

ESSEX COUNTY
PUBLIC SAFETY BUILDING EMERGENCY OPERATIONS CENTER
EMERGENCY POWER SYSTEM
AES PROJECT NO. 4048

DOCUMENT 00910

ADDENDA

ADDENDUM NUMBER 1

DATE: December 5, 2013
PROJECT: Emergency Power System
AES PROJECT NO: 4048
OWNER: Essex County
ARCHITECT: AES Northeast, PLLC
TO: Prospective Bidders/Plan Holders

This Addendum forms a part of the Contract Documents and modifies the Documents dated November 22, 2013 with amendments and additions noted below.

Acknowledge receipt of this Addendum in the space provided in the Bid Form. Failure to do so may disqualify the Bidder.

**This Addendum consists of (6) Pages; including DOCUMENT 00910 – ADDENDUM NO. 1(2) Pages;
SECTION 262203 – LOW-VOLTAGE TRANSFORMERS FOR NON-LINEAR LOADS (4) Pages;**

CHANGES TO THE PROJECT MANUAL

ITEM NO. 1

Narrative Summary: Adds Transformer Specification.

SECTION – 262203 – LOW-VOLTAGE TRANSFORMERS FOR NON-LINEAR LOADS

Insert: SECTION – 262203 – LOW-VOLTAGE TRANSFORMERS FOR NON-LINEAR LOADS

ITEM NO. 2

Narrative Summary: Clarifies that Generator Rigging/Placement by Owner.

SECTION – 263213 – ENGINE GENERATOR

Remove: Paragraph B from Part 1.2 and add to Part 1.3 as Paragraph D (Owner requirement). Owner shall provide all necessary rigging and transportation.

CHANGES TO THE DRAWINGS

ITEM NO. 3

Narrative Summary: Revises General Note 5.

DRAWING G-002 – NOTES, SYMBOLS AND ABBREVIATIONS

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Remove: "48 hours"
Insert: "5 days"

ITEM NO. 4

Narrative Summary: Removes Housekeeping Pads for Interior Equipment.

DRAWING E-101 – BASEMENT ELECTRICAL PLANS

Remove: Drawing Note 2

QUESTIONS

Question No. 1 Clarify routing of conduits in first floor electrical room A152.

ANSWER **Route conduits behind door. Sleeve existing wireway.**

CLARIFICATIONS

1. Cold weather placement of concrete is expected. Refer to Specification 033000.

END DOCUMENT

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SECTION 262203 - LOW-VOLTAGE TRANSFORMERS FOR NONLINEAR LOADS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes transformers for nonlinear loads.
- B. Related Sections:
 - 1. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
 - 2. Section 26 05 29 - Hangers and Supports for Electrical Systems.
 - 3. Section 26 05 33 - Raceway and Boxes for Electrical Systems.
 - 4. Section 26 05 53 - Identification for Electrical Systems.

1.2 REFERENCES

- A. National Electrical Manufacturers Association:
 - 1. NEMA ST 1 - Specialty Transformers (Except General-Purpose Type).
 - 2. NEMA ST 20 - Dry Type Transformers for General Applications.
- B. International Electrical Testing Association:
 - 1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.
- C. Underwriters Laboratories:
 - 1. UL 1561 - Standard for Safety, Dry-Type General Purpose and Power Transformers.

1.3 SUBMITTALS

- A. Section 013300 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit outline and support point dimensions of enclosures and accessories, unit weight, voltage, kVA, k-factor, and impedance ratings and characteristics, tap configurations, insulation system type, and rated temperature rise.
- C. Test Reports: Indicate loss data, efficiency at 25, 50, 75 and 100 percent rated load, and sound level.

1.4 CLOSEOUT SUBMITTALS

- A. Section 017000 - Execution and Closeout Requirements: Closeout procedures.
- B. Project Record Documents: Record actual locations of transformers.

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1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 016000 - Product Requirements: Product storage and handling requirements.
- B. Store in clean, dry space. Maintain factory wrapping or provide additional canvas or plastic cover to protect units from dirt, water, construction debris, and traffic.
- C. Handle in accordance with manufacturer's written instructions. Lift only with lugs provided. Handle carefully to avoid damage to transformer internal components, enclosure, and finish.

PART 2 PRODUCTS

2.1 TRANSFORMERS FOR NONLINEAR LOADS

- A. Manufacturers:
 - 1. Schneider Electric, Square D, Type EE NL
 - 2. Substitutions: Not Permitted.
- B. Product Description: NEMA ST 20, factory-assembled, air cooled dry type transformers, ratings as indicated on Drawings, designed to supply nonlinear load.
- C. Primary Voltage: 480 volts, 3 phase.
- D. Secondary Voltage: 208Y/120 volts, 3 phase
- E. Core Flux Density: Below saturation at 10 percent primary overvoltage.
- F. Insulation and temperature rise: Class 220 insulation system with 115 degrees C average winding temperature rise.
- G. Case temperature: Do not exceed 35 degrees C rise above ambient at warmest point at full load.
- H. K Factor: K-4
- I. Winding Taps:
 - 1. 6-2.5% 2+4-
- J. Basic Impulse Level: 10 kV.
- K. Ground core and coil assembly to enclosure by means of visible flexible copper grounding strap.

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- L. Mounting:
 - 1. Floor mounted.
- M. Coil Conductors: Aluminum. Individually insulate secondary conductors and arrange to minimize hysteresis and eddy current losses at harmonic frequencies. Size secondary neutral conductor at twice secondary phase conductor ampacity.
- N. Electrostatic Shield: Copper, between primary and secondary windings.
- O. Enclosure: NEMA ST 20, Type 1. Furnish lifting eyes or brackets.
- P. Isolate core and coil from enclosure using vibration-absorbing mounts.
- Q. Nameplate: Include transformer connection data and overload capacity based on rated allowable temperature rise.

2.2 SOURCE QUALITY CONTROL

- A. Production test each unit according to NEMA ST 20.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify mounting supports are properly sized and located, including concealed bracing in walls.

3.2 INSTALLATION

- A. Set transformer plumb and level.
- B. Use flexible conduit, in accordance with Section 260533 ; 2 feet (600 mm) minimum length, for connections to transformer case. Make conduit connections to side panel of enclosure.
- C. Support transformers in accordance with Section 260529.
 - 1. Mount wall-mounted transformers using integral flanges or accessory brackets furnished by manufacturer.
 - 2. Mount floor-mounted transformers on vibration isolating pads suitable for isolating transformer noise from building structure.
- D. Install grounding and bonding in accordance with Section 260526.
- E. Install engraved plastic nameplates in accordance with Section 260553.

3.3 FIELD QUALITY CONTROL

- A. Section 014000 - Quality Requirement: Field inspecting, testing, adjusting, and balancing.

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- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.2.1.

3.4 ADJUSTING

- A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting, and balancing.
- B. Measure primary and secondary voltages and make appropriate tap adjustments.

END OF SECTION