle circuit breakers rated on a symmetrical basis
 - g. Multiplying factors for 2, 3, 5 and 8 cycle circuit breakers rated on a total basis

C. Recommended Protective Device Settings:

1. Phase and Ground Relays:
 - a. Current transformer ratio
 - b. Current setting
 - c. Time setting
 - d. Instantaneous setting
 - e. Recommendations on improved relaying systems, if applicable.
2. Circuit Breakers:
 - a. Adjustable pickups and time delays (long time, short time, ground)
 - b. Adjustable time-current characteristic
 - c. Adjustable instantaneous pickup
 - d. Recommendations on improved trip systems, if applicable.

D. Incident energy and flash protection boundary calculations

1. Arcing fault magnitude
2. Protective device clearing time
3. Duration of arc
4. Arc flash boundary
5. Working distance
6. Incident energy
7. Hazard Risk Category
8. Recommendations for arc flash energy reduction

PART 3 - EXECUTION

3.1 FIELD ADJUSTMENT

- A. The contractor shall adjust relay and protective device settings according to the recommended settings table provided by the coordination study.
- B. Make minor modifications to equipment as required to accomplish conformance with short circuit and protective device coordination studies.
- C. Notify design engineer in writing of any required major equipment modifications.

3.2 ARC FLASH WARNING LABELS

- A. The contractor shall provide a 3.5 in. x 5 in. thermal transfer type label of high adhesion polyester for each work location analyzed.
- B. All labels will be based on recommended overcurrent device settings and will be provided after the results of the analysis have been presented to the owner and after any system changes, upgrades or modifications have been incorporated in the system.
- C. The label shall include the following information, at a minimum:
 1. Location designation
 2. Nominal voltage
 3. Flash protection boundary
 4. Hazard risk category

5. Incident energy
 6. Working distance
 7. Engineering report number, revision number and issue date.
- D. Labels shall be machine printed, with no field markings.
- E. Arc flash labels shall be provided in the following manner and all labels shall be based on recommended overcurrent device settings.
1. For each 480 and applicable 208 volt panelboard, one arc flash label shall be provided.
 2. For each motor control center, one arc flash label shall be provided.
 3. For each low voltage switchboard, one arc flash label shall be provided.
 4. For each switchgear, one flash label shall be provided.
 5. For medium voltage switches one arc flash label shall be provided
- F. Labels shall be field installed by the contractor.

END OF SECTION 26 0573